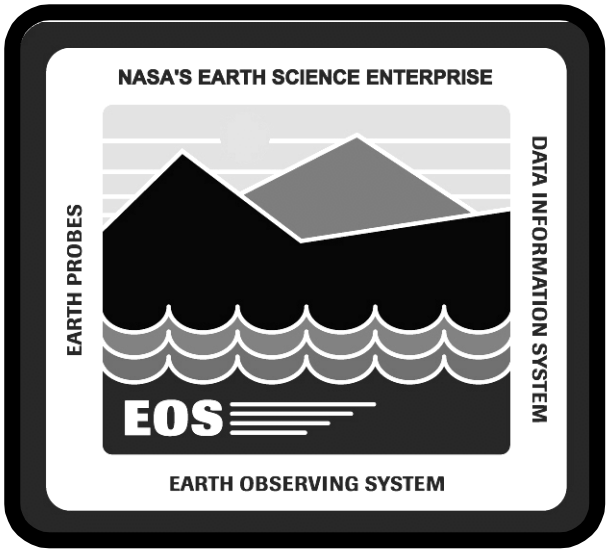
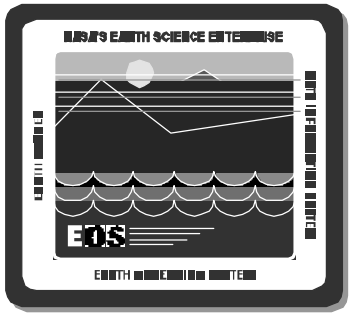


SDPS Release 6A Site Readiness Assessment (Pseudo SRA)

20 December 2001

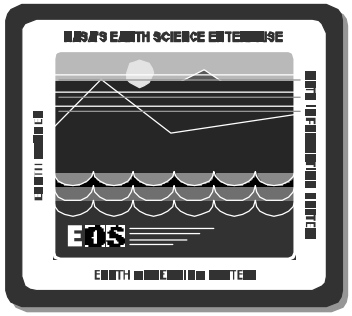
Raytheon

Agenda

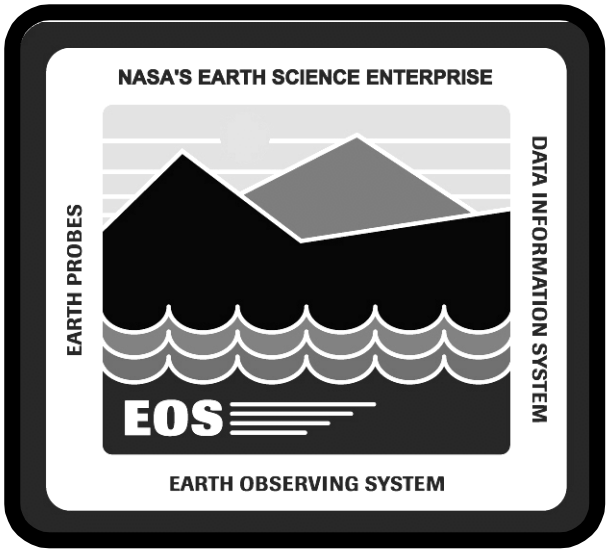


• Introduction	Carolyn Whitaker
• GSFC DAAC	Mark Fuerst
• EDC DAAC	John Daucsavage
• NSIDC DAAC	Renea Ericson
• LaRC DAAC	John Masten
• Audit Summary	Steve Haupt
• Actions Items	Carolyn Whitaker

Introduction



- **The purpose of this Pseudo SRA meeting is to satisfy the requirements for the SRA and provide an informal discussion of the lessons learned during the deployment of 6A.04 during the period of 05/30/01 - 11/30/01**
- **Why 'Pseudo' SRA?**
  - **DAACs met most of SRA requirements as a function of their local CCB process when they transitioned from TS1 to OPS mode**
  - **Less formal presentations, with informal discussion of lessons learned (how can we continue to improve?)**
  - **Summary Audit Results**
- **CDRLs specified as deliverable after SRA planned for delivery by January 31:**
  - **412: SDPS Acceptance Test Report for Release 6A (Final)**
  - **506: Configuration Audits of the SDPS, Release 6A**
  - **535: SDPS Acceptance Data Package (Release 6A)**



