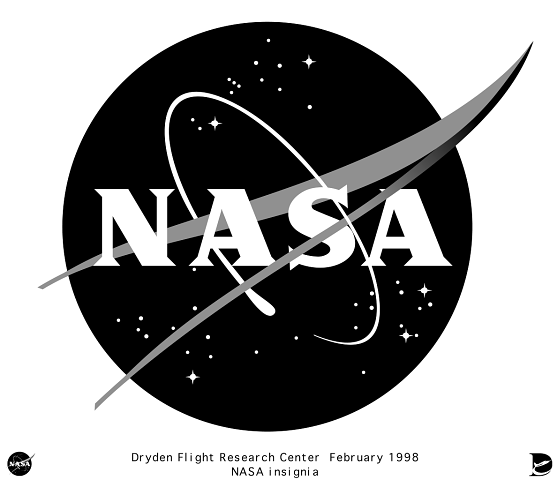
Plan Document

NASA Planetary Data System

PDS4 System

Build 6a Test Document



## Change Log

|  |  |  |  |
| --- | --- | --- | --- |
| **Revision** | **Date** | **Description** | **Author** |
| Draft |  | Initial draft release. |  |
| 1c | May 16, 2011 | Modified many tests to work with build 1c of Harvest and Registry. Other minor revisions. | Richard Chen |
| 1d | Oct 24, 2011 | Updated for build 1d | Richard Chen |
| 2a | Nov 11, 2011 | Updated for build 2a | Richard Chen |
| 2b | Feb 28, 2012 | Updated for build 2b | Richard Chen |
| 2b.1 | Mar 7, 2012 | Re-added HVT.T3, expanded SRCH.T5 | Richard Chen |
| 2c | Jul 17, 2012 | Updated for build 2c | Richard Chen |
| 3a | Oct 26, 2012 | Added BNDL.T1 to .T4 | Richard Chen |
| 3b | Apr 09, 2013 | Added AAFUNCTION.\* | Richard Chen |
| 3b.1 | Aug 30, 2013 | Incorporated JIRA resolutions | Richard Chen |
| 3b.2 | Sep 15, 2013 | Cleaned up and removed not applicable test procedures | Richard Chen, Emily Law |
| 4a | Dec. 05, 2013 | Incorporated PDS4ORR-RFA1’s reeendations by:   * folding the test plan into this (test procedures and test results) document. * listing the requirements tested in each test case and their pass/fail status * adding version numbers in list of software components tested * indicating for each JIRA issue: the software build under which it was discovered, its severity, the test case demonstrating, and its description. * adding “pass”, “fail”, or “skip” to the requirements traceability matrix   Added tests TPRT.1, SCMA.1 to test transport service and schema.  Removed redundant tests AATESTME.\*. | Richard Chen, Emily Law |
| 4b’ | Apr 14, 2014 | Replaced generate0.7.0 with 0.7.1 | Richard Chen |
| 5a | Oct 27, 2014 | Added PRV.3, TPRT.4. Changed HVT.4 to GEN.2. Changed TPRT.3 to test more of transport-proxy. Deleted TPRT.2 after folding its step into TPRT.1 | Richard Chen |
| 5b | Apr 19, 2015 | Rewrote TPRT.4 to test transport-proxy correctly. Much work on formatting issues in Generate, Transform, and Transport. Added SRCH.8 | Richard Chen |
| 6a | Oct 19, 2015 | Added HVT.7, REG.10. Modified HVT.5, PRG.1, PRT.1, PRV.1, PRV.3, PRV.5, PRV.6, REG.3, REG.9, SRCH.5, SRCH.8, TPRT.1, TPRT.3 | Richard Chen |

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## Introduction

For over fifteen years, the Planetary Data System (PDS) has been NASA’s official data system for archiving and distribution of data from planetary exploration missions. It has been a leader in defining data standards, working with missions and instrument teams, and developing data system technologies. The PDS has been instrumental in changing the scientific culture by working with the planetary science community to publicly release and peer review the data it captures. It has also been used as a model by other science data systems interested in establishing distributed scientific networks organized by independent discipline nodes at facilities that are doing leading-edge scientific research.

While PDS has been a leader in developing and exploiting new technologies and ideas, an increasing workload and substantial increases in the volume of delivered data are now threatening the system's ability to accomplish its primary missions of both archiving planetary science data and distributing it to working scientists. PDS identified these challenges in its Roadmap published in 2006. In addition to these challenges, the ten year Roadmap outlined several goals including improving the PDS data standards, increasing user services by leveraging newer technologies and technical standards, and re-architecting PDS to ensure efficient operations of the system while supporting the increasing demands on PDS by both the data providers and end users.

In response to these challenges and goals, PDS has developed a plan for the next generation. The vision, as defined by the PDS Management Council at its April 2008 meeting, includes:

* Simplified, but rigorous, archiving standards that are consistent, easy to learn, and easy to use
* Adaptable tools for designing archives, preparing data, and delivering the results efficiently to PDS
* On-line services allowing users to access and transform data quickly from anywhere in the system
* A highly reliable, scalable computing infrastructure that protects the integrity of data, links the nodes into an integrated data system, and provides the best service to both data providers and users

PDS previously maintained two separate documents:

* the Integration and Test Plan
* the Test Procedures and Report

Because the latter document grew to encompass most of the former, this document merges the two.

### Purpose

This Test Document 1) defines specific tests that ensure that the new system and the new standards called “PDS4” 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 6a 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 traces these scenarios to the new PDS4 system design requirements, which in turn can be traced to high-level PDS requirements.

### Scope

For PDS4 Build 6a, the following software will be deployed at the EN:

* Ingest: Harvest 1.9.0, Catalog 1.10.0
* Portal: Data Set View 2.6.0
* Preparation: Design (oXygen 14.1), Generate 0.9.0, Transform 1.2.0, Validate 1.7.0
* Registry: Core 1.9.0, Service 1.9.0, UI 1.9.0
* Report (Sawmill 8.5)
* Search: Core 1.7.0, Service 1.7.0, Search-UI 1.7.0, Product-Search-UI 1.7.0
* Storage 1.0.0, Product 1.0.0
* Security (OpenDS 2.2.0)
* Transport-Registry 1.1.0, Transport-OFSN 1.3.0, Transport-Proxy 1.2.0

The scope of this build is to support data providers and Discipline Nodes in developing and distributing PDS4 data products both for new missions and data migration. Previous releases of PDS4 have been scoped to support the LADEE and MAVEN missions as early adopters as well as internal testing by PDS and the IPDA. Future, incremental releases will target data users as PDS4 data is available within the PDS.

### Document Revision

Revisions of this document will be held in the PDS Engineering Node website through the use of its document history functionality. Previous versions of this document can be accessed through the use of that tool.

### Test Approach

The PDS4 build structure is organized such that the system can be tested and verified early on to ensure seamless transitions. The builds will ensure there is a coordinated testing and deployment of functionality coupled with upgrades of the data standards.

Build 6a Integration testing is the execution and management of tests by the Engineering Node to ensure that the release of Build 6a meets the intended functionality. The process of verification testing includes the selection of verification items, integration, and regression testing. Any functionality that is added to the system is treated as a new verification item.

### Applicable Documents

#### Controlling Documents

[1] Planetary Data System Strategic Roadmap 2006 - 2016, February 2006.

[2] Planetary Data System Level 1, 2 and 3 Requirements, March 26, 2010.

#### Referenced Documents

[3] PDS4 Project Plan, July 2013.

[4] PDS4 Operations Concept, September 2013.

[4] System Architecture Specification, September 2013.

[5] General System Requirements, September 2013.

[6] Software Requirements and Design, 2013.

[7] PDS4 Standards Documents, 2014.

## Executive Summary

**The testing documented herein substantiates that all tested tools and services meet Build 6a requirements as specified in their Software Requirements and Design documents.**

|  |  |  |  |
| --- | --- | --- | --- |
| **# of tests performed** | **# of tests passed** | **# of tests failed** | **# of high priority anomalies** |
| 43 | 43 | 0 | 0 |

Build 6a closes 6 JIRA issues reported in earlier testing: PDS-348, PDS-350, PDS-351, PDS-352, PDS-353, PDS-355.   
Build 6a confirms the closure of 20 JIRA issues reported elsewhere: PDS-44, PDS-295, PDS-342, PDS-361, PDS-362, PDS-367, PDS-371, PDS-372, PDS-374, PDS-375, PDS-376, PDS-379, PDS-380, PDS-382, PDS-384, PDS-386, PDS-388, PDS-391, PDS-392, PDS-393  
Build 6a reopens JIRA issue PDS-366 (transform) and opens 4 JIRA issues PDS-397 (harvest –P –w), PDS-398 (generate –o), PDS-401 (validate –i), and PDS-402 (registry-ui deletion), of which PDS-397 and PDS-401 are already resolved.  
See the bottom of Section , Anomalies.

Section has one sequence of four tests that represent the most likely operating scenario for PDS4 products: creation, validation, ingestion, search. The last test case AAFUNCTION.4 tests both product-search-ui, which searches for observational products, and search-ui, for context products. One request for improvement will likely be closed

Section has one sequence of tests per software module. These tests cover level 4 and 5 requirements for completeness. The sequences:

* CTLG.\* tested the updated catalog tool successfully.
* DSV.1 tested the Portal / Data Set View interface successfully. PDS-350, a change in output, was cleared.
* GEN.\* tested general functionality successfully. Testing of accessing a controlled registry was skipped, as no registries are run that way now or are availabe to test with
* HVT.\* tested the Ingest/Harvest tool successfully. Test HVT.2 showed persistent mode harvest initially failing, per PDS-397, which has been resolved. PDS-348, deleting two packages at once, was cleared. New test HVT.7 verified fixes to externally reported anomalies but failed, as PDS-402 opened a minor anomaly on deleting packages.
* PRG.1 tested the Preparation/Generate tool successfully. One existing request for improvement (PDS-113, handle carets) remains open. Another (PDS-398, different handling of output path) was created.
* PRT.1 tested the Preparation/Transform tool successfully. One existing request for improvement (PDS-343, better error message) remains open. A new one (PDS-366, subsuming PDS-399), better functionality under java 1.8) was created.
* PRV.\* tested the updated Preparation/Validation tool succesfully. PDS-351, failure with two schemas, and PDS-352, nicer error messages, were cleared. Test PRV.3 initially failed, as PDS-401 showed missing LID references not reported, which has since been resolved.
* REG.\* tested the Registry successfully. New test REG.10 tested the registry client API.
* RPT.1 tested the Report service successfully.
* SCMA.1 tested the PDS4 schema (v1.4.0.0) rather than software. These tests used the Validate tool and proceeded independently from the software build 6a.
* SEC.1 tested the Security service successfully.
* SRCH.\* tested the Search service successfully. PDS-165, PDS-258, PDS-319, PDS-357 remain open. PDS-355, dd-search’s results not quite ordered, was closed.
* TPRT.\* tested the updated transport service successfully. PDS-353, incorrect results for two handlers, was resolved. PDS-322, request for additional label structures, remains open.

Section lists all issues and their info: status, JIRA tracking number, severity, relevant test case, and description. Testing of Build 6a created 0 major anomalies, 4 minor ones, and 2 request for improvement. Overall, 12 issues remain open: 4 minor anomalies, 8 requests for improvement.

Section shows the traceability of the test cases to the level 5 requirements (and level 4 if no level 5 requirement applies). The table in this section shows that 5 test cases, each uniquely covering 1 level 5 requirement, have been skipped because appropriate PDS4 software has not yet been implemented.

## Test Procedures

The following section defines the tests and their results. All tests below have been run for build 6a (except those written for future builds) and will be run as necessary to re-test the system after software changes.

Section contains one sequence of tests that demonstrates how a bundle of products passes through the PDS4 software, especially the tools and services to support PDS4 data validation, registration, and search.

Section contains tests that demonstrate the broader functionality of the PDS4 software.

### Setup

The root URL for all software is <https://pds-engineering.jpl.nasa.gov/development/pds4/5.1.0>.

The tests in section require the installation of the following PDS4 software:

* **Harvest**, <https://pds-engineering.jpl.nasa.gov/development/pds4/5.1.0/ingest/harvest>
* **Registry**, <https://pds-engineering.jpl.nasa.gov/development/pds4/5.1.0/registry>
* **Search**, <https://pds-engineering.jpl.nasa.gov/development/pds4/5.1.0/search>
* **Validate**, <https://pds-engineering.jpl.nasa.gov/development/pds4/5.1.0/preparation/validate>
* an **XML editor**, e.g. Oxygen. This can be skipped, though not recommended.
* an XML-friendly web **browser**, e.g. firefox

The tests in Section require the installation of the software above as well as:

* **Generate**, <https://pds-engineering.jpl.nasa.gov/development/pds4/5.1.0/preparation/generate>
* **Catalog**, <https://pds-engineering.jpl.nasa.gov/development/pds4/5.1.0/ingest/catalog>
* **Data Set View**, <https://pds-engineering.jpl.nasa.gov/development/pds4/5.1.0/portal/ds-view>
* **Storage**, <https://pds-engineering.jpl.nasa.gov/development/pds4/5.1.0/storage>
* **Transform**, <https://pds-engineering.jpl.nasa.gov/development/pds4/5.1.0/preparation/transform>
* **Transport**, <https://pds-engineering.jpl.nasa.gov/development/pds4/5.1.0/transport>
* **curl**, a command-line utility to access a URL, used here to manipulate a registry. The Registry Service Guide has more information. This is native to most versions of unix.

Please follow the installation instructions carefully. For more help, the file NOTES.txt, created during SETUP below, details one tester’s configuration experience. Note that the tests are written for Unix, but running on other platforms requires simple changes.

In the tests in the rest of this document, replace

|  |  |
| --- | --- |
| *testDir* | directory where input files are extracted |
| *binDir* | directory where the PDS4 software are installed |
| harvest | If the registry is uncontrolled, do not replace. Else:  harvest –u*username* –p*password*  Also add “‑k *keystorePassword*” depending on the registry configuration, especially if Harvest gives error “Keystore password must be specified” |
| curl | If the registry is uncontrolled, do not replace. Else:  curl ‑u*username:password* –k |
| <http://localhost:8080> | Use the URL of the registry |

The tests in Sections 3.2 and 3.3 require this:

|  |  |
| --- | --- |
| Test Case ID | SETUP |
| Description | This is not a test. This sets up test data. |
| Test Steps | From <https://pds-engineering.jpl.nasa.gov/content/build-6a-deliverables>, get the latest “Test Data (.zip)”, then   * mkdir *testDir* * cd *testDir* * unzip PDS4test.build6a.zip |

The registry is the central service. It can reside locally or remotely, controlled or uncontrolled. If remote, it need not be installed. If local, testing is easier, but installation and configuration of it and of the required Apache Tomcat server can be difficult.

