



# Tools Report

## Engineering Node

August 2007

<http://pds.nasa.gov>



# Topics

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- Validation Tool
- Label Template Design Tool
- Legacy Tools



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# Validation Tool

Engineering Node Project Page

<http://pds-engineering.jpl.nasa.gov/index.cfm?pid=100&cid=104>



# Recent Accomplishments

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- **Release 1.0.0 (May 7, 2007)**
  - Includes phase I capabilities for syntactic and semantic validation of PDS data products..
  
- **Distributed Draft Level 4 Validation Requirements (Jun/Jul 2007)**
  - An effort to capture all aspects of validation, including volume.
  - We have received some good comments so far.
    - Geosciences, PPI, Radio Science, Small Bodies



# Plan



- **Prepare Final Draft of Level 4 Requirements (Aug 2007)**
  - Incorporate comments received to date and redistribute to Tech Staff for concurrence.
- **Submit Level 4 Requirements to MC for Approval (Aug 2007)**
- **Release 1.1.0 (Sep 2007)**
  - This will be a maintenance release for Validation Tool.
  - Includes some minor changes and fixes discovered by the first adopters.
- **Prepare and Finalize Level 5 Requirements (Sep 2007)**
  - Includes requirements for data object, catalog and volume validation.
- **Initiate Phase II Design and Development (Oct 2007)**
  - As prioritized at the F2F Tech Session.



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## Label Template Design Tool

Engineering Node Project Page

<http://pds-engineering.jpl.nasa.gov/index.cfm?pid=100&cid=101>



# Accomplishments

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- **Use Cases and Requirements Updated (Jan 2007)**
  - Comments from the F2F Tech Session were incorporated.
  - Additional efforts from the Working Group were also incorporated.
- **Level 4 Requirements Approved by MC (Feb 2007)**
- **Preliminary Design Review (May 2007)**
  - Focused on usability and output formats.
- **Critical Design Review (Jul 2007)**
  - Focused on mockups, menu options and screen functions.
- **Code Walk-through (Aug 2007)**
  - Teleconference is scheduled for tomorrow.



# Preliminary Design Review Summary

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- Development was split into two phases.
- The usage and content for the Label Template and Working Data Dictionary (WDD) were finalized.
- Java Swing was selected as the development platform.
- Many capabilities that rely on changes to the PSDD format will be pushed to phase II.
- The project information will be stored in a directory instead of a single file.
- It was agreed that users of LTDTTool would have some knowledge of the PDS Standards and would know what a PDS data product label looks like.



# Design Review Summary

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- The mockups provided by Mark Rose were discussed in detail.
  - This included specifics regarding screen and menu function behavior.
- A minimal set of command-line options were presented.
- The plan for phase I is to focus on a text-based interface to get a version of the tool into the hands of the users.



# Requirements

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- The tool capabilities are detailed in 89 Level 5 requirements.
- Development of the tool has been split into two phases. In general, they are allocated as follows:
- Phase I
  - Initiate design session with a blank template.
  - Initiate design session from an existing product label.
  - Generate ODL-based label templates.
  - Generate Specific Label Object Definition (SLOD).
  - Generate data dictionary submissions.
- Phase II
  - Initiate design session from an existing data object or combination of data object and product label.
  - Initiate design session from existing metadata in supported formats.
  - Generate XML-based label templates.
  - Support advanced data dictionary content.



# Main Window



LTDTool (Project Name: null)