6A.04 Release - Lessons Learned

GSFC DAAC

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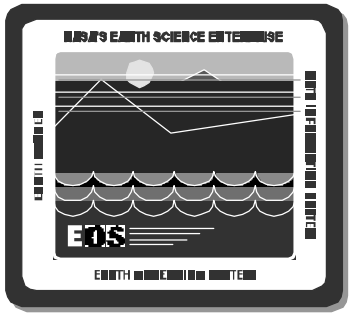
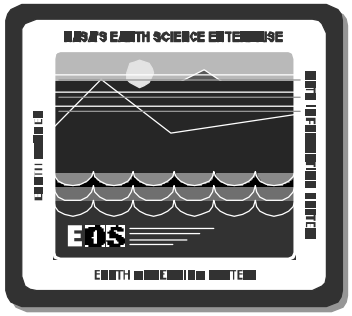
Issues



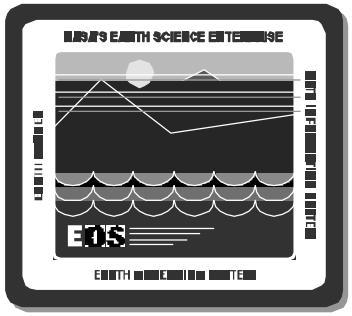
- **Not enough time was spent in the PVC load testing the software**
- **The new design of STMGT should have been more thoroughly tested before being released**
- **Not enough resources in the test modes at GDAAC to thoroughly test before placing the software into the operational mode**

Lessons Learned

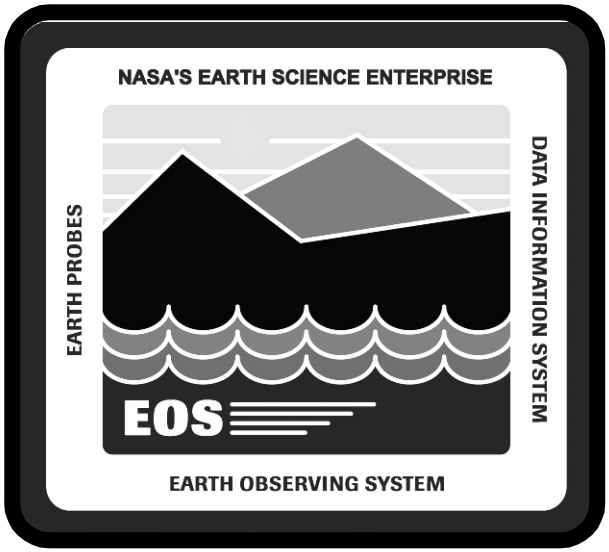


- **Obtain a report from the PVC documenting the testing activities performed and the results.**
- **For major drops, perform a Pre-Ship review to evaluate the completeness and readiness of the software.**
- **Test environment should equal the Operational environment**
- **As the system increases in complexity, more time should be allotted in the schedule for thorough testing of the software**
- **Ensure that detailed information about new functionality is included in the drop**

Lessons Learned cont'd



- **Ensure that the full operational range is tested in the PVC**
  - **1 week load tests**
  - **Add Aqua and S4PM data**
  - **Simulate a DAAC Workload with a large number of subscriptions and multiple acquires on the same data**
  - **Add errors to the test cases that commonly occur in the operational environment and verify that the system can recover**
  - **Instead of using the trickle scripts to ingest the data, simulate a more accurate version of the DAAC data flow into the system. The data comes into the DAAC sporadically - sometimes there is a lot of data coming in, other times there is very little.**
  - **Run S4PM and PDPS at the same time.**
  - **Use real PGEs**