Many test sequences in this document assume a local, uncontrolled registry, which may get corrupted during testing. The following step resets the registry:

|  |  |
| --- | --- |
| Test Case ID | RESETREGISTRY |
| Description | This is not a test. This wipes the database and the search indices clean.  *dbDir* is the directory for the database, set during the initialization of Tomcat. |
| Test Steps | $CATALINA\_HOME/bin/shutdown.sh  rm *binDir*/search-service/../logs/\*  rm $CATALINA\_HOME/logs/\*  rm -r *binDir*/search-service/pds/\*data\*  rm *binDir*/search-service/pds/index/search-tools.hierarchy.xml  rm -r *binDir*/search-service/pds/solr-docs/\*  rm -r *binDir*/search-service/pds/solr-docs\_old/\*  rm -f -r *dbDir*/registry  cd *binDir*/registry-service  java -Djava.ext.dirs=lib/ org.apache.derby.tools.ij  connect 'jdbc:derby:registry;create=true;user=registry';  run 'conf/derby-registry-schema.ddl';  exit;  mv registry *dbDir*/registry  rm derby.log  $CATALINA\_HOME/bin/startup.sh # usually a pause is needed here  cd *binDir*/registry-service/bin; ./registry-config |

### Testing of Bundle Processing

The AAFUNCTION sequence tests the PDS4 software’s ability to process a bundle of products. All expected product types should be able to pass through the sequence.

|  |  |
| --- | --- |
| Test Case ID | AAFUNCTION.1 |
| Description | Create a PDS4 Product Label using a design tool based on PDS’s schema. |
| Requirements | PASS L5.PRP.DE.1: The tool shall initiate a design session as follows...  PASS L5.PRP.DE.2: The tool shall accept the following as input for specifying a schema file...  PASS L5.PRP.DE.3: The tool shall facilitate modification of a schema file as follows...  PASS L5.PRP.DE.4: The tool shall provide standard editing features as follows...  PASS L5.PRP.DE.5: The tool shall indicate when a schema is not valid.  PASS L5.PRP.DE.6: The tool shall generate an XML instance file from a schema.  PASS L5.PRP.DE.7: The tool shall export the schema for use outside the tool. |
| Success Criteria | Design tool produces a syntactically valid PDS Product Label else indicates where the label is invalid. |
| Test Steps | In general:   * Consult the Data Providers’ Handbook (DPH), Version 1.3.0, Appendix D. |
| Test Results | Creation of a label-template (xml) from the master-schema (xsd). |
| Comments | Results met success criteria |
| Date of Testing | 2015.10.12 |
| Test Personnel | Richard Chen |

|  |  |
| --- | --- |
| Test Case ID | AAFUNCTION.2 |
| Description | Validate PDS4 label |
| Requirements | PASS L5.PRP.VA.1: The tool shall accept the following as input for specifying the product(s) to be validated…  PASS L5.PRP.VA.2: The tool shall traverse a directory tree and validate products  PASS L5.PRP.VA.3: The tool shall validate aggregate products and all products referenced by such products.  PASS L5.PRP.VA.5: The tool shall verify that a product label is well-formed XML.  PASS L5.PRP.VA.6: The tool shall verify that a product label conforms to its associated schema file(s).  PASS L5.PRP.VA.7: The tool shall accept the following as input for specifying the associated schema file(s)…  PASS L5.PRP.VA.9: The tool shall indicate the schema(s) utilized during validation. |
| Success Criteria | Validation tool validates a file or all eligible products in a directory tree, indicates the schemas utilized during the validation, and ensures that a product label is well formed XML and conforms to its schemas. Also validate for content as well as syntax. |
| Test Steps | 1. cd *testDir* 2. validate -t bundle\_geo\_ra –m 1500 -e "\*.xml" |
| Test Results | PDS Validate Tool Report  Configuration:  Version 1.8.0  Date 2015-10-12T22:04:39Z  Core Schemas [PDS4\_PDS\_1500.xsd]  Core Schematrons [PDS4\_PDS\_1500.sch]  Model Version 1500  Parameters:  Targets [file:*testDir*/bundle\_geo\_ra/]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml]  Force Mode off  Referential Integrity Check off  Validation Details:  PASS: file: *testDir*/bundle\_geo\_ra/bundle\_1.xml  PASS: file: *testDir*/bundle\_geo\_ra/context/context\_collection\_1.xml  PASS: file: *testDir*/bundle\_geo\_ra/context/PDS4\_host\_PHX\_1.0.xml  PASS: file: *testDir*/bundle\_geo\_ra/context/PDS4\_inst\_RA\_\_PHX.xml  PASS: file: *testDir*/bundle\_geo\_ra/context/PDS4\_mission\_PHOENIX\_1.0.xml  PASS: file: *testDir*/bundle\_geo\_ra/context/PDS4\_target\_MARS\_1.0.xml  PASS: file: *testDir*/bundle\_geo\_ra/data\_derived/data\_derived\_collection\_1.xml  PASS: file: *testDir*/bundle\_geo\_ra/data\_derived/sol006.xml  PASS: file: *testDir*/bundle\_geo\_ra/data\_derived/sol007.xml  [snip…]  PASS: file:*testDir/*bundle\_geo\_ra/xml\_schema/collection.xml  PASS: file:*testDir/*bundle\_geo\_ra/xml\_schema/PDS4\_PDS\_1400.xml  Summary:  173 of 173 file(s) processed, 0 skipped  173 of 173 file(s) passed validation  End of Report |
| Comments | Results met success criteria |
| Date of Testing | 2015.10.12 |
| Test Personnel | Richard Chen |

|  |  |
| --- | --- |
| Test Case ID | AAFUNCTION.3 |
| Description | Harvest PDS4 labels. Harvest provides a command-line interface, accepts a configuration file, determines candidates for registration, captures metadata, and submits metadata to the Registry Service. Registry accepts the artifacts, assigns global unique IDs to the products. Registry relates artifacts via (LID-based) association |
| Requirements | PASS L5.HVT.1: The tool shall accept a configuration file specifying policy for tool behavior.  PASS L5.HVT.2: The tool shall provide a command-line interface for execution.  PASS L5.HVT.4: The tool shall recursively traverse the specified directory or directories…  PASS L5.HVT.5: The tool shall determine candidate products for registration through a combination of the following…  PASS L5.HVT.6: The tool shall capture metadata for a candidate product specified by the product type.  PASS L5.HVT.7: The tool shall submit the associated metadata for a candidate product to the [Registry].  PASS L5.HVT.8: The tool shall track each product registration.  PASS L5.REG.1: The service shall accept artifact registrations.  PASS L5.REG.2: The service shall provide a means for relating artifact registrations.  PASS L5.REG.4: The service shall accept metadata for a registered artifact in a defined format.  PASS L5.REG.6: The service shall assign a global unique identifier to a registered artifact.  PASS L5.REG.8: The service shall store metadata for a registered artifact in an underlying metadata store.  PASS L5.SEC.1: The service shall authenticate a user given identifying credentials for that user. |
| Success Criteria | Harvest tool, based on criteria given in a user-edited configuration file, executed from the command line, discovers all matching artifacts and for each submits metadata to the Registry service. Tools to view the registry show the metadata of the matching artifacts, with appropriate metadata, including the guid, which is assigned by the Registry. Tools to view the registry show the associations. |
| Test Steps | 1. cd *testDir*   In the following commands, specify the absolute path, which must begin with harvest-policy-master.xml’s policy/accessUrls/accessUrl/offset   1. harvest *testDir*/contextPDS4onlyPHX -c harvest-policy-master.xml -l h1.out -e "\*.xml" 2. grep -v "SUCCESS\|INFO" h1.out | uniq 3. harvest *testDir*/bundle\_geo\_ra -c harvest-policy-master.xml -l h2.out -e "\*.xml" 4. grep -v "SUCCESS\|INFO" h2.out | uniq   The following set up search-core in the next test case.   1. Assuming *binDir*/harvest/bin/harvest points to registry.pds4, this has no data, as it defaults to registry-pds3: http://localhost:8080/registry-ui/ 2. set Registry Service(s) to registry-pds4 3. Click tab “Packages”. Select one of the “Harvest-Package\_\*”, set Status to “Approved”, click “Update Status”. 4. Repeat for the other “Harvest-Package\_\*” |
|  | Step 3: Without grep, the output file is very large  PDS Harvest Tool Log  Version Version 1.9.0  Time Mon, Oct 12 2015 at 11:12:40 PM  Target(s) [*testDir*/contextPDS4onlyPHX]  File Inclusions [\*.xml]  Registry Location http://localhost:8080/registry-pds4  Registry Package Name Harvest-Package\_20151012231240  Registration Package GUID urn:uuid:a5914d1f-b199-4800-bc7b-4ace72b861a7  Summary:  157 of 157 file(s) processed, 0 other file(s) skipped  0 error(s), 0 warning(s)  157 of 157 products registered.  163 of 163 ancillary products registered.  Product Types Registered:  6 Product\_Collection  163 Product\_File\_Repository  150 Product\_Context  1 Product\_Bundle  163 of 163 associations registered.  End of Log  Step 5: Without grep, the output file is very large  PDS Harvest Tool Log  Version Version 1.9.0  Time Mon, Oct 12 2015 at 11:15:29 PM  Target(s) [*testDir*/bundle\_geo\_ra]  File Inclusions [\*.xml]  Registry Location http://localhost:8080/registry-pds4  Registry Package Name Harvest-Package\_20151012231529  Registration Package GUID urn:uuid:224f03d1-e44e-461a-bb7b-764301e3024d  SKIP: [*testDir*/bundle\_geo\_ra/xml\_schema/PDS4\_PDS\_1500.xml] Not a primary member.  SKIP: [*testDir*/bundle\_geo\_ra/context/PDS4\_host\_PHX\_1.0.xml] Not a primary member.  SKIP: [*testDir*/bundle\_geo\_ra/context/PDS4\_inst\_RA\_\_PHX.xml] Not a primary member.  SKIP: [*testDir*/bundle\_geo\_ra/context/PDS4\_mission\_PHOENIX\_1.0.xml] Not a primary member.  SKIP: [*testDir*/bundle\_geo\_ra/context/PDS4\_target\_MARS\_1.0.xml] Not a primary member.  Summary:  168 of 168 file(s) processed, 5 other file(s) skipped  0 error(s), 0 warning(s)  168 of 168 products registered.  335 of 335 ancillary products registered.  Product Types Registered:  5 Product\_Collection  120 Product\_Observational  4 Product\_Document  38 Product\_Browse  335 Product\_File\_Repository  1 Product\_Bundle  335 of 335 associations registered.  End of Log  Step 7: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-12 at 11.20.38 PM.png  Step 8:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-12 at 11.24.35 PM.png  Step 9:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-12 at 11.25.48 PM.png |
| Comments | Results met success criteria.  In the product bundle, the 5 SKIPs are for files deemed secondary in their respective collections via their lidvids. |
| Date of Testing | 2015.10.12 |
| Test Personnel | Richard Chen |

