**Change Log**

| **Revision** | **Submission Date** | **Affected Sections or Pages** | **Change Summary** |
| --- | --- | --- | --- |
| Initial | 2022-11-28 | All | Initial issue of document. |

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# Introduction

## Identification

| **Property** | **Value** |
| --- | --- |
| Configuration ID (CI) | Public GitHub |
| Element | PDS |
| Program Set |  |
| Version | 1.0 |

## Purpose

This Test Document 1) defines specific tests that ensure that the new system and the PDS4 standards comply with requirements and meet customers’ needs, and 2) reports results of the tests to verify and validate that the PDS4 system deployed for Build 13.0 is free of critical defects. This document describes the integration and test activities and contains test cases that demonstrate compliance to requirements. The test scenarios verify and validate the system components and data products in an integrated manner. A test traceability matrix in section 5 below traces these scenarios to the new PDS4 system design requirements, which in turn can be traced to high-level PDS requirements.

## Overview

* The Planetary Data System (PDS) is NASA’s official planetary data long term archive.
  + For more information on the PDS, see our website: <https://pds.nasa.gov/home/about/>
* In addition to PDS website, PDS Engineering Node is responsible for PDS4, PDS Information Model, and a suite of PDS4 system services and tools that support PDS data lifecycle.
  + For more information on the PDS Engineering Node, see our website: <https://pds-engineering.jpl.nasa.gov/>
* Build 13.0 made a number of improvements for Information Model 1.19.0 and tools including
  + Registry App, DOI Service, Deep Archive, Validate
* In addition, it fixed a number issues found in previous builds.
* 45 out of 51 test cases were successful, there are 5 minor failures and 1 partial success case. See section 3.1 for details.
* Daily Regression Tests were created and executed in Jenkins for previous Validate requirements.

## Terminology and Notation

DN – PDS Discipline or Data Node

EN – PDS Engineering Node

I&T – Integration and Test

NASA – National Aeronautics and Space Administration

OS – Operating System

PDS – Planetary Data System

PDS3 – Version 3.8 of the PDS Data Standards

PDS4 – Version 4.0 of the PDS Data Standards

PDS MC – PDS Management Council

API – pds-api

DOI – pds-doi-service

REG\_API – Registry-Api

REG\_MGR – Registry-mgr

IM – pds4-information-model

VAL – Validate

HAR – Harvest

## References

**Table 1: Applicable JPL Rules Documents**

| **Title** | **DocID** |
| --- | --- |
| *Software Development* | 57653 |
| *Overview of Software Development Processes* | 78187 |

**Table 2: Applicable MGSS Documents**

| **Title** | **Document Number** |
| --- | --- |
| *MGSS Implementation and Maintenance Task Requirements* | DOC-001455 |

# Deviations from the Test Plan

See [validated deviation from the plan](https://github.com/NASA-PDS/pds-swg/issues?q=label%3AB13.0+label%3Achange-request+).

# Test Results

The overall test status follows.

**Table 3: Overall Test Status**

| **Metric** | **Value** |
| --- | --- |
| Total Number of Tests | 52 |
| Successful Tests | 45 |
| Partially Successful Tests | 1 |
| Unsuccessful Tests | 5 |
| Unexecuted Tests | 0 |

**Table 4: Requirement, Improvement, and Feature Traceability Matrix and Test Results**

| **ID** | **Requirement Statement** | **Test Procedure ID** | **Status** |
| --- | --- | --- | --- |
| Pds-api#169 | As a user, I want to have a PDS Search API user guide | API.1 | Pass |
| Pds-api#173 | Replace summary-only=true by limit=0 | API.2 | Pass |
| Pds-api#148 | As a user, I want to search for past versions of a product where the LID changed during the product history | API.3 | Failed |
| Pds-api#60 | As an API user, I want to know the Bundle for a given Product. | API.4 | Pass |
| Pds-api#101 | |  | As a user, I want to receive a JSON response that contains the PDS4 label metadata in JSON format (application/vnd.nasa.pds.pds4+json) | | --- | --- | | API.5 | Pass |
| Pds-api#125 | |  | As a user, I want to receive a XML response that contains the PDS4 label metadata in XML format (application/vnd.nasa.pds.pds4+xml) | | --- | --- | | API.6 | |  | Pass | | --- | --- | |
| Pds-api#191 | |  | As a user, I want to get directions whenever I arrive on an API URL | | --- | --- | | API.7 | Pass |
| registry-api#109 | |  | As a user, I want to have an administrator contact when I am getting an error 500 from the server | | --- | --- | | | REG\_API.13 |  | | --- | --- | | Pass |
| doi-service#13 | The software shall validate the DOI metadata when reserving, releasing, or updating a DOI | DOI.5 | Pass |
| doi-service#224 | As a DOI user, I would like to know the licensing information PDS data | DOI.6 | Pass |
| doi-service#335 | As a DOI user, I would like to know the copyright for PDS data | DOI.7 | Pass |
| doi-service#344 | As a user, I want to release a DOI with a label that does not contain the DOI | DOI.8 | Failed |
| doi-ui#92 | As a user, I want to get an error message with support contact when the backend API is unavailable | DOI-UI.5 | Pass |
| ddoi-ui#145 | As a user, I want to access the DOI UI from outside JPL | DOI-UI.6 | Pass |
| pds4-information-model#499 | CCB-348: Add Units\_of\_Mass\_Density as a unit of measure | |  | IM.2 | | --- | --- | | |  | Provisional Pass | | --- | --- | |
| validate#482 | Validate labels/bundles/collections should use the LBLX file extension | VAL.1 | Pass |
| validate#496 | Support new lblx file extension | VAL.1 | Pass |
| validate#524 | An error should be received when no products are found within the validation target | VAL.7 | Pass |
| Pds-api#183 | Create a cookbook page on the content negotiation for the PDS Search API | API.8 | Pass |
| Pds-api#172 | Create user guide for the search api | API.9 | Pass |
| registry-api#108 | Remove the home controller from the swagger-ui | REG\_API.14 | Pass |
| registry-api#131 | Refactor API endpoints for simpler architecture/design/implementation to maintain/extend | REG\_API.15 | Pass |
| registry-api#140 | Add back the Docker file used for the AWS/Fargate deployment | | REG\_API.16 |  | | --- | --- | | Pass |
| ddoi-ui#149 | create an ASR for the application | DOI-UI.7 | Pass |
| ddoi-ui#147 | Replace authentication with Cognito on DOI UI and DOI service | DOI-UI.8 | Pass |

