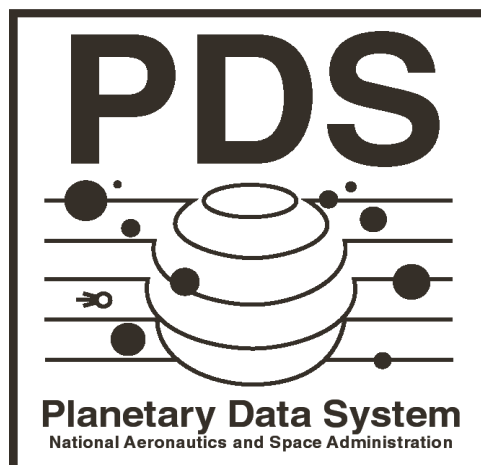# Planetary Data System

PDS-NSSDC Interface
Beta Test Report

April 16, 2007

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CHANGE LOG

Revision	Date	Description	Author
Initial Draft	April 10, 2007	Initial report with input from ATMOS and SBN	E. Law
1	April 16, 2007	Added Imaging Node input	E. Law

Test Summary

The PDS-NSSDC Interface test version software was released to the Atmospheres, Imaging and Small Bodies Nodes on March 19, 2007 for Beta Testing. The release included the Installation Guide and the Beta Test Plan/Procedure documents. The participated Nodes executed their tests by selecting Node specific volumes. The volume size ranges from 176KB to ~3.8GB. This test phase was concluded on April 16, 2007. The detailed findings are provided in the Section below.

Testing performed with the Node specific volumes was in general successful. Several issues were sited with regards to test set up, documentation, error and progress reporting. These issues shall be resolved in the production release.

Node Specific Tests and Issues

This section captures the particulars of the Node specific tests. Test description, results and comments provided by the Nodes are included for each test:

<u>Atmospheres</u>

<u>Summary:</u>
Successfully exchanged two different datasets with hardly any problems. Installation guide was easy to follow. There were one or two slight differences in directory and file names, when comparing the Installation Guide and the Beta Test Plan Document. Biggest annoyance has been the AIP transfer via FTP; otherwise it's been an easy beta test. Unpacking went without incident and everything passed checksums without problems.

<u>Details:</u>
1. First test: Packaged a single 3MB data set volume (USA_NASA_PDS_GBAT_0001). Encountered the following error and difficulty:
   a. ATMOS directory permission denied
   b. FTP connection (timing out before connecting; connect but then saying that the login and password were incorrect; or refuse connection)

   The test was successfully completed after the issues above were resolved. It took seconds to transfer the AIP when FTP was finally working.

2. Second test: Packaged a single 220MB data set volume (USA_NASA_PDS_VO_3001). The test was successfully completed and it took 10-15 minutes to transfer the AIP.

Imaging

Summary:
Successfully exchanged one data set. Some moderate script modifications and an updated user guide would be helpful during packaging. Unpacking went without incident and everything passed checksums without problems.

Details:
1. Packaged a local hard-drive copy of a recent MGS-MOC delivery data set: DVD volume DMGS_1062 (~3.8GB). The AIP transferred (pushed) to NSSDC at ~195KB/sec (5.5 hours for 3.8GBs). The return AIP transferred back (pulled) from NSSDC at ~1MB/sec (~1hr for 3.8GB). This is ~5X better than the 'push' rate. Unclear if this is an Imaging Node or NSSDC factor.

Encountered the following difficulties:
   a. Unclear regarding which fields are static and which fields could be customized per local processing when editing of .lst and .com files. An updated user guide would be helpful.
   b. The packager s/w ran successfully. However, it was not clear as to what to expect during execution. There is no 'status' information to indicate if it was running, failed, etc. User needs to check local directories to determine that log and AIP files have been created. The eventual "SUCCESS" notice was not too informative. Not clear to user if it completed since no system command was prompted following the message. This could be related to; either a CR or LF is missing at the end of the "SUCCESS" string. An expanded "SUCCESS" notice would be helpful.
   c. Installation guide URL was documented incorrectly even though the URL given in email was correct.

Small Bodies – Maryland

Summary:
Successfully exchanged three different datasets with minimal problems, all of which could have been addressed by better documentation or error reporting. Unpacking went without incident and everything passed checksums without problems. Transfer time was in line with expected data rates between the two institutions. For instance, it took about 45 minutes to upload a 4Gb file from UMD to NSSDC.

Details:
1. First test: Packaged files from a CD mounted in the CD reader (about 30MB)
   Discovered that having files already in stage_out directory causes a failure of the packager. Worse, the packager fails uncleanly and leaves processes running with file locks in place. Processes had to be found and killed manually, but the lock file on MPGA-launch persisted and also had to be deleted manually.

   The lack of any sort of successful start message is a bit disconcerting. The "SUCCESS" completion message contains no information about what program generated it, and thus caused more than a little confusion the first time it popped up.

2. Second test: Packaged files from a mounted CD, where the dataset.dir link was set to point to the mounted CD (about 300MB). Existing file in the stage_out directory were renamed to avoid collisions with new files.

   The first try ended with a "FAILURE" message (which is just about as bad as the "SUCCESS" message when it comes to information content). There was an empty log file in the stage_out directory. These were the last lines of the .diag file:
   *   MapList NOTE: Started module "local:./MPGA-maplist"
   -27   MapList ERR: directory "../run/dataset.dir" equals 1 file and this state is TBD for this version makelist for module "local:./MPGA-maplist"
   * VERBOSE: init registry, SRVR: dbase
   file="./MPGA_WORKING_DIR/srv_dbaseobj_XXXXXX" initialize_registry - normal return
   *   TLIB NOTE: when loading doc element(s) the interface was found to be empty (1)
   -7   AIPGEN ERR: input ISD could not be initialized because of empty contents for module "local:./MPGA-aip_generator"

   This turned out to be a syntax error in the "stage_in...*" file. This is far from clear from the above messages.

3. Third test: Packaged a file from a hard disk volume structure (3.6GB)
   No problems, though why the log file has thousands of lines saying it doesn't recognize the FITS files type is rather puzzling and not what I would expect from the NSSDC. Total packaging time was just under 15 minutes.

Small Bodies – PSI

Summary:
Successfully exchanged two different datasets with some problems initially, all of which could have been addressed by better documentation or error reporting. The instructions in the "PDS-NSSDC Interface Beta Test Plan/Procedure" document were not very helpful. A series of trial and error, and guessing were done to finally get it right. The procedure itself is fine if only it was documented better. Unpacking went without incident and everything passed checksums without problems.

Details:
1. First test: Packaged a 176KB single volume data set (EAR-A-COMPIL-5-BINMP-V1.0). Initially, having trouble caused by inadequate instructions. For instance, error was encountered with the following error message when there was an issue with directory permission, or non-existing directory:

   -4   LAUNCH ERR: could not create status file "../AIP_OUTPUT/target/out-MPGA-package_generator-msgs_target.diag"

   The test was successfully completed after the instructions were clarified. Transfer time was not noticeable.

2. Second test: Packaged a 762MB single volume data set (MSX-C-SPIRIT3-3-MSXSB-V1.0). The test was successfully completed and it took 5800 seconds to transfer the AIP from PSI to NSSDC, and 5900 seconds from NSSDC to PSI.