|  |  |
| --- | --- |
| Test Case ID | AAFUNCTION.4 |
| Description | Search for PDS4 data at the product level and the context level. |
| Requirements | PASS L5.SCH.1: The service shall provide a user interface for entering of queries and display of search results…  PASS L5.SCH.5: The service shall provide the capability to retrieve metadata associated with registered artifacts for the purpose of generating search indexes. PASS L5.SCH.6: The service shall support searching by accepting criteria as a sequence of open text keywords.  PASS L5.SCH.8: The service shall support narrowing of additional index results based on specifications of terms and/or values on indexes.  PASS L5.SCH.10: The service shall provide results to a search as a sequence of matching URIs to resources that contain search desiderata.  PASS L5.SCH.11: The service shall annotate each URI of a result with metadata describing the URI.  PASS L5.SCH.12: The service shall support configuration on the kinds of indexes maintained on indexed data |
| Success Criteria | After configuration (e.g. regenerating search indices), Search returns the data harvested in the previous step. |
| Test Steps | Build the search index   1. In a browser, http://localhost:8080/product-search-ui 2. Beneath “Data Search” in the middle of the page, type “phoenix” 3. In a browser, http://localhost:8080/search-ui 4. Beneath “Data Search” in the middle of the page, type “phoenix” 5. search-core -H *binDir*/search-service/pds -p *binDir*/search-core/conf/defaults/pds/pds4/core.properties 6. Repeat step 2 7. Repeat step 4 |
| Test Results | Step 2:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-12 at 11.28.42 PM.png  Step 4:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-12 at 11.29.17 PM.png  Step 5:  Processing config: attribute\_defn.xml  Processing config: bundle.xml  Processing config: class\_defn.xml  Processing config: collection.xml  Processing config: context.xml  PDS Search Core Run Log  Version Version 1.7.0  Time Mon, Oct 12 2015 at 11:30:37 PM  Severity Level INFO  Search Home /PDS4tools/search-service/pds  Search Service URL http://localhost:8080/search-service  Search Core Properties /PDS4tools/search-core/conf/defaults/pds/pds4/core.properties  SUCCESS: Completed extraction: attribute\_defn.xml  INFO: Completed: urn:nasa:pds:phx\_ra  INFO: Completed: urn:nasa:pds:context  SUCCESS: Completed extraction: bundle.xml  SUCCESS: Completed extraction: class\_defn.xml  INFO: Completed: urn:nasa:pds:phx\_ra:context  INFO: Completed: urn:nasa:pds:context:collection\_context\_resource  INFO: Completed: urn:nasa:pds:phx\_ra:data\_test  INFO: Completed: urn:nasa:pds:phx\_ra:document  INFO: Completed: urn:nasa:pds:context:collection\_context\_target  INFO: Completed: urn:nasa:pds:system\_bundle:xml\_schema  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived  INFO: Completed: urn:nasa:pds:context:collection\_context\_investigation  INFO: Completed: urn:nasa:pds:context:collection\_context\_agency  INFO: Completed: urn:nasa:pds:context:collection\_context\_instrument  INFO: Completed: urn:nasa:pds:context:collection\_context\_instrument\_host  SUCCESS: Completed extraction: collection.xml  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-2-edr-v1.0\_\_browserp\_phx-m-ssi-2-edr-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-tega-4-scrdr-v1.0\_\_pds.geo.phx.analysts\_notebook  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-rac-3-radiometric-sci-v1.0\_\_browserp\_phx-m-rac-3-radiometric-sci-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-tega-2-egaedr-v1.0\_\_pds.geo.phx.analysts\_notebook  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-tega-4-eghrdr-v1.0\_\_dvo\_geo\_phx-m-tega-4-eghrdr-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-5-reachability-ops-v1.0\_\_pds.geo.phx.analysts\_notebook  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-met-3-l-rdr-v1.0\_\_browser\_geo\_phx-m-met-3-l-rdr-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-5-iof-sci-v1.0\_\_dvo\_imaging\_phx-m-ssi-5-iof-sci-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-5-disparity-ops-v1.0\_\_browserp\_phx-m-ssi-5-disparity-ops-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-5-anaglyph-ops-v1.0\_\_dvo\_imaging\_phx-m-ssi-5-anaglyph-ops-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-3-radiometric-ops-v1.0\_\_dvo\_imaging\_phx-m-ssi-3-radiometric-ops-v1.0  INFO: 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urn:nasa:pds:context:instrument:instrument.tt\_\_phx  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-3-radiometric-sci-v1.0\_\_dvo\_imaging\_phx-m-ssi-3-radiometric-sci-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-rac-5-reachability-ops-v1.0\_\_browserp\_phx-m-rac-5-reachability-ops-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-rac-5-disparity-ops-v1.0\_\_pds.geo.phx.analysts\_notebook  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-om-3-radiometric-sci-v1.0\_\_browserp\_phx-m-om-3-radiometric-sci-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-5-xyz-ops-v1.0\_\_pds.geo.phx.analysts\_notebook  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-rac-3-radiometric-ops-v1.0\_\_browserp\_phx-m-rac-3-radiometric-ops-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-rac-4-linearized-ops-v1.0\_\_pds.geo.phx.analysts\_notebook  INFO: Completed: 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urn:nasa:pds:context:resource:resource.phx-m-ssi-5-atmos-opacity-v1.0\_\_dvo\_atm\_phx-m-ssi-5-atmos-opacity-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-rac-2-edr-v1.0\_\_browserp\_phx-m-rac-2-edr-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-met-2-pt-edr-v1.0\_\_browser\_geo\_phx-m-met-2-pt-edr-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-rac-4-linearized-ops-v1.0\_\_browserp\_phx-m-rac-4-linearized-ops-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-tega-4-scrdr-v1.0\_\_browserp\_phx-m-tega-4-scrdr-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-rac-5-anaglyph-ops-v1.0\_\_dvo\_imaging\_phx-m-rac-5-anaglyph-ops-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-tega-4-egsrdr-v1.0\_\_dvo\_geo\_phx-m-tega-4-egsrdr-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-rac-5-xyz-ops-v1.0\_\_pds.geo.phx.analysts\_notebook  INFO: Completed: 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urn:nasa:pds:context:resource:resource.phx-m-met-3-pt-rdr-v1.0\_\_dvo\_atm\_phx-m-met-3-pt-rdr-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ra-4-rdr-sci-v1.0\_\_dvo\_geo\_phx-m-ra-4-rdr-sci-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-5-mosaic-ops-v1.0\_\_dvo\_imaging\_phx-m-ssi-5-mosaic-ops-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-5-disparity-ops-v1.0\_\_pds.geo.phx.analysts\_notebook  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-tega-2-lededr-v1.0\_\_pds.geo.phx.analysts\_notebook  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-met-3-pt-rdr-v1.0\_\_browserp\_phx-m-met-3-pt-rdr-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-5-mosaic-ops-v1.0\_\_browserp\_phx-m-ssi-5-mosaic-ops-v1.0  INFO: Completed: urn:nasa:pds:context:instrument:instrument.meca\_tecp\_\_phx  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-rac-3-radiometric-ops-v1.0\_\_dvo\_imaging\_phx-m-rac-3-radiometric-ops-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-om-2-edr-v1.0\_\_browser\_geo\_phx-m-om-2-edr-v1.0  INFO: Completed: urn:nasa:pds:context:instrument:instrument.tega\_\_phx  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-om-3-radiometric-sci-v1.0\_\_dvo\_imaging\_phx-m-om-3-radiometric-sci-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-5-normal-ops-v1.0\_\_browserp\_phx-m-ssi-5-normal-ops-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-5-reachability-ops-v1.0\_\_browserp\_phx-m-ssi-5-reachability-ops-v1.0  INFO: Completed: urn:nasa:pds:context:target:planet.mars  INFO: Completed: urn:nasa:pds:context:instrument:instrument.ase\_\_phx  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-5-reachability-ops-v1.0\_\_dvo\_imaging\_phx-m-ssi-5-reachability-ops-v1.0  INFO: Completed: urn:nasa:pds:context:target:satellite.phobos  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-4-linearized-ops-v1.0\_\_dvo\_imaging\_phx-m-ssi-4-linearized-ops-v1.0  INFO: Completed: urn:nasa:pds:context:instrument:instrument.ra\_\_phx  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-met-2-pt-edr-v1.0\_\_dvo\_atm\_phx-m-met-2-pt-edr-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-rac-5-disparity-ops-v1.0Processing config: observational.xml  \_\_browserp\_phx-m-rac-5-disparity-ops-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-tega-4-egsrdr-v1.0\_\_browserp\_phx-m-tega-4-egsrdr-v1.0  INFO: Completed: urn:nasa:pds:context:target:satellite.deimos  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-rac-5-disparity-ops-v1.0\_\_dvo\_imaging\_phx-m-rac-5-disparity-ops-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-met-3-l-rdr-v1.0\_\_browserp\_phx-m-met-3-l-rdr-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-rac-3-radiometric-sci-v1.0\_\_dvo\_imaging\_phx-m-rac-3-radiometric-sci-v1.0  INFO: Completed: urn:nasa:pds:context:instrument:instrument.meca\_wcl\_\_phx  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-3-radiometric-sci-v1.0\_\_browserp\_phx-m-ssi-3-radiometric-sci-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-4-linearized-ops-v1.0\_\_browserp\_phx-m-ssi-4-linearized-ops-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-meca-4-nirdr-v1.0\_\_dvo\_geo\_phx-m-meca-4-nirdr-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-rac-5-range-ops-v1.0\_\_dvo\_imaging\_phx-m-rac-5-range-ops-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-meca-2-niedr-v1.0\_\_dvo\_geo\_phx-m-meca-2-niedr-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-4-linearized-ops-v1.0\_\_pds.geo.phx.analysts\_notebook  INFO: Completed: urn:nasa:pds:context:agency:agency.nasa  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-tega-3-engrdr-v1.0\_\_dvo\_geo\_phx-m-tega-3-engrdr-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-ssi-5-anaglyph-ops-v1.0\_\_browserp\_phx-m-ssi-5-anaglyph-ops-v1.0  INFO: Completed: urn:nasa:pds:context:instrument:instrument.ssi\_\_phx  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-tega-3-engrdr-v1.0\_\_browserp\_phx-m-tega-3-engrdr-v1.0  INFO: Completed: urn:nasa:pds:context:resource:resource.phx-m-tega-2-eghedr-v1.0\_\_dvo\_geo\_phx-m-tega-2-eghedr-v1.0  INFO: Completed: urn:nasa:pds:context:instrument:instrument.om\_\_phx  SUCCESS: Completed extraction: context.xml  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol042a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol143  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol045a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol033a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol089a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol148b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol013  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol025  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol133a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol101a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol074b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol042e  INFO: Completed: urn:nasa:pds:phx\_ra:data\_test:pit\_test\_icy\_soil\_dig2  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol072  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol064  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol127b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol128b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol127a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol136  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol148c  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol095  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol148d  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol079a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol042c  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol071a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol033c  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol090  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol125b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol058b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_test:pit\_test\_trench\_wall\_failure\_bottom  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol116b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol087a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol085  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol129  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol147b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol073  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol128a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol007  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol006  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol024  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol126a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol101b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol033b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol076  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol079b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol117  INFO: Completed: urn:nasa:pds:phx\_ra:document:activity  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol031  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol068a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol058c  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol110  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol140  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol083  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol149a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol020a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol032a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol066  INFO: Completed: urn:nasa:pds:phx\_ra:data\_test:pit\_test\_duricrust  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol022a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol133b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol105b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol087b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol075  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol116a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol093  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol011  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol146b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol134a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol099b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol098a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_test:pit\_test\_icy\_soil\_dig1  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol114  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol133c  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol019a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol146a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol074a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol130  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol022b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol060  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol042b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol077  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol132a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol147a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol068b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol089b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol134d  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol148a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol051  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol069  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol115  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol141  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol126b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol145b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol057a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol020b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol132b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol125a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol019b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol145a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol133d  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol049  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol062  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol134c  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol071b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol149b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol034  INFO: Completed: urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol134b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol067  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol014  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol088  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol042d  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol058a  INFO: Completed: urn:nasa:pds:phx\_ra:data\_test:pit\_test\_trench\_wall\_failure\_tip  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol009  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol098b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol032b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol045b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol057b  INFO: Completed: urn:nasa:pds:phx\_ra:data\_derived:sol099a  SUCCESS: Completed extraction: observational.xml  SUCCESS: Completed extracting data from data source.  INFO: Running Solr Indexer to create new solr documents for indexing ...  SUCCESS: Completed transforming data into Solr Lucene index  INFO: Running Solr Post to Post Data To Search Service ...  INFO: Cleaning Search Service Index  INFO: Posting: /PDS4tools/search-service/pds/index/solr\_index.xml.0  INFO: Posting: /PDS4tools/search-service/pds/index/search-tools.xml  INFO: Optimizing Search Service index.  SUCCESS: Completed posting data to the Search Service  Summary:  ==================================================  The Numbers:  -- Number of Warnings: 0  -- Number of Errors: 0  -- Bad Registries: []  -- Number of Missing Associations: 0  -- Association Cache Hits: 0  -- Number of products: 283  ==================================================  Processing Time:  -- collection.xml: 0 h, 0 m, 1 s  -- class\_defn.xml: 0 h, 0 m, 0 s  -- context.xml: 0 h, 0 m, 4 s  -- observational.xml: 0 h, 1 m, 36 s  -- attribute\_defn.xml: 0 h, 0 m, 1 s  -- bundle.xml: 0 h, 0 m, 4 s  ==================================================  Total Processing Time: 0 h, 1 m, 47 s  End of Log  Step 6:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-12 at 11.35.17 PM.png  Step 7:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-12 at 11.35.48 PM.png |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.12 |
| Test Personnel | Richard Chen |

### Testing for Complete Coverage of PDS4 Level 5 Requirements

The following test cases test all Build 6a functions, including those not covered above. These tests ensure complete verification and validation of Build 6a level 5 requirements.

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| --- | --- |
| Test Case ID | CTLG.1 |
| Description | Compare PDS3 data against other PDS3 data, both file to file and directory to directory |
| Requirements | PASS 4.2.4: PDS will provide a mechanism to upgrade products or data sets which do not meet usability requirements (e.g., data sets from old missions) |
| Success Criteria | Tool reports differences. |
| Test Steps | 1. cd *testDir* 2. catalog -mcompare testCatalog/CORPWS\_0164 testCatalog/CORPWS\_0180   Compare two directories differing in only one file.   1. catalog -c testCatalog/config |
| Test Results | Step 2:  PDS Catalog Ingest Tool Report  Configuration:  Version Version 1.10.0  Date Mon, Oct 12 2015 at 11:40:12 PM  Parameters:  Mode compare  Target(s)  Source = file:*testDir*/testCatalog/CORPWS\_0164/  Target = file:*testDir*/testCatalog/CORPWS\_0180/  Directory Recursion true  Severity Level WARNING  Compare Details:  SAME: file:*testDir*/testCatalog/CORPWS\_0180/INSTHOST.CAT  SAME: file:*testDir*/testCatalog/CORPWS\_0180/KEYDS.CAT  SAME: file:*testDir*/testCatalog/CORPWS\_0180/LRFULLDS.CAT  SAME: file:*testDir*/testCatalog/CORPWS\_0180/MISSION.CAT  SAME: file:*testDir*/testCatalog/CORPWS\_0180/PERSON.CAT  SAME: file:*testDir*/testCatalog/CORPWS\_0180/PROJREF.CAT  SAME: file:*testDir*/testCatalog/CORPWS\_0180/RAWDS.CAT  SAME: file:*testDir*/testCatalog/CORPWS\_0180/REF.CAT  SAME: file:*testDir*/testCatalog/CORPWS\_0180/RPWSINST.CAT  DIFFERENT: file:*testDir*/testCatalog/CORPWS\_0180/VOLDESC.CAT  line 9: Element "VOLUME\_NAME" has different value than source.  Source: line 9 of file: *testDir*/testCatalog/CORPWS\_0164/VOLDESC.CAT  10c10  < VOLUME 164: CASSINI RADIO AND PLASMA WAVE STANDARD PRODUCTS  ----  > VOLUME 180: CASSINI RADIO AND PLASMA WAVE STANDARD PRODUCTS  line 16: Element "DESCRIPTION" has different value than source.  Source: line 16 of file: *testDir*/testCatalog/CORPWS\_0164/VOLDESC.CAT  19c19  < (SCET) dates 2011-05-27 (147) through 2011-06-12 (163).  ----  > (SCET) dates 2012-11-26 (331) through 2012-12-23 (358).  line 23: Element "DATA\_SET\_ID" has different value than source.  Source: line 23 of file: *testDir*/testCatalog/CORPWS\_0164/VOLDESC.CAT  23c23  < CO-V/E/J/S/SS-RPWS-4-SUMM-KEY60S-V1.0  ----  > {CO-V/E/J/S/SS-RPWS-4-SUMM-KEY60S-V1.0, CO-V/E/J/S/SS-RPWS-2-REFDR-ALL-V1.0, CO-V/E/J/S/SS-RPWS-3-RDR-LRFULL-V1.0, CO-V/E/J/S/SS-RPWS-2-REFDR-WBRFULL-V1.0, CO-V/E/J/S/SS-RPWS-2-REFDR-WFRFULL-V1.0}  line 11: Element "VOLUME\_ID" has different value than source.  Source: line 11 of file: *testDir*/testCatalog/CORPWS\_0164/VOLDESC.CAT  11c11  < CORPWS\_0164  ----  > CORPWS\_0180  line 15: Element "PUBLICATION\_DATE" has different value than source.  Source: line 15 of file: *testDir*/testCatalog/CORPWS\_0164/VOLDESC.CAT  15c15  < 2011-12-22  ----  > 2013-03-28  line 74: Element "DATA\_SET\_ID" has different value than source.  Source: line 70 of file: *testDir*/testCatalog/CORPWS\_0164/VOLDESC.CAT  70c74  < CO-V/E/J/S/SS-RPWS-4-SUMM-KEY60S-V1.0  ----  > {CO-V/E/J/S/SS-RPWS-4-SUMM-KEY60S-V1.0, CO-V/E/J/S/SS-RPWS-2-REFDR-ALL-V1.0, CO-V/E/J/S/SS-RPWS-3-RDR-LRFULL-V1.0, CO-V/E/J/S/SS-RPWS-2-REFDR-WBRFULL-V1.0, CO-V/E/J/S/SS-RPWS-2-REFDR-WFRFULL-V1.0}  line 86: Pointer "REFERENCE\_CATALOG" has different value than source.  Source: line 72 of file: *testDir*/testCatalog/CORPWS\_0164/VOLDESC.CAT  72c86  < {REF.CAT}  ----  > {REF.CAT, PROJREF.CAT}  line 80: Pointer "DATA\_SET\_CATALOG" has different value than source.  Source: line 71 of file: *testDir*/testCatalog/CORPWS\_0164/VOLDESC.CAT  71c80  < KEYDS.CAT  ----  > {KEYDS.CAT, RAWDS.CAT, LRFULLDS.CAT, WBFULLDS.CAT, WFFULLDS.CAT}  SAME: file:*testDir*/testCatalog/CORPWS\_0180/WBFULLDS.CAT  SAME: file:*testDir*/testCatalog/CORPWS\_0180/WFFULLDS.CAT  Summary:  12 of 12 validated, 0 skipped  11 of 12 passed  End of Report  Step 3:  PDS Catalog Ingest Tool Report  Configuration:  Version Version 1.10.0  Date Mon, Oct 12 2015 at 11:43:00 PM  Parameters:  Mode compare  Target(s)  Source = file:*testDir*/testCatalog/CORPWS\_0164/RAWDS.CAT  Target = file:*testDir*/testCatalog/CORPWSrawX.CAT  Directory Recursion true  Severity Level WARNING  Compare Details:  DIFFERENT: file:*testDir/*testCatalog/CORPWSrawX.CAT  line 56: Element "DATA\_SET\_DESC" has different value than source.  Source: line 56 of file:*testDir/*testCatalog/CORPWS\_0164/RAWDS.CAT  126,130c126,130  < kernels can be used with the SPICE toolkit to convert from the  < spacecraft frame to virtually any frame which may be of use in  < analyzing these data. However, for many purposes, the wave  < amplitudes are extremely useful and may be entirely adequate with no  < coordinate transformations at all.  ----  > kernels EXTRAWORDHERE can be used with the SPICE toolkit to convert  > from the spacecraft frame to virtually any frame which may be of  > use in analyzing these data. However, for many purposes, the  > wave amplitudes are extremely useful and may be entirely adequate  > with no coordinate transformations at all.  Summary:  1 of 1 validated, 0 skipped  0 of 1 passed  End of Report |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.12 |
| Test Personnel | Richard Chen |