File Edit Dictionary Tools Help

Template Editor

```
1 PDS_VERSION_ID           = PDS3
2 DD_VERSION_ID             =
3 LABEL_REVISION_NOTE      = "${LABEL_REVISION_NOTE}"
4
5
6 /* File Characteristics */
7 RECORD_TYPE               = FIXED_LENGTH
8 RECORD_BYTES              = ${RECORD_BYTES}
9 FILE_RECORDS              = ${FILE_RECORDS}
10
11
12 /* Pointers to Data Objects */
13 ^<object name>           = "${DATA_FILE_NAME}"
14
15
16 /* Identification Data Elements */
17 DATA_SET_ID              =
18 PRODUCT_ID                = "${PRODUCT_ID}"
19 INSTRUMENT_HOST_NAME     =
20 INSTRUMENT_NAME          =
21 TARGET_NAME              = "${TARGET_NAME}"
22 START_TIME                = ${START_TIME}
23 STOP_TIME                 = ${STOP_TIME}
24 SPACECRAFT_CLOCK_START_COUNT = "${SPACECRAFT_CLOCK_START_COUNT}"
25 SPACECRAFT_CLOCK_STOP_COUNT = "${SPACECRAFT_CLOCK_STOP_COUNT}"
26 PRODUCT_CREATION_TIME    = ${PRODUCT_CREATION_TIME}
27
28
29 /* Descriptive Data Elements */
30 ???
31
32
33 /* Data Object Definitions */
34 OBJECT                    = <object name>
35   <object required elements>
36 END_OBJECT                = <object name>
37
38
39 END
40
```

Validation Status

Data Dictionary Listing

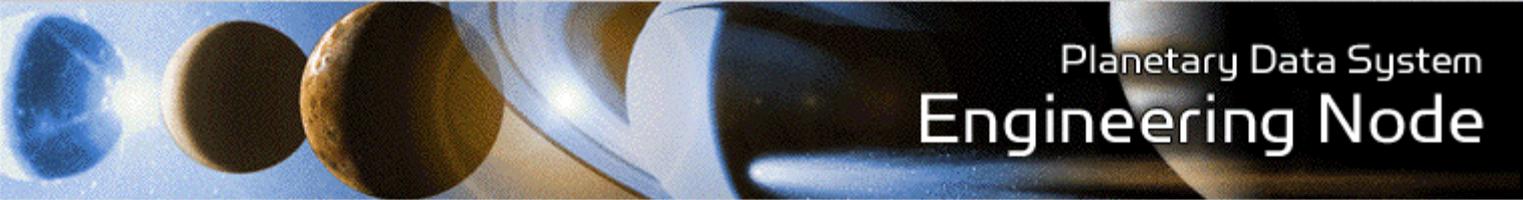
Object Element

Definition Details



NATIONAL AERONAUTICS  
AND SPACE ADMINISTRATION

- + NASA Homepage
- + NASA en Español
- + Contact NASA



## Planetary Data System Engineering Node

Label Template Design Tool - Version 0.1.0 CM | LTDTTool

**Release Information**  
[Release Notes](#)  
**LTDTTool Guide**  
[Installation](#)  
[Use and Operation](#)  
**Download**  
[LTDTTool Guide \(PDF\)](#)  
**Project Documentation**  
[About Label Template Design Tool](#)  
[Project Info](#)  
[Project Reports](#)  
[Development Process](#)



### About Label Template Design Tool

The next generation of Planetary Data System (PDS) Product Tools will support design/generation, validation and submission of archival products to the PDS. These tools are intended to replace the current generation of tools (e.g., lvtool, kwvtool, tbtool, etc.) used by the Discipline Nodes, Engineering Node and the PDS user community as a whole.

The Label Template Design Tool (LTDTTool) is intended for designing label templates and is not intended to generate multiple labels in production mode. The tool will generate a label template that is compliant with the latest PDS standards and data dictionary using an interactive label editor that gets input from the user, the PDS data dictionary, and the PDS standards, and outputs a PDS label template file that can be used in the creation of PDS data product labels. The user does not need to be a PDS expert because the tool guides the user through the label creation process.

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- + Freedom of Information Act
- + NASA 2003 Strategic Plan
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Curator: Emily.S.Law  
NASA Official: William Knopf  
Last Updated: 13 August 2007  
[+ Comments and Questions](#)



# Plan

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- **Release to Nodes for Alpha Test (Sep 2007)**
  - Focus on core functionality of template editing, formatting, validation and export.
- **Release to Nodes for Beta Test (Oct 2007)**
  - Focus on incorporating comments and data dictionary integration.
- **Release to Nodes and PDS Community (Nov 2007)**



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# Legacy Tools



# Status

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- Release 4.6 of the PDS Tools Package (Jun 20, 2007)
  - Includes a number of fixes to LVTool and NASAView since the last release.
  
- Actively working on the following:
  - Minor upgrades and bug fixes for the OAL library.
  - JPEG 2000 SCR for NASAView.