6A.04 Release - Lessons Learned

EDC DAAC

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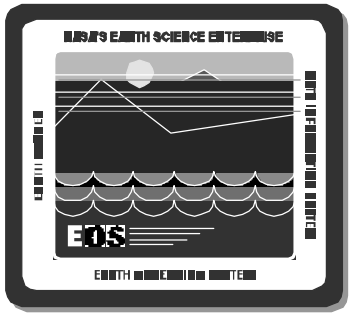
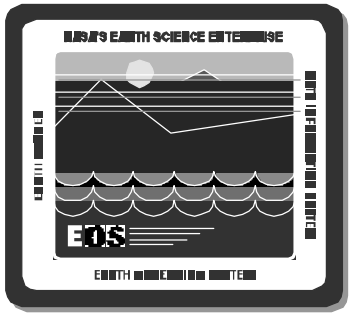
Lessons Learned

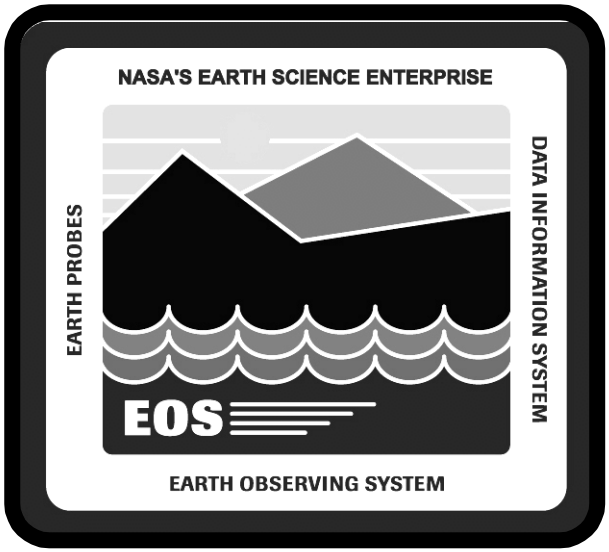


- **Sticking With What Works (EDAAC Point of View)**
  - **At 6A.04 timeframe some process changes were made at the factory which were assumed to cover our previous installation experiences but in a slightly different way; EDAAC point of view is that 6A.04 struggled in part because the new way unintentionally resulted in some skipped steps**
  - **Please note this is an impression not universally concurred with**
- **Method Which Works Built Up Over Time**
  - **Factory does heavy lifting on functionality VATC & performance PVC**
  - **Installation dry runs at factory around Acceptance Test time**
    - **Drop functionality is very mature (TO Baseline)**
    - **Lock into FROM baseline**
    - **Redlining install instructions is top priority using DAAC staff**
    - **DAAC smoke test functionality to show install went okay**
    - **Roll-back and re-install if high failure rate in previous install**

Lessons Learned cont'd



  - Functionality testing at factory near PSR time frame
    - -Only if necessary due to new functionality
    - -Separate event using different DAAC staff
  - Pick a pathfinder DAAC
  - Summary: Above Method Uncovers Bulk of "Issues" Prior to DAAC Install
- Schedule delays and additional Patches/Test Executables (TEs) (20+) required to be installed at time of the release add complication and risk to the installation. This resulted in a required downtime that pushed the limit of acceptability for the EDC DAAC (36 hours).
- Severity 1 problems were uncovered after the code had been installed and running in the operational mode. More testing that is representative of the OPS mode prior to installation should be a consideration.

