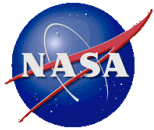# PDS-NSSDC Interface Report

## Engineering Node

March 2006

# Overview

- This effort was dedicated to testing the interface between PDS and NSSDC utilizing the MPGA software.

- The testing for the PDS-NSSDC interface is currently scoped according to the time frame and milestones specified by the following FY 2006 NASA Award Fee criteria item:

  - "Completion of three test electronic deliveries to the NSSDC, retrieval of these datasets after processing and deep archive by the NSSDC, and validation of data integrity of the retrieved data. Due date: 2-28-2006."
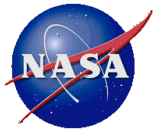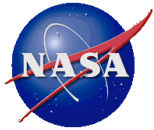
# Accomplishments

- Coordination Teleconferences (Jun, Jul, Aug, Sep, Oct 2005, Feb 2006)

- MPGA software delivered, installed and tested at EN. (Aug 2005)

- Completed Test Plan tailored to award fee item. (Oct 2005)

- Completed Test Phase I (Nov 2005)

- Completed Test Phase II (Dec 2005)

- Completed Test Phase III (Jan 2006)

- Completed test result capture and documentation. (Jan 2006)

- ## Phase I (10/24 - 11/08)

  - Two volumes of *Mars Global Surveyor (MGS) Thermal Emission Spectrometer (TES)* data.
    - Each volume contains data from a single data set that spans several volumes.
    - Each volume was approximately 600 megabytes in size.

- ## Phase II (11/21 - 12/02)

  - One volume of *Voyager 1 Jupiter Encounter Data (1979-02-28 to 1979-03-22)* data.
    - This volume contained 20 different data sets.
    - This volume was approximately 383 megabytes in size.
  - One volume of *SBN Online Asteroid Data, December 2004* data.
    - This volume contained 12 different data sets.
    - This volume was approximately 72 megabytes in size.

- ## Phase III (12/12 - 01/09)

  - One volume of *Galileo Near Infrared Mapping Spectrometer (NIMS)* data.
    - This volume contains data from a single data set which spans four volumes.
    - This volume was approximately 1.4 gigabytes in size.
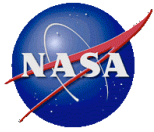
# Plan

- Deliver a new version of the MPGA software supporting volume sizes greater than 2 gigabytes (NSSDC - Mar 2006)

- Receive and test the new version of the MPGA software (EN - Mar 2006)

- Investigate data transfer mechanisms (EN/NSSDC Jun 2006)

    - Larger volume size (10 - 50 GB)

    - Data transfer mechanism other than FTP (GridFTP, Data Brick, etc.)

- Deliver a production ready version of the MPGA software (NSSDC - Jul 2006)

    - Incorporate PDS specific attributes in AIP generation

    - Simplify and/or provide interface for MPGA configuration and execution

- Receive and test the production ready version of the MPGA software (EN - Jul 2006)

- Arrange for data transfer directly from a Discipline Node to NSSDC (EN - Aug 2006)

- Prepare User Guide for Distribution of Data to the NSSDC from PDS nodes (EN - Sep 2006)
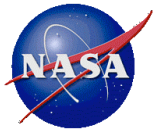
- *Planetary Data System PDS-NSSDC Interface Test Plan*, January 3, 2006, Version 1.1.

- *Planetary Data System PDS-NSSDC Interface Test Report Test Phase I*, November 8, 2005.

- *Planetary Data System PDS-NSSDC Interface Test Report Test Phase II*, December 2, 2005.

- *Planetary Data System PDS-NSSDC Interface Test Report Test Phase III*, January 9, 2006.

- *A Classification and Evaluation of Data Movement Technologies for the Delivery of Highly Voluminous Scientific Data Products*, C. Mattmann, D. Crichton, J. S. Hughes, S. Kelly, S. Hardman, R. Joyner, P. Ramirez, IEEE Conference on Mass Storage Systems and Technologies (MSST2006), College Park, Maryland, May 2006.