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| Test Case ID | CTLG.2 |
| Description | Validate a submission of PDS3 data. |
| Requirements | PASS 4.2.4: PDS will provide a mechanism to upgrade products or data sets which do not meet usability requirements (e.g., data sets from old missions) |
| Success Criteria | Tool flags invalid language constructs. |
| Test Steps | 1. catalog -mvalidate -d testCatalog/pdsdd.full -t testCatalog/LRO\_diviner |
| Test Results | Step 1:  PDS Catalog Ingest Tool Report  Configuration:  Version Version 1.10.0  Date Mon, Oct 12 2015 at 11:44:02 PM  Parameters:  Mode validate  Target file:*testDir*/testCatalog/LRO\_diviner/  Directory Recursion true  Dictionary File(s) [testCatalog/pdsdd.full]  Severity Level WARNING  Aliasing Enabled false  Validation Details:  PASS: file:*testDir*/testCatalog/LRO\_diviner/dsmap.cat  PASS: file:*testDir*/testCatalog/LRO\_diviner/dsmap\_polar.cat  PASS: file:*testDir*/testCatalog/LRO\_diviner/gdrds.cat  PASS: file:*testDir*/testCatalog/LRO\_diviner/inst.cat  PASS: file:*testDir*/testCatalog/LRO\_diviner/insthost.cat  PASS: file:*testDir*/testCatalog/LRO\_diviner/mission.cat  PASS: file:*testDir*/testCatalog/LRO\_diviner/person.cat  PASS: file:*testDir*/testCatalog/LRO\_diviner/prpds.cat  PASS: file:*testDir*/testCatalog/LRO\_diviner/rdrds.cat  PASS: file:*testDir*/testCatalog/LRO\_diviner/ref.cat  FAIL: file:*testDir*/testCatalog/LRO\_diviner/voldesc.cat  Begin Fragment: file: *testDir*/testCatalog/LRO\_diviner/REF.CAT  WARNING The label fragment, "REF.CAT", should not contain a PDS\_VERSION\_ID.  End Fragment: file: *testDir*/testCatalog/LRO\_diviner/REF.CAT  Begin Fragment: file: *testDir*/testCatalog/LRO\_diviner/INSTHOST.CAT  WARNING The label fragment, "INSTHOST.CAT", should not contain a PDS\_VERSION\_ID.  End Fragment: file: *testDir*/testCatalog/LRO\_diviner/INSTHOST.CAT  Begin Fragment: file: *testDir*/testCatalog/LRO\_diviner/PERSON.CAT  WARNING The label fragment, "PERSON.CAT", should not contain a PDS\_VERSION\_ID.  End Fragment: file: *testDir*/testCatalog/LRO\_diviner/PERSON.CAT  Begin Fragment: file: *testDir*/testCatalog/LRO\_diviner/GDRDS.CAT  WARNING The label fragment, "GDRDS.CAT", should not contain a PDS\_VERSION\_ID.  End Fragment: file: *testDir*/testCatalog/LRO\_diviner/GDRDS.CAT  Begin Fragment: file: *testDir*/testCatalog/LRO\_diviner/INST.CAT  WARNING The label fragment, "INST.CAT", should not contain a PDS\_VERSION\_ID.  End Fragment: file: *testDir*/testCatalog/LRO\_diviner/INST.CAT  Begin Fragment: file: *testDir*/testCatalog/LRO\_diviner/MISSION.CAT  WARNING The label fragment, "MISSION.CAT", should not contain a PDS\_VERSION\_ID.  ERROR line 40: Found a reference, "SAYLOR2006A", which is not defined in a REFERENCE\_KEY\_ID within the label.  ERROR line 40: Found a reference, "SAYLOR2006B", which is not defined in a REFERENCE\_KEY\_ID within the label.  End Fragment: file: *testDir*/testCatalog/LRO\_diviner/MISSION.CAT  Referential Integrity Details:  PASS: Mission  Parent File(s): [mission.cat]  Begin checking children  End checking children  FAIL: Reference  Parent File(s): [ref.cat]  Begin checking children  dsmap.cat: "REFERENCE\_KEY\_ID = SEIDELMANNETAL2002" is not found in a(n) "ref.cat".  dsmap.cat: "REFERENCE\_KEY\_ID = SNYDER1987" is not found in a(n) "ref.cat".  dsmap\_polar.cat: "REFERENCE\_KEY\_ID = SEIDELMANNETAL2002" is not found in a(n) "ref.cat".  dsmap\_polar.cat: "REFERENCE\_KEY\_ID = SNYDER1987" is not found in a(n) "ref.cat".  End checking children  PASS: Instrument  Parent File(s): [inst.cat]  Begin checking children  End checking children  PASS: Instrument Host  Parent File(s): [insthost.cat]  Begin checking children  End checking children  PASS: Data Set  Parent File(s): [gdrds.cat, prpds.cat, rdrds.cat]  Begin checking children  End checking children  PASS: Personnel  Parent File(s): [person.cat]  Begin checking children  End checking children  New Standard Values:  Referential Integrity Summary:  6 of 6 referential integrity check(s) made, 0 skipped  5 of 6 passed  New Standard Values Summary:  0 new standard value(s) found  Summary:  11 of 11 validated, 0 skipped  10 of 11 passed  End of Report |
| Comments | Results met success criteria. All warnings and errors are either expected or carried over from PDS3 and do not affect meeting success criteria. |
| Date of Testing | 2015.10.12 |
| Test Personnel | Richard Chen |