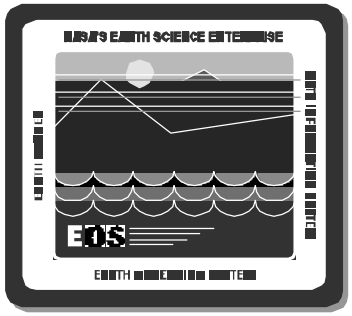


6A.04 Release - Lessons Learned

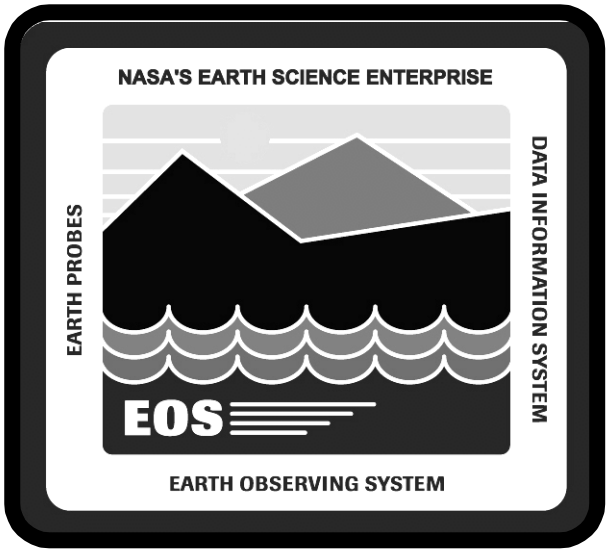
NSIDC DAAC

Raytheon

Lessons Learned



- **Length of time to resolve ongoing Sybase problems delayed ability to move 6A.04 from test mode into the operational mode. More emphasis and/or priority need to be placed on fixing NCRs that directly affect a DAAC's ability to checkout new releases.**
- **As the system increases in complexity, more time should be allotted in the schedule for thorough testing of the software and its impacts on COTS software.**
- **When NCRs impact the completion of a release checkout, need to ensure that adequate communication between the DAAC and the EDF occurs. DAAC needs to be made aware of the progress being made with the fixes.**

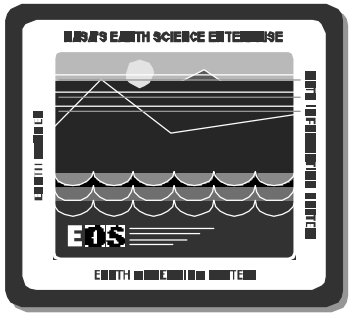


6A.04 Release - Lessons Learned

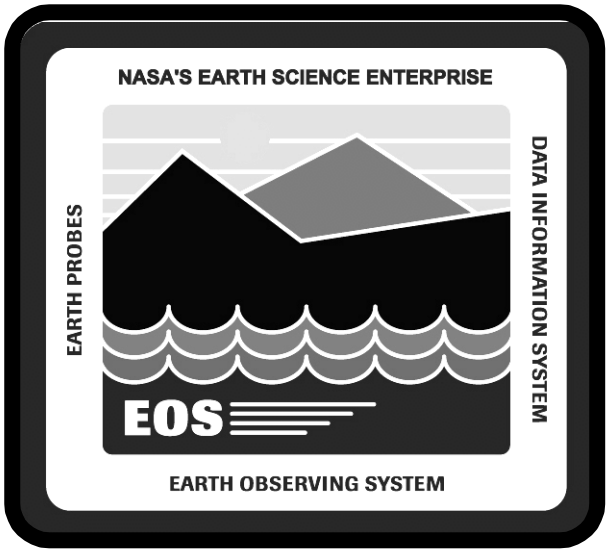
LaRC DAAC

Raytheon

Lessons learned

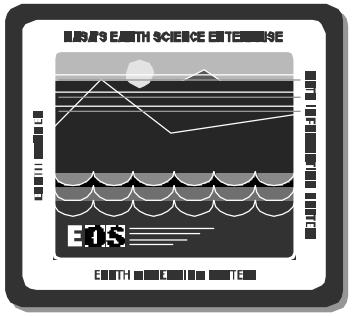


- **Installation in OPS took longer than expected**
  - **Took longer for OPS to quiet mode than planned**
  - **Took longer to clear PDPS of completed DPRs than anticipated due to above.**
  - **Took longer to install TEs than anticipated**
- **Once operational 6A performed well except for some issues with PDPS**
  - **These are primarily due to our very large science string that does not exist at other DAACs**
- **Length of time from 6A release to installation complicated install to OPS due to the build up of TEs and Patches that needed to be installed.**
- **Length of time insured, however, that other DAACs found the majority of the issues with the release and subsequent fixes.**
- **Release is very stable and performs well**



