Version 1 SSI&T Status and Lessons

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V1 Status - GDAAC

- GSFC SSI&T began 4/18/97

- PGEs integrated into DAAC PDPS:
  - PGE 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11,

    12A, 12B, 13A, 13B, 13C, 14, 15
  - Which are all the Level 1, Level 2 and 2g products except:
    - PGE 16 (L2 LST) will not be integrated at the DAAC because V2 is more complex than V1 and in-house now
  - "Chain" testing is being performed at GDAAC on the PGEs which completed integration

V1 Status - GDAAC

- PGE 17,18,19, 20 (Oceans L3) are currently being tested at SDST.

  — These PGE's may not finish testing in time to be officially transferred to the GDAAC because efforts are currently being redirected to V2.

  — However, inspection phase at GDAAC is expected on these PGEs.

- Ocean processing in Version 1 was broken after PGE20 Level 3 Ocean Interim Daily but is fixed in the Version 2 delivery

V1 Status - EDC

- EDC SSI&T began 9/2/97
- PGEs integrated into DAAC PDPS
  - PGE 22,23,25,26,27 and 29
- PGE 28 (VI Monthly) will be transferred to EDC on 10/23.
  - Based on our experience with EDC, Integration should occur within a week.
- PGE 33 (L3 LAI/FPAR daily) and 40 (Land Cover Monthly) are currently being tested by SDST.
  - PGE 33 being test by SDST at EDC due to Toolkit issues (5.1.1 vs 5.1.2 capabilities)
- PGE 41 (Land Cover Quarterly) may not finish testing in time to be officially transferred to the EDAAC because efforts are currently being redirected to V2.

V1 Status - NSIDC

- NSIDC SSI&T began 9/09/97
- PGEs integrated into DAAC PDPS:
  — PGE 43, 45
- PGE 44 (L3 Sea Ice Daily) has been transferred and is currently undergoing Infusion Testing.
- PGE 47 (Sea Ice 10-day) may not finish testing in time to be officially transferred to the NDAAC because efforts are currently being redirected to V2

V1 SSI&T Environment Issues

- GSFC
  - Toolkit
    - GDAAC used 5.1.1
    - TLCF used 5.1- later converted to 5.1.1 but patch level different between GSFC and TLCF - caused delays before resolving exact configuration
  - Compiler
    - TLCF used 7.1
    - GSFC used 6.2- delayed conversion to 7.1 until detailed analysis of why the conversion was necessary was completed (affected freeing memory which was never allocated)

V1 SSI&T Environment Issues (continued)

- EDC:

  — Compiler 7.0 (Fortran & C) @ EDC (thought they had 6.2 - discovered difference after SSI&T was started)

  — HDF number of files was set to 32 instead of 256 (problem with the installation procedures for HDF)

- NSIDC

  — Compiler 7.1 (C) but Compiler 6.2 (Fortran) @NSIDC - when Fortran compiler was upgraded - caused delay in SSI&T because C compiler had to be re-installed also

Lessons Learned

- Problems encountered during SSI&T at GDAAC are stored in DDTS a bug tracking system used by GDAAC & SDST

- As of end of June 56 problem reports were in DDTs

  — 6 were assigned to DAAC for resolution

  — 15 were problems with code or documentation assigned to SDST to be fixed

  — 19 were duplicates

  — 10 were identified as "not a problem"

Lessons Learned

- Total problem reports in DDTS at end of V1 was 107
- Some may be duplicates or "non-problems"
- Of the total:

  — 20% were problems with PGEs or their interface with the ECS system

  — 80% were problems that didn't get caught until delivery due to differences in Standards Checkers, SDP Toolkit, HDF Libraries, IMSL Libraries and compiler versions between the DAAC and the TL-SCF

    - Examples include:
      - incorrect delimiter for prologues (10%)
      - printf statements in #ifdef blocks (5%)

Lessons Learned

- TL-SCF must have same version of standards checker installed as at the DAAC

- DAAC and TL-SCF need to be at same baseline of compilers, SDP-TK, HDF and other Libraries

- Time spent in the "Standards" phase of delivery reduced time for more extensive testing at the DAAC in Version 1

  — DAAC and SDST need to develop guidelines for moving PGEs into testing which have problems that do not affect the operation of the PGE

  — SDST needs to catch standards violations before software reaches the DAAC

Discussion Points

- Schedule is extremely tight for 37 at-launch PGEs
  - Are we on track?
  - How is the software quality?
  - Are folks committed to quick response on fixes?
    - If so how will that be accomplished? More staff, refocusing to make MODIS software job 1?
- Can we get 24 PGEs through GSFC DAAC testing?
  - If not, what are some alternatives?
- Can we arrive at MODIS priorities for PGEs?
  - Would priorities help?
- How important is getting your PGE in at-launch?
  - Let me know and I'll prioritize it accordingly