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| Test Case ID | CTLG.3 |
| Description | Ingest valid PDS3 files into the PDS4 registry service |
| Requirements | PASS 4.2.4: PDS will provide a mechanism to upgrade products or data sets which do not meet usability requirements (e.g., data sets from old missions) |
| Success Criteria | Catalog successfully ingests the PDS3 files into the registry else indicates where the input is invalid. Tools to view the registry show the metadata of the PDS3 files |
| Test Steps | The catalog ingest requires access to a storage service. In its own terminal window:   * storage-service stop # warning message if storage-service was not running * cd *binDir*/storage-service * rm -r archive/ catalog/ logs/ run/ * storage-service start   Also clean database as described in RESETREGISTRY in Section 3.1  Nominal case, including multiple REF.CATs:   1. catalog testCatalog/CORPWS\_0180 -m ingest -s http://localhost:9000 -T http://localhost:8080/product -v 1 -r c1.out 2. In a browser: <http://localhost:8080/registry-ui> to see registrations. Then click on the row where Object Type is Product\_Instrument\_PDS3 3. To test the product service, copy a productID from c1.out, e.g. the first one: curl -X GET -o x.cat -v 'http://localhost:8080/product/data?productID=*productID'* 4. diff x.cat testCatalog/CORPWS\_0180/INSTHOST.CAT 5. Test the product service’s other function: curl -X GET -o v.zip -v "http://localhost:8080/product/dataset?typeID=urn:pds:CatalogFile" 6. Expand and compare any one of the catalog files: unzip v.zip CORPWS\_0180:VOLDESC.CAT.zip ; unzip C\*zip 7. diff VOLDESC.CAT testCatalog/CORPWS\_0180/VOLDESC.CAT   When >1 voldesc lists the same catalog files (e.g. mission.cat), do not re-register them.   1. catalog testCatalog/CORPWS\_0164 -m ingest -s http://localhost:9000 -T http://localhost:9999 -r c3.out 2. See registration of only voldesc: <http://localhost:8080/registry-ui>   Give good error messages if file listed in voldesc is missing   1. catalog testCatalog/MPC\_review -m ingest -s http://localhost:9000 -T http://localhost:8080/product   Nicely ignore dsmap catalog files.   1. catalog testCatalog/LRO\_diviner -m ingest -s http://localhost:9000 -T http://localhost:8080/product -r c6.out   Quit and give a nice error message when the mode is not specified.   1. catalog testCatalog/CORPWS\_0180 |
| Test Results | Step 1: Ignore command line warnings “WARNING: RemoteDataTransfer: attempt to perform overwrite”. c1.out:  PDS Catalog Ingest Tool Report  Configuration:  Version Version 1.10.0  Date Tue, Oct 13 2015 at 12:11:53 AM  Parameters:  Mode ingest  Target file: *testDir*/testCatalog/CORPWS\_0180/  Directory Recursion true  Severity Level INFO  Report File c1.out  Ingest Details:  PASS: file: *testDir*/testCatalog/CORPWS\_0180/INSTHOST.CAT  INFO: Successfully registered a product. LIDVID - urn:nasa:pds:context\_pds3:instrument\_host:spacecraft.co::1.0  INFO: Product GUID - urn:uuid:57be012e-d6ee-4fbc-9e39-68f8c27fe9c3  INFO: Successfully delivered a catalog file to the storage service. productID - af90ecac-7179-11e5-9c8d-e158ea62812a  INFO: Successfully ingested a file object. GUID - urn:uuid:e9380f88-5dfb-46bf-bb13-79fde5e3cdf4  PASS: file: *testDir*/testCatalog/CORPWS\_0180/KEYDS.CAT  INFO: Successfully registered a product. LIDVID - urn:nasa:pds:context\_pds3:data\_set:data\_set.co-v-e-j-s-ss-rpws-4-summ-key60s-v1.0::1.0  INFO: Product GUID - urn:uuid:957ef005-925e-476f-a8f9-b39f3b39d069  INFO: Successfully delivered a catalog file to the storage service. productID - affb202d-7179-11e5-9c8d-e158ea62812a  INFO: Successfully ingested a file object. GUID - urn:uuid:251ed6a6-32bc-483a-81b8-91a559d94c83  PASS: file: *testDir*/testCatalog/CORPWS\_0180/LRFULLDS.CAT  INFO: Successfully registered a product. LIDVID - urn:nasa:pds:context\_pds3:data\_set:data\_set.co-v-e-j-s-ss-rpws-3-rdr-lrfull-v1.0::1.0  INFO: Product GUID - urn:uuid:34d95eb7-5be3-40f4-8038-a76a64a51b9b  INFO: Successfully delivered a catalog file to the storage service. productID - b02627ce-7179-11e5-9c8d-e158ea62812a  INFO: Successfully ingested a file object. GUID - urn:uuid:182422e8-750c-4988-b695-c220c047dab0  PASS: file: *testDir*/testCatalog/CORPWS\_0180/MISSION.CAT  INFO: Successfully registered a product. LIDVID - urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens::1.0  INFO: Product GUID - urn:uuid:ba6a0a4e-8a65-4685-b07b-19dac36591c5  INFO: Successfully delivered a catalog file to the storage service. productID - b0512f6f-7179-11e5-9c8d-e158ea62812a  INFO: Successfully ingested a file object. GUID - urn:uuid:8e79e345-d6c5-49fc-9f3b-8aa3070c622a  PASS: file: *testDir*/testCatalog/CORPWS\_0180/PERSON.CAT  WARNING: This file is not required to ingest into the registry.  INFO: Successfully delivered a catalog file to the storage service. productID - b09e6510-7179-11e5-9c8d-e158ea62812a  INFO: Successfully ingested a file object. GUID - urn:uuid:9eaffd53-df9f-43dd-8d17-3a19c8d48a5f  PASS: file: *testDir*/testCatalog/CORPWS\_0180/PROJREF.CAT  WARNING: This file is not required to ingest into the registry.  INFO: Successfully delivered a catalog file to the storage service. productID - b0b6cf11-7179-11e5-9c8d-e158ea62812a  INFO: Successfully ingested a file object. GUID - urn:uuid:5cc7613a-3fc2-4228-b778-a884895d6d7f  PASS: file: *testDir*/testCatalog/CORPWS\_0180/RAWDS.CAT  INFO: Successfully registered a product. LIDVID - urn:nasa:pds:context\_pds3:data\_set:data\_set.co-v-e-j-s-ss-rpws-2-refdr-all-v1.0::1.0  INFO: Product GUID - urn:uuid:34cf8fe3-5f99-4898-9746-3e79db6df42b  INFO: Successfully delivered a catalog file to the storage service. productID - b0d55392-7179-11e5-9c8d-e158ea62812a  INFO: Successfully ingested a file object. GUID - urn:uuid:a01d0a4c-fdeb-45f7-b6a7-eaba57d9f35c  PASS: file: *testDir*/testCatalog/CORPWS\_0180/REF.CAT  WARNING: This file is not required to ingest into the registry.  INFO: Successfully delivered a catalog file to the storage service. productID - b0f2edb3-7179-11e5-9c8d-e158ea62812a  INFO: Successfully ingested a file object. GUID - urn:uuid:f7243852-903a-4dca-a3c4-cef0b12d5243  PASS: file: *testDir*/testCatalog/CORPWS\_0180/RPWSINST.CAT  INFO: Successfully registered a product. LIDVID - urn:nasa:pds:context\_pds3:instrument:instrument.rpws.co::1.0  INFO: Product GUID - urn:uuid:1842def4-dea9-47fa-b4e3-2c978957b20a  INFO: Successfully delivered a catalog file to the storage service. productID - b11569d4-7179-11e5-9c8d-e158ea62812a  INFO: Successfully ingested a file object. GUID - urn:uuid:d6abd6a3-4113-481e-9b43-ea384d66a999  PASS: file: *testDir*/testCatalog/CORPWS\_0180/VOLDESC.CAT  INFO: Successfully registered a product. LIDVID - urn:nasa:pds:context\_pds3:volume:volume.corpws\_0180\_\_usa\_nasa\_pds\_corpws\_0xxx::1.0  INFO: Product GUID - urn:uuid:caffa9f4-7063-4d1a-9622-3c6ee5dc320c  INFO: Successfully delivered a catalog file to the storage service. productID - b13526d5-7179-11e5-9c8d-e158ea62812a  INFO: Successfully ingested a file object. GUID - urn:uuid:7d264603-81ee-41a4-95e5-be9e36c6dfdd  PASS: file: *testDir*/testCatalog/CORPWS\_0180/WBFULLDS.CAT  INFO: Successfully registered a product. LIDVID - urn:nasa:pds:context\_pds3:data\_set:data\_set.co-v-e-j-s-ss-rpws-2-refdr-wbrfull-v1.0::1.0  INFO: Product GUID - urn:uuid:e41b2d14-f004-4c49-8f99-7c6f41aef5c1  INFO: Successfully delivered a catalog file to the storage service. productID - b154e3d6-7179-11e5-9c8d-e158ea62812a  INFO: Successfully ingested a file object. GUID - urn:uuid:a6e298fb-a87a-4d88-80f3-4f019e5351b3  PASS: file: *testDir*/testCatalog/CORPWS\_0180/WFFULLDS.CAT  INFO: Successfully registered a product. LIDVID - urn:nasa:pds:context\_pds3:data\_set:data\_set.co-v-e-j-s-ss-rpws-2-refdr-wfrfull-v1.0::1.0  INFO: Product GUID - urn:uuid:3da80947-48cc-4b95-b5d9-c35d52060e2e  INFO: Successfully delivered a catalog file to the storage service. productID - b17e16b7-7179-11e5-9c8d-e158ea62812a  INFO: Successfully ingested a file object. GUID - urn:uuid:9d9e9308-51b8-41a2-b533-39fe0d8ccf71  Summary:  12 of 12 file(s) ingested, 0 skipped  Number of successful file object ingestion: 12  Number of successful storage service ingestion: 12  Number of successful registry ingestion: 9  Name of the registry package: Catalog-Package\_CORPWS\_0180\_20151013001154  End of Report  Step 2: Work on build 6a finished before the naming template for LIDs for instruments was set to urn:nasa:pds:context\_pds3:instrument:<instID>.<instHostID>  Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-13 at 12.21.29 AM.pngMacintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-20 at 11.22.35 PM.png  Step 3:  \* About to connect() to localhost port 8080 (#0)  \* Trying 127.0.0.1...  % Total % Received % Xferd Average Speed Time Time Time Current  Dload Upload Total Spent Left Speed  0 0 0 0 0 0 0 0 --:--:-- --:--:-- --:--:-- 0\* connected  \* Connected to localhost (127.0.0.1) port 8080 (#0)  > GET /product/data?productID=af90ecac-7179-11e5-9c8d-e158ea62812a HTTP/1.1  > User-Agent: curl/7.24.0 (x86\_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8} zlib/1.2.5  > Host: localhost:8080  > Accept: \*/\*  < HTTP/1.1 200 OK  < Server: Apache-Coyote/1.1  < Content-Disposition: attachment; filename="INSTHOST.CAT"  < Content-Type: application/vnd.ms-pki.seccat  < Content-Length: 40521  < Date: Tue, 13 Oct 2015 07:19:41 GMT  { [data not shown]  100 40521 100 40521 0 0 102k 0 --:--:-- --:--:-- --:--:-- 103k  \* Connection #0 to host localhost left intact  \* Closing connection #0  Step 4 shows no differences  Step 5:  \* About to connect() to localhost port 8080 (#0)  \* Trying 127.0.0.1...  % Total % Received % Xferd Average Speed Time Time Time Current  Dload Upload Total Spent Left Speed  0 0 0 0 0 0 0 0 --:--:-- --:--:-- --:--:-- 0\* connected  \* Connected to localhost (127.0.0.1) port 8080 (#0)  > GET /product/dataset?typeID=urn:pds:CatalogFile HTTP/1.1  > User-Agent: curl/7.24.0 (x86\_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8} zlib/1.2.5  > Host: localhost:8080  > Accept: \*/\*  < HTTP/1.1 200 OK  < Server: Apache-Coyote/1.1  < Content-Disposition: attachment; filename="CatalogFile.zip"  < Content-Length: 101560  < Date: Tue, 13 Oct 2015 07:22:52 GMT  { [data not shown]  100 99k 100 99k 0 0 443k 0 --:--:-- --:--:-- --:--:-- 444k  \* Connection #0 to host localhost left intact  \* Closing connection #0  Step 6:  Archive: v.zip  inflating: CORPWS\_0180:VOLDESC.CAT.zip  Archive: CORPWS\_0180:VOLDESC.CAT.zip  inflating: VOLDESC.CAT  inflating: CORPWS\_0180:VOLDESC.CAT.met  Step 7 shows no differences  Step 8:  PDS Catalog Ingest Tool Report  Configuration:  Version Version 1.10.0  Date Tue, Oct 13 2015 at 12:25:47 AM  Parameters:  Mode ingest  Target file: *testDir*/testCatalog/CORPWS\_0164/  Directory Recursion true  Severity Level WARNING  Report File c3.out  Ingest Details:  PASS: file: *testDir*/testCatalog/CORPWS\_0164/INSTHOST.CAT  PASS: file: *testDir*/testCatalog/CORPWS\_0164/KEYDS.CAT  PASS: file: *testDir*/testCatalog/CORPWS\_0164/LRFULLDS.CAT  PASS: file: *testDir*/testCatalog/CORPWS\_0164/MISSION.CAT  PASS: file: *testDir*/testCatalog/CORPWS\_0164/PERSON.CAT  WARNING: This file is not required to ingest into the registry.  PASS: file: *testDir*/testCatalog/CORPWS\_0164/PROJREF.CAT  WARNING: This file is not required to ingest into the registry.  PASS: file: *testDir*/testCatalog/CORPWS\_0164/RAWDS.CAT  PASS: file: *testDir*/testCatalog/CORPWS\_0164/REF.CAT  WARNING: This file is not required to ingest into the registry.  PASS: file: *testDir*/testCatalog/CORPWS\_0164/RPWSINST.CAT  PASS: file: *testDir*/testCatalog/CORPWS\_0164/VOLDESC.CAT  PASS: file: *testDir*/testCatalog/CORPWS\_0164/WBFULLDS.CAT  PASS: file: *testDir*/testCatalog/CORPWS\_0164/WFFULLDS.CAT  Summary:  4 of 12 file(s) ingested, 0 skipped  Number of successful file object ingestion: 4  Number of successful storage service ingestion: 4  Number of successful registry ingestion: 1  Name of the registry package: Catalog-Package\_CORPWS\_0164\_20151013002547  End of Report  Step 9: 5 extra records: the voldesc file, the CORPWS\_0164 product, and the three files not required to ingest into the registry.Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-13 at 12.30.12 AM.png  Step 10: exit nicely upon discovering a catalog file is missing:  WARNING: *testDir*/testCatalog/MPC\_review/asteroid.cat is missing.  WARNING: *testDir*/testCatalog/MPC\_review/comet.cat is missing.  WARNING: *testDir*/testCatalog/MPC\_review/satellite.cat is missing.  Oct 13, 2015 12:31:46 AM org.apache.oodt.cas.filemgr.datatransfer.RemoteDataTransferFactory <init>  INFO: RemoteDataTransfer enabled: using chunk size: [1024]  Oct 13, 2015 12:31:46 AM org.apache.oodt.cas.filemgr.datatransfer.RemoteDataTransferer setFileManagerUrl  INFO: Remote Data Transfer to: [http://localhost:9000] enabled  Error: Failed to get a product by name. productName = SBN\_0178:asteroid.cat  Error: Catalog file (asteroid.cat) is missing in the archive volume and can't get it from the storage service.  Step 11: similar to step 1’s output. Used to die upon hitting dsmap.cat. c6.out::  PDS Catalog Ingest Tool Report  Configuration:  Version Version 1.10.0  Date Tue, Oct 13 2015 at 12:33:08 AM  Parameters:  Mode ingest  Target file: *testDir*/testCatalog/LRO\_diviner/  Directory Recursion true  Severity Level WARNING  Report File c6.out  Ingest Details:  PASS: file: *testDir*/testCatalog/LRO\_diviner/dsmap.cat  WARNING: This file is not required to ingest into the registry.  PASS: file: *testDir*/testCatalog/LRO\_diviner/dsmap\_polar.cat  WARNING: This file is not required to ingest into the registry.  PASS: file: *testDir*/testCatalog/LRO\_diviner/gdrds.cat  PASS: file: *testDir*/testCatalog/LRO\_diviner/inst.cat  PASS: file: *testDir*/testCatalog/LRO\_diviner/insthost.cat  PASS: file: *testDir*/testCatalog/LRO\_diviner/mission.cat  PASS: file: *testDir*/testCatalog/LRO\_diviner/person.cat  WARNING: This file is not required to ingest into the registry.  PASS: file: *testDir*/testCatalog/LRO\_diviner/prpds.cat  PASS: file: *testDir*/testCatalog/LRO\_diviner/rdrds.cat  PASS: file: *testDir*/testCatalog/LRO\_diviner/ref.cat  WARNING: This file is not required to ingest into the registry.  PASS: file: *testDir*/testCatalog/LRO\_diviner/voldesc.cat  Summary:  11 of 11 file(s) ingested, 0 skipped  Number of successful file object ingestion: 11  Number of successful storage service ingestion: 11  Number of successful registry ingestion: 7  Name of the registry package: Catalog-Package\_LRODLR\_1001\_20151013003309  End of Report  Step 12:  Exception: No mode specified. 'm' flag must be specified. |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.13 |
| Test Personnel | Richard Chen |

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| Test Case ID | DSV.1 |
| Description | Use Data Set View (not Search) to browse products |
| Requirements | PASS L5.SCH.1: The service shall provide a user interface for entering of queries and display of search results |
| Success Criteria | Access any registered, individual PDS3 data set (a context product) |
| Test Steps | The registry must have data, and Harvest must have gotten absolute paths as inputs.  Test cases SRCH.3, SRCH.5, or SRCH.6 (typically run after HVT.3) leave PDS3 context products in the registry.   1. In a browser, http://localhost:8080/ds-view/query?identifier=MSL-M-CHEMCAM-LIBS-4/5-RDR-V1.0&resclass=data.dataset |
| Test Results | Step 1:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-14 at 8.04.07 AM.png |
| Comments | Results met success criteria.  <https://oodt.jpl.nasa.gov/jira/browse/PDS-350>, created during testing of build 5b, asked for the removal of the carriage-return in the value “Geoscienced Data Volume Online”. Implemented in build 6a. Closed |
| Date of Testing | 2015.10.14 |
| Test Personnel | Richard Chen |

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| Test Case ID | GEN.1 |
| Description | Run components distributed over multiple machines on any PDS-supported platforms. |
| Requirements | PASS L5.GEN.1: The system shall operate in a distributed environment.  PASS L5.GEN.2: Components shall run on any PDS-supported platform. |
| Success Criteria | Services produce identical results independent of machine and platform. |
| Test Steps | This is from test REG.1 below but posts to a different machine   1. http://xxxx.jpl.nasa.gov:8080/registry-pds4/extrinsics/logicals/testing.REG.1   in a browser shows no current product has lid “testing.REG.1”,   1. curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.1b.xml http://xxxx.jpl.nasa.gov:8080/registry-pds4/extrinsics 2. Repeat step 1 to see the lid 3. curl -X DELETE --verbose http://xxxx.jpl.nasa.gov:8080/registry-pds4/extrinsics/testing.REG.1.v1.0 4. Repeat step 1 to ensure lid no longer exists |
| Test Results | Step 1:Macintosh HD:Users:rchen:Desktop:Screen Shot 2013-09-14 at 1.30.46 AM.png  Step 2:  \* About to connect() to xxxx.jpl.nasa.gov port 8080 (#0)  \* Trying 128.149.xx.xx...  \* connected  \* Connected to xxxx.jpl.nasa.gov (128.149.xx.xx) port 8080 (#0)  > POST /registry-pds4/extrinsics HTTP/1.1  > User-Agent: curl/7.24.0 (x86\_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8} zlib/1.2.5  > Host: xxxx.jpl.nasa.gov:8080  > Accept: \*/\*  > Content-type:application/xml  > Content-Length: 629  \* upload completely sent off: 629 out of 629 bytes  < HTTP/1.1 201 Created  < Server: Apache-Coyote/1.1  < Location: http://xxxx.jpl.nasa.gov:8080/registry-pds4/extrinsics/testing.REG.1.v1.0  < Content-Type: application/xml  < Transfer-Encoding: chunked  < Date: Tue, 13 Oct 2015 23:14:45 GMT  \* Connection #0 to host xxxx.jpl.nasa.gov left intact  testing.REG.1.v1.0\* Closing connection #0  Step 3:Macintosh HD:Users:rchen:Desktop:Screen Shot 2013-09-14 at 1.33.44 AM.png  Step 4:  \* About to connect() to xxxx.jpl.nasa.gov port 8080 (#0)  \* Trying 128.149.xx.xx...  \* connected  \* Connected to xxxx.jpl.nasa.gov (128.149.xx.xx) port 8080 (#0)  > DELETE /registry-pds4/extrinsics/testing.REG.1.v1.0 HTTP/1.1  > User-Agent: curl/7.24.0 (x86\_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8| zlib/1.2.5  > Host: xxxx.jpl.nasa.gov:8080  > Accept: \*/\*  < HTTP/1.1 200 OK  < Server: Apache-Coyote/1.1  < Content-Type: application/xml  < Content-Length: 0  < Date: Tue, 13 Oct 2015 23:17:18 GMT  \* Connection #0 to host xxxx.jpl.nasa.gov left intact  \* Closing connection #0  Step 5 same as step 1 |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.13 |
| Test Personnel | Richard Chen |

