PDS Face to Face Technical Session hosted by EN at JPL Pasadena, Oct 24 and Oct 25, 2006

Attendees

Atmospheres (Lyle Huber), Engineering (Sean Hardman, Paul Ramirez, Steve Hughes, Emily Law, Ron Joyner, Dan Crichton, Elizabeth Rye, Julie Wang, Steven Adams, Mike Cayanan, John Ho), Imaging (Chris Isbell, Patty Garcia, Alice Stanboli, Rafael Alanis), Geosciences (Ed Guinness, Susie Slavney, Tom Stein), NAIF (Boris Semenov), PPI (Todd King, Steve Joy), Rings (Mitch Gordon, Mark Showalter), Program Management (Al Schultz), Small Bodies (Andrew Ducore, David Tarico, Rose Early, Anne Raugh), NASA Ames (Mark Rose), Radio Science (Dick Simpson)

Validation Tool (VTool) Phase I (P1) and Phase II (P2)

<u>EN to-do list</u>

1. Include Java Virtual Machine version requirement for future VTool releases. This depends on the results from the GCJ testing.
2. Use standard_value_sequences instead of standard_value_sets for SCR 3-1087.
3. Clean up Standards' definitions for generic and specific objects.
4. Define rules and corresponding requirements for validating catalog files, vs labels. May need special handling for VOLDESC.CAT.
5. Determine what rules to use to examine a volume. (One idea is to generate a corresponding manifest and validate catalog files against the manifest. This is similar to the volume validation tool written by G.Woodward for Clementine mission.)
6. Add a level 4 requirement to include printable version of documentation.
7. Tie documentation update and VTool releases in general to Subscription Manager.
8. Define a process for tool release and rework the Software Download (http://pds.nasa.gov/tools/software_download.cfm) page.
9. Determine if keyword validation should be included in VTool.
10. Form working group to review data model and propose mechanism for linking ancillary data to data set (e.g., dataset.cat to index.tab).

<u>Nodes to-do list</u>

1. Review and comment on existing VTool RFAs (due Mid-November, 2006)
2. Review and comment on the command-line options for VTool listed in the backup slides of the phase 1 presentation.
3. In the near future when VTool Phase II is released, node leads should be prepared to design and implement specific object validation plug-ins – possibly for testing.

<u>P2-a Capabilities priority</u>

1. Generic Objects

       a. ASCII Tables
       b. Images
       c. Binary Tables
2. Catalog Files
3. Data Dictionaries (PSDD and Local)

<u>P2-b Capabilities priority</u>

1. Generic Objects
2. Data Set
3. Volume
4. Specific Objects

<u>Timeline</u>

1. Hold VTool P1 report content and format telecon. (Nov 2006)
2. Conduct VTool P1 Beta Test (including external user). (Dec 2006)
3. Hold VTool P1 post Beta Test telecon. (Dec 2006)
4. Deliver VTool P1 operational version 1.0.0. (Jan 2007)
5. Hold VTool P2 Level 5 requirements telecon. (Feb 2007)
6. Conduct VTool P2-a Alpha Test. (Apr 2007)
7. Deliver VTool P2-a operational version. (Jun 2007)
8. Conduct VTool P2-b Alpha Test. (Aug 2007)

<u>Issues</u>

1. What are the required platforms and virtual machines for tools in general?
2. Should the Data Dictionary (PSDD) be restructured? (Current structure has a number of shortcomings and issues that impact tool development.)
3. Need a concise set of volume (and data set) validation requirements for P2?
4. Should unit be added to keyword definition and constrained there? How is the list of units in the data dictionary being used? Any impact if changed?
5. Should PSDD validation be a separate tool?
6. How to package data product? Should it be "dataset-centric" or "volume-centric" for data transfer (e.g. NSSDC I/F) as well as validation. Need a proposal for data set organization to be packaged for delivery.
7. How to validate against SISs?

Label Template Design Tool (LTDT)

<u>LTDT Working Group (WG) to-do list</u>

1. Include lower level Use Case (UC) to generate object based on input of foreign label.

2. Determine in which UCs where the tool should prompt user with optional example labels.
3. Consider/determine the following features and update UCs and Requirements documents accordingly:
    a. Guidance capability (e.g., recommend user to use certain existing label).
    b. Allow user to document header object optionally.
    c. When reading in old label, show user both old and new values (suggestion: differentiate by color).
    d. Generate dummy label for VTool to validate against.
    e. When adding keyword, show required or optimal list of keywords in the context of current object (need to find a way to guide the user to add keywords without showing all keywords in PSDD, e.g., divide logical groups by classification or section).
    f. Make the tool extensible to support new foreign headers.
    g. Add list of things that can be configured (e.g., default location of PSDD) in requirements.
    h. Allow user to add comments
    i. Specify explicit types of objects and metadata that can be created, read
4. Form a small group to discuss what's in a project file to ensure that nothing gets lost.
5. Revise LTDT UCs and Requirements documents (due Nov 2).
6. Form a small group to address User Interface (ascertain a straw man design).
7. Form a small group to address the "Working Data Dictionary" (Terminology and should it be in PSDD format).
8. Check if Requirement L5.LD.SR.2 is redundancy with existing general format requirement.
9. Edit –
    a. UC 5.4 – include UC 5.3' step 5; constrain to ASCII table only
    b. Revisit UC 5.6 step 7 (determine if the step should remain)
    c. UC 6.3 – Flip step 4 clauses to read better
    d. UC 6.6 – Warn user if the keyword is required upon removal
    e. UC 6.8 - Add standard file option "Save-As"

Tech Staff and Design Team to-do list

1. Review revised LTDT UC and Requirements documents and write RFAs . (due 2 weeks upon receiving revised documents from WG)

Timeline

1. Finalize L4 and L5 Requirements. (Feb 2007)
2. Hold prototype and design review. (May 2007)
3. Release for Alpha Test. (Jul 2007)
4. Release for Beta Test. (Sep 2007)
5. Deliver operational release. (TBD)

1. What are the supported platforms and virtual machines ?
2. Does the Data Dictionary (PSDD) need to be enhanced / restructured to support proposed functionality ?
3. As the user interface is a large component of the tool, a significant amount of cross-node-agreement will be required to design the UI.
4. What UI capabilities come as freebies with the development language ?

No programmatic issues, WG will address all technical issues identified (see to-do list).

Data Integrity (DI)

DI WG to-do list

1. Update UCs and Requirements documents per changes made to presentation.
2. Add UCs for data integrity check upon storing onto and retrieving from data holdings.

Timeline

1. Present requirements to MC. (Nov 2006)
2. Recommend the following to MC. (Nov 2006)
    a. MC to develop policy for integrity checking of Nodes holdings.
    b. Revisit MOU w/ NSSC (to include requirements defined by WG).
    c. MC to develop policy for Disaster Recovery, Preservation and Tracking.
    d. Nodes to create plans compliant to the policies.
3. Identify and evaluate options for meeting requirements. (Jan 2007)
4. Review options by Tech Group .(Feb 2007)
5. Recommend solution to MC. (Mar 2007)
6. Develop implementation plan. (Apr 2007)

Issues

1. How to enforce requirements levy upon external entities (NSSDC, Data Provider)?
2. Should MC approve L4 and L5 requirements?