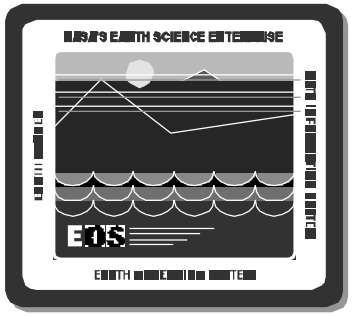
DAAC 6A Audit Summary

PCA 6A Configuration Audit Results



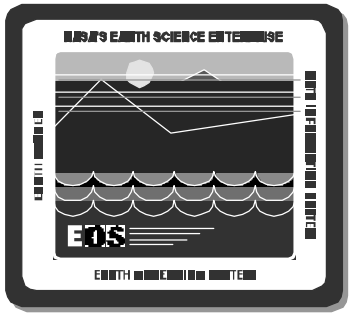
- **EDC:**
  - COTS 68.7 % - Custom 96.7 %
  - O/S Patches 98.3 % - UNIX Kernel 100.0 %
- **GSFC:**
  - COTS 64.5 % - Custom 95.6 %
  - O/S Patches 91.2 % - UNIX Kernel 100.0 %
- **LaRC:**
  - COTS 62.5 % - Custom 83.5 %
  - O/S Patches 97.4 % - UNIX Kernel 100.0 %
- **NSIDC:**
  - COTS 66.2 % - Custom 97.8 %
  - O/S Patches 97.4 % - UNIX Kernel 100.0 %

PCA 6A Configuration Audit Results Comments



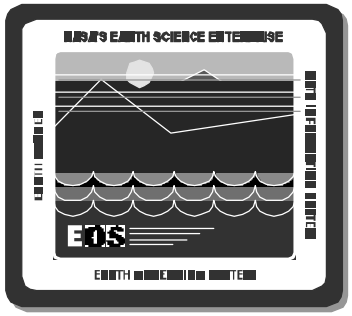
- Process improvements that have been made were seen in these audits.
- Very minor drift is occurring; DAACs are moving/changing configurable items.
- We need to sync the .sitemaps between the DAACs and Landover. (Custom)
- New PCA Audit Process will provide audit numbers in real time.
- The Landover data will be replicated to cmdm.east.hitc.com.
- Would like to expand audits to include Custom Code Config parameters.
- Stale PCA Config audit NCRs have been worked.