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| Test Case ID | GEN.2 \*not run for build 6a |
| Description | Authorize only authenticated users access to a controlled capacity. |
| Requirements | PASS L5.GEN.10: Components shall control access to interfaces that alter content.  PASS L5.SEC.1: The service shall authenticate a user given identifying credentials for that user.  PASS L5.SEC.3: The service shall authorize an authenticated user for access to a controlled capability. |
| Success Criteria | Registration fails when given invalid credentials. |
| Test Steps | 1. curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.1b.xml http://pds-gamma.jpl.nasa.gov/services/registry-pds3 |
| Test Results | Step 1:  \* About to connect() to pds-gamma.jpl.nasa.gov port 80 (#0)  \* Trying 128.149.124.6...  \* connected  \* Connected to pds-gamma.jpl.nasa.gov (128.149.124.6) port 80 (#0)  > POST /services/registry-pds3 HTTP/1.1  > User-Agent: curl/7.24.0 (x86\_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8z zlib/1.2.5  > Host: pds-gamma.jpl.nasa.gov  > Accept: \*/\*  > Content-type:application/xml  > Content-Length: 629  \* upload completely sent off: 629 out of 629 bytes  < HTTP/1.1 403 Forbidden  < Date: Sat, 18 Oct 2014 19:19:49 GMT  < Content-Length: 224  < Connection: close  < Content-Type: text/html; charset=iso-8859-1  <!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML 2.0//EN">  <html><head>  <title>403 Forbidden</title>  </head><body>  <h1>Forbidden</h1>  <p>You don't have permission to access /services/registry-pds3  on this server.</p>  </body></html>  \* Closing connection #0 |
| Comments | Results met success criteria. |
| Date of Testing | 2014.10.18 |
| Test Personnel | Richard Chen |

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| Test Case ID | GEN.4 \*not ready for build 6a. This is reserved for future testing |
| Description | Services provide an interface to enable monitoring of health. |
| Requirements | SKIP L5.GEN.8: Services shall provide an interface to enable monitoring of the service's health. |
| Success Criteria | The interface correctly reflects the services’ health. |
| Test Steps |  |
| Test Results |  |
| Comments |  |
| Date of Testing |  |
| Test Personnel |  |