Table 5 identifies the defects planned to be corrected, including references to the test procedures that verify them, and the verification results.

**Table 5: Defect Traceability Matrix and Test Results**

| **ID** | **Defect Statement** | **Test Procedure ID** | **Status** |
| --- | --- | --- | --- |
| registry#64 | Scalable Harvest does not replace file paths with the appropriate URL prefix | REG.1 | Pass |
| registry-api#134 | wildcard search in query parameter returning odd results | REG\_API.1 | Pass |
| registry-api#121 | Fix vulnerabilities raised by sonalift | REG\_API.2 | Failed |
| registry-api#141 | / is not returning swagger API doc | REG\_API.3 | Pass |
| registry-api#162 | fields parameter does not return values if more than one value is requested for CSV format | REG\_API.4 | Pass |
| registry-api#171 | summary does not contain the property values | REG\_API.5 | Pass |
| registry-api#150 | bundle of a product does not return result | REG\_API.6 | Pass |
| registry-api#128 | Registry API Service docker container fails to start with error: Unable to access jarfile /usr/local/registry-api-service/registry-api-service.jar | REG\_API.7 | Pass |
| registry-api#172 | fields query parameter does not work consistently across all response formats | REG\_API.8 | Pass |
| registry-api#167 | summary-only does not work as expected | REG\_API.9 | Pass |
| registry-api#178 | The /products, /bundles & /collections endpoints are missing from the API | REG\_API.10 | Pass |
| registry-api#179 | limit=0 is not providing list of properties (fka summary-only) | REG\_API.11 | Pass |
| registry-api#152 | summary-only does not work on products of a collection | REG\_API.12 | Failed |
| registry-mgr#53 | bug with pagination limitations per OpenSearch config | REG\_MGR.1 | Pass |
| doi-service#350 | dataCite reserve error on title | DOI.1 | Pass |
| doii-service#331 | doi sync failing for SBN-PSI DOIs | DOI.2 | Pass |
| doi-service#336 | DOI-service application inaccurately reports LID as being invalid | DOI.3 | Pass |
| doi-service#328 | Valid PDS4 xml input is converted into an invalid json that fails internal datacite validator | DOI.4 | Pass |
| doi-ui#151 | Error messages are inconsistent | DOI-UI.1 | Pass |
| doi-ui#130 | Remove vulnerabilities from the package per npm audit | DOI-UI.2 | Failed |
| doi-ui#160 | Sometimes there is a null error message when there is no error | DOI-UI.3 | Pass |
| doi-ui#155 | Keywords text box and info icon do not appear correctly | DOI-UI.4 | Pass |
| harvest#90 | Incorrect "lidvid" and "\_id" fields are ingested (trailing zeros are truncated) | HAR.1 | Pass |
| planetarydata.org#6 | IPDA Charter blocked by login | DAT.1 | Pass |
| pds4-information-model#468 | LDDTool is generating multiple Schematron rules to test the same condition | IM.1 | Pass |
| validate#479 | Validate erroneously flags PDF/A-1a compliant file | VAL.3 | Pass |
| validate#507 | Validate having issues checking some file content on windows | VAL.5 | Pass |
| validate#503 | Validate passes confusing message to the Windows command window | VAL.5 | Pass |

## Detailed Status

| **ID** | **Status** | **Explanation** |
| --- | --- | --- |
| Pds-api#148 | Failed | querying for urn:nasa:pds:context:instrument:crs.vg1/all only returns urn:nasa:pds:context:instrument:vg1.crs::1.0. both urn:nasa:pds:context:instrument:vg1::1.0 and urn:nasa:pds:context:instrument:vg1.crs::1.0 are in the database. |
| doi-service#344 | Failed | Got an exception:  Record provided with identifier urn:nasa:pds:insight\_cameras::13.0 does not have a DOI assigned.  A DOI must be reserved for the record before it can be moved to Review. |
| pds4-information-model#499 | Provisional Pass | Assigned partial pass since the unknown units still result in a WARNING and not an ERROR. |
| registry-api#121 | Failed | still showing 5 Critical vulnerabilities. |
| registry-api#152 | Failed | Got a NothingFoundException when limit=0 |
| doi-ui#130 | Failed | There are still 9 severity vulnerabilities. |