PCA 6A Configuration Audit Conclusions



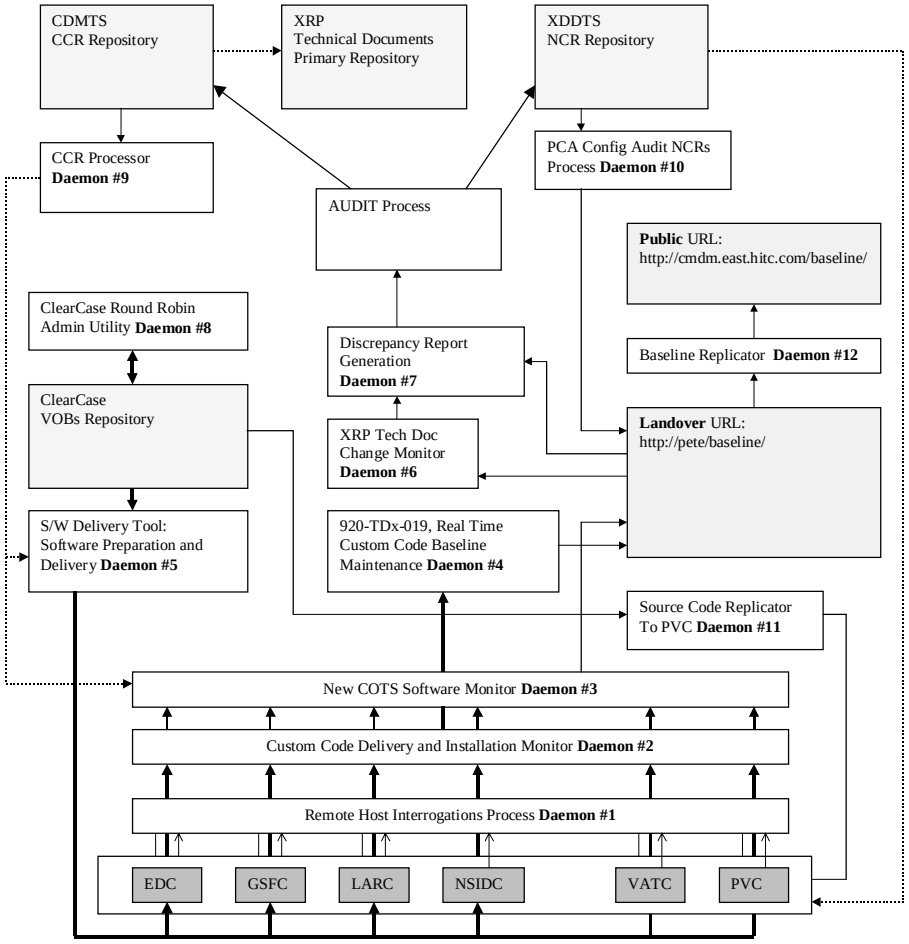
- **Some errors are being made at the time CCRs are created.**
  - The check boxes which direct the code to the DAACs are sometimes wrong.
- **We should stop sending software to DAACs without CCR cover.**
  - Engineering software is occasionally sent for testing, We should provide CCR cover and state the code is for testing only.
- **CCRs still need to be written to clear the XRP Tech Docs of errors.**
  - Recommend that the DAAC installed paths be reflected in the baseline documentation.
- **DAAC personnel will need to help work new "real" NCRs.**
  - Hundreds of old PCA Config Audit NCRs were not worked in real time. Most were attributable to baseline documentation. New NCRs will address host configuration issues, rather than both host and baseline issues.

PCA 6A Configuration Audit Conclusions - Comments

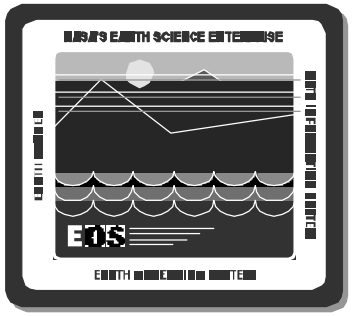


We need to have a well defined the Custom Code Baseline process. A new PCA Config Audit process is being proposed. It has been reviewed with comments at Landover, but still needs to be reviewed by DAAC personnel. It includes the process for defining the Custom Code baseline.

Audit Summary - New PCA Configuration Audit Process



Action Items



- **Identify DUEs that should be considered for inclusion in the PVC test activities (DAACs)**
- **Identify additional information needed from EDF staff that would help the DAACs assess impact of a release on their respective DUEs. (DAACs)**
- **Provide version related audit information for TSIWG review. Need to determine whether fact that DAAC is behind/ahead of baseline represents a security risk. (S. Haupt)**
- **Review NCR audit process. Identify potential metrics that show value of audits. Determine how they can be implemented using existing DDTS capabilities. (S. Haupt, C. Whitaker)**
- **Identify mechanism for providing DAAC audit information that is not openly accessible. (S. Haupt).**
- **Provide PCA audit process description for DAAC review. (S. Haupt)**