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| Test Case ID | GEN.7 |
| Description | Document components’ capabilities, dependencies, interfaces, installation, operation |
| Requirements | PASS L5.GEN.11: Components shall provide documentation detailing their capabilities, dependencies, interfaces, installation and operation |
| Success Criteria | Documentation of components show capabilities, dependencies, interfaces, installation and operation. |
| Test Steps | Examine such documentation, currently accessible from https://pds-engineering.jpl.nasa.gov/development/pds4/6.0.0 |
| Test Results | Documents were available and examined. |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.14 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.1 |
| Description | Provide a command-line interface, accept a configuration file, recursively traverse directories, determine candidates for registration, capture metadata, submit metadata to the Registry Service, track each artifact registration. |
| Requirements | PASS L5.HVT.1: The tool shall accept a configuration file specifying policy for tool behavior.  PASS L5.HVT.2: The tool shall provide a command-line interface for execution.  PASS L5.HVT.4: The tool shall recursively traverse the specified directory or directories…  PASS L5.HVT.5: The tool shall determine candidate products for registration through a combination of the following…  PASS L5.HVT.6: The tool shall capture metadata for a candidate product specified by the product type.  PASS L5.HVT.7: The tool shall submit the associated metadata for a candidate product to the [Registry].  PASS L5.HVT.8: The tool shall track each product registration.  PASS L5.GEN.7: Tools shall generate a report detailing results from a single execution of the tool. |
| Success Criteria | Harvest tool, executed from the command line, discovers all matching artifacts and for each submits metadata, based on both identifying and artifact-specific metadata, to the Registry service. A matching artifact resides in the directory tree of the target directory or is listed in a manifest file in the target directory, and it matches the criteria given in the user-edited configuration file and if previously registered, has been since modified. Tools to view the registry should show the matching artifacts, with appropriate metadata, and not show the non-matching artifacts. |
| Test Steps | The harvesting in this test is redundant to tests AAFUNCTION.\*. The deleting (not a core function) is different, so if desired:   1. Clean database as described in RESETREGISTRY in Section 3.1 2. cd *testDir*; harvest *testDir*/contextPDS4onlyPHX -c harvest-policy-master.xml -l h.out -e "\*.xml" 3. Check for harvested files at http://localhost:8080/registry-ui/, then select Registry Service registry-pds4 4. Click “Packages”, select “Harvest-Package\_...”. If verification desired, click on that line, and compare the GUID with Step 2’s output. 5. Click “Delete” 6. In browser, http://localhost:8080/registry-ui/ |
| Test Results | Step 2: The output file is large, so filter with   * grep -v "SUCCESS\|INFO" h.out | uniq   PDS Harvest Tool Log  Version Version 1.9.0  Time Tue, Oct 13 2015 at 08:44:11 AM  Target(s) [*testDir*/contextPDS4onlyPHX]  File Inclusions [\*.xml]  Registry Location http://localhost:8080/registry-pds4  Registry Package Name Harvest-Package\_20151013084411  Registration Package GUID urn:uuid:1b63384e-3b57-410e-8850-e26b6ff9e848  Summary:  157 of 157 file(s) processed, 0 other file(s) skipped  0 error(s), 0 warning(s)  157 of 157 products registered.  163 of 163 ancillary products registered.  Product Types Registered:  6 Product\_Collection  163 Product\_File\_Repository  150 Product\_Context  1 Product\_Bundle  163 of 163 associations registered.  End of Log  Step 3:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-13 at 8.47.21 AM.png  Step 4:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-13 at 8.48.36 AM.png  Step 6: “There is no data to display” |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.13 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.2 |
| Description | Execute from a scheduler, accept a configuration file, recursively traverse directories, determine candidates for registration, capture metadata, submit metadata to the Registry Service. |
| Requirements | PASS L5.HVT.1: The tool shall accept a configuration file specifying policy for tool behavior.  PASS L5.HVT.3: The tool shall execute from a scheduler…  PASS L5.HVT.4: The tool shall recursively traverse the specified directory or directories…  PASS L5.HVT.5: The tool shall determine candidate products for registration through a combination of the following…  PASS L5.HVT.6: The tool shall capture metadata for a candidate product specified by the product type.  PASS L5.HVT.7: The tool shall submit the associated metadata for a candidate product to the [Registry].  PASS L5.HVT.8: The tool shall track each product registration. |
| Success Criteria | Harvest tool, executed from a scheduler, discovers all matching artifacts and for each submits metadata, based on both identifying and artifact-specific metadata, to the Registry service. A matching artifact resides in the directory tree of the target directory or is listed in a manifest file in the target directory, and it matches the criteria given in the user-edited configuration file and if previously registered, has been since modified. Tools to view the registry should show the matching artifacts, with appropriate metadata, and not show the non-matching artifacts. |
| Test Steps | 1. Clean database as described in RESETREGISTRY in Section 3.1 2. cd *testDir/*; mkdir x; mv contextPDS4onlyPHX/\* x 3. harvest *testDir*/contextPDS4onlyPHX -c harvest-policy-master.xml -l log.txt -P 9001 -w 120 4. In browser, <http://localhost:8080/registry-ui/> shows no data   In a different terminal window   1. harvest-ctrl --url http://localhost:9001/xmlrpc --operation --isRunning 2. cd *testDir*; mv x/\* contextPDS4onlyPHX; rmdir x 3. In browser, after at most 120 seconds note changing Num Records. http://localhost:8080/registry-ui/   After Num Records stops increasing   1. harvest-ctrl --url http://localhost:9001/xmlrpc --operation --stop 2. grep "products registered" log.txt 3. On http://localhost:8080/registry-ui/#Packages, delete Harvest-Package\_\*; if verification desired, check GUID against Registration Package GUID in log.txt 4. Check Num Records is original value: http://localhost:8080/registry-ui |
| Test Results | Step 5: Yes  Step 7: Same Num Records as in HVT.1, assuming both started with 0 recordsMacintosh HD:Users:rchen:Desktop:Screen Shot 2015-04-17 at 10.34.08 PM.png  Step 8: Crawl Daemon: [http://localhost:9001/xmlrpc]: shutdown successful  Step 9:  0 of 0 new products registered.  0 of 0 new ancillary products registered.  157 of 157 new products registered.  163 of 163 new ancillary products registered.  Step 10: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-04-17 at 10.36.55 PM.png  Step 11: “There is no data to display” (same as HVT.1’s step 6) |
| Comments | Results met success criteria.  <https://oodt.jpl.nasa.gov/jira/browse/PDS-397>, created during testing of build 6a, showed harvest –P –w failing to go into persistent mode. Resolved in 6a. |
| Date of Testing | 2015.10.23 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.3 |
| Description | Harvest a large number of files. |
| Requirements | PASS. No specific functional requirement. This is a performance test case. |
| Success Criteria | Harvest completes in a reasonable amount of time per product. |
| Test Steps | 1. Clean database as described in RESETREGISTRY in Section 3.1 2. cd *testDir* 3. modify *binDir*/harvest/bin/harvest to use registry-pds3 instead of -pds4 4. date; harvest *testDir*/contextPDS3 -c harvest-policy-master.xml -l h.out -e "\*.xml"; date 5. Check for harvested files. http://localhost:8080/registry-ui/ |
| Test Results | Step 4: The time to harvest this bundle dropped from 214 minutes in build 5b to 14. This tests part of [PDS-361](https://oodt.jpl.nasa.gov/jira/browse/PDS-361).  Tue Oct 20 01:57:44 PDT 2015  Tue Oct 20 02:11:06 PDT 2015  The bottom of h.out has (the skipped .xml file is the harvest config file):  Summary:  26729 of 26729 file(s) processed, 1 other file(s) skipped  0 error(s), 0 warning(s)  26729 of 26729 products registered.  26742 of 26742 ancillary products registered.  Product Types Registered:  4230 Product\_Target\_PDS3  2234 Product\_Data\_Set\_PDS3  2154 Product\_Attribute\_Definition  622 Product\_Instrument\_PDS3  69 Product\_Mission\_PDS3  1463 Product\_Subscription\_PDS3  81 Product\_Class\_Definition  7045 Product\_Context  196 Product\_Instrument\_Host\_PDS3  13 Product\_Collection  5803 Product\_Volume\_PDS3  2818 Product\_Volume\_Set\_PDS3  1 Product\_Bundle  26742 Product\_File\_Repository  26742 of 26742 associations registered.  End of Log  Step 5:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-13 at 11.48.59 AM.png |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.13 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.5 |
| Description | Harvest skips candidate products not matching configuration file. Harvest also checks for previous registrations and skips those. |
| Requirements | PASS L5.HVT.1: The tool shall accept a configuration file specifying policy for tool behavior.  PASS L5.HVT.5: The tool shall determine candidate products for registration through a combination of the following…  PASS L5.HVT.8: The tool shall track each product registration. |
| Success Criteria | Tools to view the registry should show only matching products and not the others. |
| Test Steps | Run harvest with config file that does not accept Product\_Document   1. Clean database as described in RESETREGISTRY in Section 3.1 2. harvest *testDir*/bundle\_geo\_ra -c harvestPolicyNoDoc.xml -l h.out -e "\*.xml" 3. grep -v "SUCCESS\|INFO" h.out | uniq 4. In browser, check that no Product\_Document was registered: <http://localhost:8080/registry-ui>   Repeat to show nothing more gets registered.   1. harvest *testDir*/bundle\_geo\_ra -c harvestPolicyNoDoc.xml -l h.out -e "\*.xml" 2. <http://localhost:8080/registry-ui>   Run harvest with config file that accepts Product\_Document   1. harvest *testDir*/bundle\_geo\_ra –c harvest-policy-master.xml –l h.out -e "\*.xml" 2. grep -v "SUCCESS\|INFO" h.out | uniq 3. <http://localhost:8080/registry-ui>. Set “Object Type” to “Product\_Document”. Hit “Refresh” 4. Hit the “Packages” tab. Note the packages are unsorted. 5. Click column headers such as “Name” to see sorting on that field 6. Select both Harvest-\*, hit “Delete” 7. Hit the “Products” tab |
| Test Results | Step 3: Note the SKIPs of Product\_Document:  PDS Harvest Tool Log  Version Version 1.9.0  Time Wed, Oct 14 2015 at 10:29:36 AM  Target(s) [*testDir*/bundle\_geo\_ra]  File Inclusions [\*.xml]  Registry Location http://localhost:8080/registry-pds4  Registry Package Name Harvest-Package\_20151014102935  Registration Package GUID urn:uuid:550d0853-f390-40c1-9b04-bdbc58190dcc  SKIP: [*testDir*/bundle\_geo\_ra/xml\_schema/PDS4\_PDS\_1500.xml] Not a primary member.  SKIP: [*testDir*/bundle\_geo\_ra/document/activity\_table\_desc.xml] 'Product\_Document' is not an object type found in the policy file.  SKIP: [*testDir*/bundle\_geo\_ra/document/ra\_dataset.xml] 'Product\_Document' is not an object type found in the policy file.  SKIP: [*testDir*/bundle\_geo\_ra/document/ra\_instrument.xml] 'Product\_Document' is not an object type found in the policy file.  SKIP: [*testDir*/bundle\_geo\_ra/document/readme.xml] 'Product\_Document' is not an object type found in the policy file.  SKIP: [*testDir*/bundle\_geo\_ra/context/PDS4\_host\_PHX\_1.0.xml] Not a primary member.  SKIP: [*testDir*/bundle\_geo\_ra/context/PDS4\_inst\_RA\_\_PHX.xml] Not a primary member.  SKIP: [*testDir*/bundle\_geo\_ra/context/PDS4\_mission\_PHOENIX\_1.0.xml] Not a primary member.  SKIP: [*testDir*/bundle\_geo\_ra/context/PDS4\_target\_MARS\_1.0.xml] Not a primary member.  Summary:  164 of 164 file(s) processed, 9 other file(s) skipped  0 error(s), 0 warning(s)  164 of 164 products registered.  327 of 327 ancillary products registered.  Product Types Registered:  5 Product\_Collection  120 Product\_Observational  38 Product\_Browse  327 Product\_File\_Repository  1 Product\_Bundle  327 of 327 associations registered.  End of Log  Step 4: Note that 491 products are registeredMacintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-14 at 10.33.49 AM.png  Step 6: Note that still only 491 products are registered  Step 8: Many WARNINGs for “Product already exists”, and at the bottom:  Summary:  168 of 168 file(s) processed, 5 other file(s) skipped  0 error(s), 164 warning(s)  4 of 168 products registered.  8 of 8 ancillary products registered.  Product Types Registered:  4 Product\_Document  8 Product\_File\_Repository  8 of 8 associations registered.  End of Log  Step 9: Note that 1) 503 products are registered and 2) there are 4 Product Documents  Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-14 at 10.37.40 AM.png  Step 10:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-21 at 1.24.21 AM.png  Step 11 shows sorting within the Packages tab, [PDS-392](https://oodt.jpl.nasa.gov/jira/browse/PDS-392).Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-21 at 1.26.25 AM.png  Step 12:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-21 at 1.27.31 AM.png  Step 13: “There is no data to display” |
| Comments | Results met success criteria.  <https://oodt.jpl.nasa.gov/jira/browse/PDS-166>, created during testing of build 3b, requests an improvement: check if secondary members match primary members.  <https://oodt.jpl.nasa.gov/jira/browse/PDS-348>, created during testing of build 5b, shows the unsuccessful deletion of two packages at once. Fixed for 6.0.0. Closed. |
| Date of Testing | 2015.10.14 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.6 |
| Description | Harvest PDS3 products, not just catalog files. |
| Requirements | PASS 4.2.4: PDS will provide a mechanism to upgrade products or data sets which do not meet usability requirements (e.g., data sets from old missions) |
| Success Criteria | The registry shows the harvested PDS3 products. |
| Test Steps | 1. Clean database as described in RESETREGISTRY in Section 3.1 2. In browser, <http://localhost:8080/registry-ui/> shows no data 3. cd *testDir*   Using the version of harvest that ingests into registry-pds3   1. harvest -c testHarv/harvPDS3.xml 2. <http://localhost:8080/registry-ui/> shows the harvested product and 2 files |
| Test Results | Step 2:Macintosh HD:Users:rchen:Desktop:Screen Shot 2014-10-18 at 11.44.18 AM.png  Step 4:  PDS Harvest Tool Log  Version Version 1.9.0  Time Wed, Oct 14 2015 at 11:24:20 AM  Target(s) [*testDir*/testHarv]  Target Type PDS3  File Inclusions [\*.LBL]  Severity Level INFO  Registry Location http://localhost:8080/registry-pds3  Registry Package Name Harvest-Package\_20151014112420  Registration Package GUID urn:uuid:ebc5b5d0-3257-4b53-a403-47479764882d  INFO: XML extractor set to the following default namespace: http://pds.nasa.gov/pds4/pds/v1  INFO: [*testDir*/testHarv/SC\_FIELD.LBL] Begin processing.  INFO: [*testDir*/testHarv/SC\_FIELD.LBL] Creating logical identifier.  INFO: [*testDir*/testHarv/SC\_FIELD.LBL] Created the following logical identifier: urn:nasa:jpl:vg2-u-mag-4-rdr-hgcoords-1.92sec-v1.0:mag:sc\_field  INFO: [*testDir*/testHarv/SC\_FIELD.LBL] Created title: VG2-U-MAG-4-RDR-HGCOORDS-1.92SEC-V1.0 SC\_FIELD  SUCCESS: [*testDir*/testHarv/SC\_FIELD.LBL] Successfully registered product: urn:nasa:jpl:vg2-u-mag-4-rdr-hgcoords-1.92sec-v1.0:mag:sc\_field::1.0  INFO: [*testDir*/testHarv/SC\_FIELD.LBL] Product has the following GUID: urn:uuid:292d1c68-b563-4256-a777-f14a8461aa46  INFO: [*testDir*/testHarv/SC\_FIELD.LBL] Capturing file object metadata for SC\_FIELD.LBL  INFO: [*testDir*/testHarv/SC\_FIELD.LBL] Capturing file object metadata for SC\_FIELD.DAT  SUCCESS: [*testDir*/testHarv/SC\_FIELD.LBL] Successfully registered product: urn:nasa:jpl:vg2-u-mag-4-rdr-hgcoords-1.92sec-v1.0:mag:sc\_field:SC\_FIELD.LBL::1.0  INFO: [*testDir*/testHarv/SC\_FIELD.LBL] Product has the following GUID: urn:uuid:1c0b32a6-cf1e-4d20-aaa0-56afbb0c4e71  SUCCESS: [*testDir*/testHarv/SC\_FIELD.LBL] Successfully registered product: urn:nasa:jpl:vg2-u-mag-4-rdr-hgcoords-1.92sec-v1.0:mag:sc\_field:SC\_FIELD.DAT::1.0  INFO: [*testDir*/testHarv/SC\_FIELD.LBL] Product has the following GUID: urn:uuid:8754154e-b03f-4b31-847a-a98cc252a7a1  SUCCESS: [*testDir*/testHarv/SC\_FIELD.LBL] Successfully registered association to 'urn:uuid:1c0b32a6-cf1e-4d20-aaa0-56afbb0c4e71'  INFO: [*testDir*/testHarv/SC\_FIELD.LBL] Association has the following GUID: urn:uuid:1046619f-34b5-4192-a0cf-e1e10a581f14  SUCCESS: [*testDir*/testHarv/SC\_FIELD.LBL] Successfully registered association to 'urn:uuid:8754154e-b03f-4b31-847a-a98cc252a7a1'  INFO: [*testDir*/testHarv/SC\_FIELD.LBL] Association has the following GUID: urn:uuid:7ab1282f-35d5-408b-b00b-9631cc2361d3  Summary:  1 of 1 file(s) processed, 0 other file(s) skipped  0 error(s), 0 warning(s)  1 of 1 products registered.  2 of 2 ancillary products registered.  Product Types Registered:  2 Product\_File\_Repository  1 Product\_Proxy\_PDS3  2 of 2 associations registered.  End of Log  Step 5:Macintosh HD:Users:rchen:Desktop:Screen Shot 2014-10-18 at 11.48.57 AM.png |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.14 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.7 |
| Description | Test bug fixes to harvest. |
| Requirements | PASS No specific functional requirement. |
| Success Criteria | The registry shows the harvested products. |
| Test Steps | Test URL in harvest config file with ‘?’, LID ending in .xml, <title> with many spaces   1. Clean database as described in RESETREGISTRY in Section 3.1 2. cd *testDir* 3. diff harvest-policy-master.xml harvest388.xml ; echo END\_DIFF\_11111 ; diff bundleLID/data\_test/scraping/pit\_test\_scraping.xml bundle\_geo\_ra/data\_test/scraping/pit\_test\_scraping.xml; echo END\_DIFF\_22222 ; diff bundleLID/data\_test/scraping/pit\_test\_scraping\_pic2.xml bundle\_geo\_ra/data\_test/scraping/pit\_test\_scraping\_pic2.xml 4. harvest *testDir*/bundleLID/data\_test/scraping -c harvest388.xml -e "\*.xml" | grep -v INFO: 5. On <http://localhost:8080/registry-ui/>, notice the automatically generated LIDs for label files have “\_xml” 6. Select any row, probably the different one, to see Access URL. 7. Another view, more slot-based: <http://localhost:8080/registry-pds4/extrinsics?lid=urn:nasa:pds:phx_ra:data_test:pit_test_scraping_pic1> shows the two Product\_Browse with the same LID 8. On <http://localhost:8080/registry-ui/>, select the two with LID urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1 and set one to Approved and one to Deprecated. 9. mkdir x; cp bundleLID/data\_test/scraping/pit\_test\_scraping\_pic1.\* x; mv x/pit\_test\_scraping\_pic1.xml x/pit\_test\_scraping\_pic44.xml Then edit the .xml file to change version\_id from 1.0 to 4.4 10. harvest *testDir*/x -c harvest388.xml -e "\*.xml" 11. On <http://localhost:8080/registry-ui/>, see that third entry with LID urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1 has Status “Submitted”. 12. rm –r x/ 13. Click “Associations”, Note one with a non-null “Source LID”. Click “Packages”. Delete both “Harvest-Package\_…” 14. Click “Associations”. The ones for this harvest should be gone.   For removing schemes and classifications via deleting their package   1. Clean database as described in RESETREGISTRY in Section 3.1 2. cd *testDir* 3. On <http://localhost:8080/registry-ui/>, “Associations”, “Schemes”, “Packages” 4. Delete all 4 packages 5. Click “Associations” and “Schemes” again |
| Test Results | Step 3:  27c27  < <baseUrl>http://localhost:8080</baseUrl>  ---  > <baseUrl>http://testWeirdChars.com/download?x=y&amp;a=b</baseUrl>  END\_DIFF\_11111  10c10  < <logical\_identifier>urn:nasa:pds:phx\_ra:data\_test:pit\_test.xml</logical\_identifier>  ---  > <logical\_identifier>urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping</logical\_identifier>  10c10  < <logical\_identifier>urn:nasa:pds:phx\_ra:data\_test:pit\_test.xml</logical\_identifier>  ---  > <logical\_identifier>urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping</logical\_identifier>  END\_DIFF\_22222  10,16c10,12  < <logical\_identifier>urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1</logical\_identifier>  < <version\_id>1.2</version\_id>  < <title>add uselesss pit\_test\_scraping\_pic2  < and arbitray  < spaces  <  < </title>  ---  > <logical\_identifier>urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic2</logical\_identifier>  > <version\_id>1.0</version\_id>  > <title>pit\_test\_scraping\_pic2</title>  Step 4: harvest rejects LIDs ending in “.xml”, partly solving [PDS-367](https://oodt.jpl.nasa.gov/jira/browse/PDS-367).  PDS Harvest Tool Log  Version Version 1.9.0  Time Wed, Oct 21 2015 at 10:35:29 PM  Target(s) [*testDir*/bundleLID/data\_test/scraping]  File Inclusions [\*.xml]  Severity Level INFO  Registry Location http://localhost:8080/registry-pds4  Registry Package Name Harvest-Package\_20151021223528  Registration Package GUID urn:uuid:aaae06b8-1849-4ab6-893e-77373768e72f  ERROR: [*testDir*/bundleLID/data\_test/scraping/pit\_test\_scraping.xml] Lid cannot end in '.xml': urn:nasa:pds:phx\_ra:data\_test:pit\_test.xml  SUCCESS: [*testDir*/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic1.xml] Successfully registered product: urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1::1.0  SUCCESS: [*testDir*/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic1.xml] Successfully registered product: urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1:pit\_test\_scraping\_pic1\_xml::1.0  SUCCESS: [*testDir*/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic1.xml] Successfully registered product: urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1:pit\_test\_scraping\_pic1.jpg::1.0  SUCCESS: [*testDir*/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic1.xml] Successfully registered association to 'urn:uuid:92fe22f5-87d1-431a-adfe-1b5f4da40437'  SUCCESS: [*testDir*/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic1.xml] Successfully registered association to 'urn:uuid:d0fca7a0-9dba-43f6-9dba-5de7b1808cc8'  SUCCESS: [*testDir*/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic2.xml] Successfully registered product: urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1::1.2  SUCCESS: [*testDir*/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic2.xml] Successfully registered product: urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1:pit\_test\_scraping\_pic2\_xml::1.2  SUCCESS: [*testDir*/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic2.xml] Successfully registered product: urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1:pit\_test\_scraping\_pic2.jpg::1.2  SUCCESS: [*testDir*/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic2.xml] Successfully registered association to 'urn:uuid:9ee0a5b5-6027-440e-a06d-ab33fb214bcf'  SUCCESS: [*testDir*/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic2.xml] Successfully registered association to 'urn:uuid:6993d9dd-6369-4fb8-b0ca-a6daa462933f'  Summary:  3 of 3 file(s) processed, 0 other file(s) skipped  1 error(s), 0 warning(s)  2 of 2 products registered.  4 of 4 ancillary products registered.  Product Types Registered:  2 Product\_Browse  4 Product\_File\_Repository  4 of 4 associations registered.  End of Log  Step 5: harvest (registry?) converts automatically generated products with LIDs ending in “\*.xml” to “\_xml”, finishing [PDS-367](https://oodt.jpl.nasa.gov/jira/browse/PDS-367). Field “Name” handles extra spaces, [PDS-393](https://oodt.jpl.nasa.gov/jira/browse/PDS-393).  Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-21 at 3.16.26 PM.png  Step 6: This resolves [PDS-388](https://oodt.jpl.nasa.gov/jira/browse/PDS-388), allowing URLs with question marks.  Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-21 at 3.19.12 PM.png  Step 7 shows numFound returns correctly, [PDS-386](https://oodt.jpl.nasa.gov/jira/browse/PDS-386).Macintosh HD:Users:rchen:Desktop:step7.png  Step 8:Macintosh HD:Users:rchen:Desktop:step8.png  Step 10:  PDS Harvest Tool Log  Version Version 1.9.0  Time Wed, Oct 21 2015 at 10:56:06 PM  Target(s) [*testDir*/x]  File Inclusions [\*.xml]  Severity Level INFO  Registry Location http://localhost:8080/registry-pds4  Registry Package Name Harvest-Package\_20151021225606  Registration Package GUID urn:uuid:3dad45c5-e2a2-499c-b4a9-5133e1ad0c14  INFO: XML extractor set to the following default namespace: http://pds.nasa.gov/pds4/pds/v1  INFO: [*testDir*/x/pit\_test\_scraping\_pic44.xml] Begin processing.  INFO: [*testDir*/x/pit\_test\_scraping\_pic44.xml] line 26: Mapping reference type 'browse\_to\_data' to 'data\_ref'.  INFO: [*testDir*/x/pit\_test\_scraping\_pic44.xml] Setting LID-based association, 'urn:nasa:pds:phx\_ra:document:RA\_dataset', under slot name 'data\_ref'.  INFO: [*testDir*/x/pit\_test\_scraping\_pic44.xml] Created access url: http://testWeirdChars.com/download?x=y&a=b/x/pit\_test\_scraping\_pic44.xml  SUCCESS: [*testDir*/x/pit\_test\_scraping\_pic44.xml] Successfully registered product: urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1::4.4  INFO: [*testDir*/x/pit\_test\_scraping\_pic44.xml] Product has the following GUID: urn:uuid:9984bdc7-a1ed-4a4a-a8fb-10a46715742b  INFO: [*testDir*/x/pit\_test\_scraping\_pic44.xml] Capturing file information for pit\_test\_scraping\_pic44.xml  INFO: [*testDir*/x/pit\_test\_scraping\_pic44.xml] Capturing file object metadata for pit\_test\_scraping\_pic1.jpg  INFO: [*testDir*/x/pit\_test\_scraping\_pic44.xml] line 30: Setting file type for the file object 'pit\_test\_scraping\_pic1.jpg' to 'Browse'  INFO: [*testDir*/x/pit\_test\_scraping\_pic44.xml] Created access url: http://testWeirdChars.com/download?x=y&a=b/x/pit\_test\_scraping\_pic44.xml  SUCCESS: [*testDir*/x/pit\_test\_scraping\_pic44.xml] Successfully registered product: urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1:pit\_test\_scraping\_pic44\_xml::4.4  INFO: [*testDir*/x/pit\_test\_scraping\_pic44.xml] Product has the following GUID: urn:uuid:8ac634ac-070f-41f8-909f-6de6e3086765  INFO: [*testDir*/x/pit\_test\_scraping\_pic44.xml] Created access url: http://testWeirdChars.com/download?x=y&a=b/x/pit\_test\_scraping\_pic1.jpg  SUCCESS: [*testDir*/x/pit\_test\_scraping\_pic44.xml] Successfully registered product: urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1:pit\_test\_scraping\_pic1.jpg::4.4  INFO: [*testDir*/x/pit\_test\_scraping\_pic44.xml] Product has the following GUID: urn:uuid:bc8603dc-a94a-489f-bfe5-b792de6de74a  SUCCESS: [*testDir*/x/pit\_test\_scraping\_pic44.xml] Successfully registered association to 'urn:uuid:8ac634ac-070f-41f8-909f-6de6e3086765'  INFO: [*testDir*/x/pit\_test\_scraping\_pic44.xml] Association has the following GUID: urn:uuid:308cbca2-8248-45be-82e1-792805fd4b9e  SUCCESS: [*testDir*/x/pit\_test\_scraping\_pic44.xml] Successfully registered association to 'urn:uuid:bc8603dc-a94a-489f-bfe5-b792de6de74a'  INFO: [*testDir*/x/pit\_test\_scraping\_pic44.xml] Association has the following GUID: urn:uuid:50ba5a2e-3dbd-4f25-acc7-34c1324b7dd9  Summary:  1 of 1 file(s) processed, 0 other file(s) skipped  0 error(s), 0 warning(s)  1 of 1 products registered.  2 of 2 ancillary products registered.  Product Types Registered:  1 Product\_Browse  2 Product\_File\_Repository  2 of 2 associations registered.  End of Log  Step 11: This resolves [PDS-391](https://oodt.jpl.nasa.gov/jira/browse/PDS-391), status should be “Submitted”Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-21 at 10.59.09 PM.png  Step 13:  Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-21 at 11.05.45 PM.png  Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-21 at 11.07.02 PM.png  Step 14 should show no associations from any harvest but does  Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-21 at 11.08.13 PM.png  Step 17: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-21 at 9.10.59 AM.pngMacintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-21 at 9.04.16 AM.png  Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-21 at 9.11.39 AM.png  Step 18:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-21 at 9.12.02 AM.png  Step 19: Both Schemes and Associations should be empty, per [PDS-402](https://oodt.jpl.nasa.gov/jira/browse/PDS-402).  Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-21 at 9.12.32 AM.pngMacintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-21 at 9.12.55 AM.png |
| Comments | Results met success criteria.  <https://oodt.jpl.nasa.gov/jira/browse/PDS-402>, created during testing of build 6a, shows the persistence of associations in registry-ui after the package of a regular harvest is deleted. |
| Date of Testing | 2015.10.21 |
| Test Personnel | Richard Chen |

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| Test Case ID | PRG.1 |
| Description | Generate a PDS4 label from a PDS3 label or a PDS-specific DOM object. |
| Requirements | PASS L4.PRP.2 : The system shall provide a tool that assists users in the generation of PDS product labels. |
| Success Criteria | Generate produces a syntactically valid PDS Product Label else indicates where the input is invalid. |
| Test Steps | Some files in *testDir*/testHarvest/ come from PDS3 labels. Generate automatically and compare. Step 3 would be better with an xml diff.   1. cd *testDir*/testPrep 2. generate -p gendoc.lbl -t gendoc.vm 3. diff -w gendoc.xml gendoc.baseline.xml 4. rm gendoc.xml 5. generate -p gen\_ELE\_MOM1.LBL gen\_ELE\_MOM2.LBL gen\_ELE\_MOM3.LBL -t gen\_data.vm 6. diff -w gen\_ELE\_MOM1.lbl gen\_ele\_baseline.xml 7. diff gen\_ELE\_MOM[13].LBL 8. diff gen\_ELE\_MOM[13].xml 9. rm gen\_ELE\_MOM?.xml   Test new functionality from build 6a   1. cd genmpf 2. generate -p i455934l.drk -t mpf\_imp\_raw\_template\_1400.xml 3. generate -p i646954r.img -t mpf\_imp\_raw\_template\_1400.xml 4. diff ç i455934l.baseline.xml; diff i646954r.xml i646954r.baseline.xml 5. rm i646954r.xml i646954r.xml |
| Test Results | Step 2:  New PDS4 Label: *testDir*/testPrep/gendoc.xml  Step 3: no differences (was issue [PDS-114](https://oodt.jpl.nasa.gov/jira/browse/PDS-114))  Step 5: Note that generate used to (erroneously) require –d or –o  New PDS4 Label: *testDir*/testPrep/gen\_ELE\_MOM1.xml  New PDS4 Label: *testDir*/testPrep/gen\_ELE\_MOM2.xml  New PDS4 Label: *testDir*/testPrep/gen\_ELE\_MOM3.xml  Step 6: The only differences are carriage returns and an empty element. Accepting multiple input labels clears [PDS-380](https://oodt.jpl.nasa.gov/jira/browse/PDS-380).  1c1,7  < <?xml version="1.0" encoding="UTF-8"?><Product\_Observational xmlns="http://pds.nasa.gov/schema/pds4/pds/v06" xmlns:dph="http://pds.nasa.gov/schema/pds4/dph/v01" xmlns:pds="http://pds.nasa.gov/schema/pds4/pds/v06" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://pds.nasa.gov/schema/pds4/dph/v01 http://pds.jpl.nasa.gov/repository/pds4/examples/dph\_examples\_6h/dph\_example\_archive\_VG2PLS/schemas/Product\_TableChar\_tailored\_0600h.xsd" xsi:type="dph:Product\_Table\_Character">  ---  > <?xml version="1.0" encoding="UTF-8"?>  > <Product\_Observational xmlns="http://pds.nasa.gov/schema/pds4/pds/v06"  > xmlns:dph="http://pds.nasa.gov/schema/pds4/dph/v01"  > xmlns:pds="http://pds.nasa.gov/schema/pds4/pds/v06"  > xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  > xsi:schemaLocation="http://pds.nasa.gov/schema/pds4/dph/v01 http://pds.jpl.nasa.gov/repository/pds4/examples/dph\_examples\_6h/dph\_example\_archive\_VG2PLS/schemas/Product\_TableChar\_tailored\_0600h.xsd"  > xsi:type="dph:Product\_Table\_Character">  71a78,79  > <Node\_Area>  > </Node\_Area>  Step 7: diff the inputs  12c12  < PRODUCT\_ID = "ELE\_MOM1.TAB"  ---  > PRODUCT\_ID = "ELE\_MOM3.TAB"  21c21  < ^TABLE = "ELE\_MOM1.TAB"  ---  > ^TABLE = "ELE\_MOM3.TAB"  Step 8: diff the outputs  75,76c75,76  < <file\_name>ELE\_MOM1.TAB</file\_name>  < <local\_identifier>ELE\_MOM1.TAB</local\_identifier>  ---  > <file\_name>ELE\_MOM3.TAB</file\_name>  > <local\_identifier>ELE\_MOM3.TAB</local\_identifier>  Step 11 and the next few steps clear [PDS-379](https://oodt.jpl.nasa.gov/jira/browse/PDS-379).  New PDS4 Label: *testDir*/testPrep/genmpf/i455934l.xml  Step 12:  New PDS4 Label: *testDir*/testPrep/genmpf/i646954r.xml  Step 13: no differences |
| Comments | Generate converts most constructs in a PDS3 label into a PDS4 label.  Results met success criteria.  <https://oodt.jpl.nasa.gov/jira/browse/PDS-113>, created during testing of build 2c, requests handling carets in PDS3 labels used for detached labels.  <https://oodt.jpl.nasa.gov/jira/browse/PDS-398>, created during testing of build 6a, requests that `generate -o .` write output to a different directory. |
| Date of Testing | 2015.10.14 |
| Test Personnel | Richard Chen |

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| Test Case ID | PRT.1 |
| Description | Transform PDS4 images into other formats. Transform is built upon a Java API. |
| Requirements | PASS L4.PRP.4: The system shall provide a tool for transforming PDS products as follows…  PASS L5.GEN.4: Tools shall have an application programming interface. |
| Success Criteria | Input and output images look the same. |
| Test Steps | 1. cd *testDir*/ 2. transform testPrep/tfm\_i943630r.xml -o ./ -f jpg 3. transform testPrep/tfm\_FF01.LBL -o ./ -f bmp 4. transform testPrep/tfm\_ELE\_MOM.LBL -f pds4-label 5. grep -H NAME testPrep/tfm\_ELE\_MOM.LBL | grep , ; grep -H name testPrep/tfm\_ELE\_MOM.xml | grep , 6. diff tfm\_ele\_mom.xml testPrep/tfm\_ELE\_MOM.xml |
| Test Results | Step 2:  PDS Transform Tool Log  Version Version 1.2.0  Time Wed, Oct 14 2015 at 04:11:22 PM  Target [testPrep/tfm\_i943630r.xml]  Output Directory .  Index 1  Format Type jpg  INFO: [testPrep/tfm\_i943630r.xml] Transforming image '1' of file 'tfm\_i943630r.raw'  INFO: [testPrep/tfm\_i943630r.xml] Successfully transformed image '1' of file 'tfm\_i943630r.raw' to the following output: ./tfm\_i943630r.jpg  tfm\_i943630r.jpg:  Macintosh HD:Users:rchen:Desktop:testing:tfm_i943630r.jpg  Step 3: this also demonstrates successful installation of VICAR IO, [PDS-384](https://oodt.jpl.nasa.gov/jira/browse/PDS-384).  PDS4TableReaderSpi 1.4 constructor  0) INP = testPrep/tfm\_FF01.LBL  1) OUT = ./TFM\_FF01.bmp  2) FORMAT = bmp  3) RI = true  4) OFORM = BYTE  In PDS4TableReaderSpi.canDecodeInput javax.imageio.stream.FileImageInputStream@1e2acc65  IOException attempting to read embedded vicar label jpl.mipl.io.vicar.VicarLabelSyntaxException: Main and EOL labels must start with LBLSIZE keyword  jpl.mipl.io.vicar.VicarLabelSyntaxException: Main and EOL labels must start with LBLSIZE keyword  at jpl.mipl.io.vicar.VicarLabel.readLabelChunk(VicarLabel.java:122)  at jpl.mipl.io.vicar.VicarLabel.readLabelChunk(VicarLabel.java:173)  at jpl.mipl.io.vicar.PDSInputFile.readEmbeddedVicarLabel(PDSInputFile.java:626)  at jpl.mipl.io.vicar.PDSInputFile.setupLabels(PDSInputFile.java:545)  at jpl.mipl.io.vicar.PDSInputFile.openInternal(PDSInputFile.java:688)  at jpl.mipl.io.vicar.VicarInputFile.open(VicarInputFile.java:308)  at jpl.mipl.io.plugins.PDSImageReader.readHeader(PDSImageReader.java:398)  at jpl.mipl.io.plugins.PDSImageReader.readAsRenderedImage(PDSImageReader.java:271)  at jpl.mipl.io.ImageUtils.fullRead(ImageUtils.java:1437)  at jpl.mipl.io.ImageUtils.fullRead(ImageUtils.java:1104)  at jpl.mipl.io.jConvertIIO.conv(jConvertIIO.java:2155)  at jpl.mipl.io.jConvertIIO.<init>(jConvertIIO.java:364)  at jpl.mipl.io.jConvertIIO.main(jConvertIIO.java:439)  at gov.nasa.pds.transform.util.Transcoder.transcode(Transcoder.java:89)  at gov.nasa.pds.transform.util.Transcoder.transcode(Transcoder.java:50)  at gov.nasa.pds.transform.product.Pds3ImageTransformer.process(Pds3ImageTransformer.java:124)  at gov.nasa.pds.transform.product.Pds3ImageTransformer.transform(Pds3ImageTransformer.java:86)  at gov.nasa.pds.transform.TransformLauncher.doTransformation(TransformLauncher.java:312)  at gov.nasa.pds.transform.TransformLauncher.processMain(TransformLauncher.java:349)  at gov.nasa.pds.transform.TransformLauncher.main(TransformLauncher.java:366)  Image write Done  PDS Transform Tool Log  Version Version 1.2.0  Time Wed, Oct 14 2015 at 04:08:05 PM  Target [testPrep/tfm\_FF01.LBL]  Output Directory .  Index 1  Format Type bmp  INFO: [testPrep/tfm\_FF01.LBL] Transforming image file: testPrep/TFM\_FF01.IMG  INFO: [testPrep/tfm\_FF01.LBL] Successfully transformed image file 'testPrep/TFM\_FF01.IMG' to the following output: ./TFM\_FF01.bmp  TFM\_FF01.bmp:  Macintosh HD:Users:rchen:Desktop:testing:x.gif  Step 4:  PDS Transform Tool Log  Version Version 1.2.0  Time Wed, Oct 14 2015 at 04:09:40 PM  Target [testPrep/tfm\_ELE\_MOM.LBL]  Output Directory *testDir*  Index 1  Format Type pds4-label  INFO: [testPrep/tfm\_ELE\_MOM.LBL] Transforming label file: testPrep/tfm\_ELE\_MOM.LBL  INFO: [testPrep/tfm\_ELE\_MOM.LBL] Successfully transformed PDS3 label 'testPrep/tfm\_ELE\_MOM.LBL' to a PDS4 label '*testDir*/tfm\_ele\_mom.xml'  Step 5 shows proper handling of commas in column name, [PDS-295](https://oodt.jpl.nasa.gov/jira/browse/PDS-295).  testPrep/tfm\_ELE\_MOM.LBL: NAME = "ELE\_TEMP,OK,COMMA"  testPrep/tfm\_ELE\_MOM.xml: <name>ele\_temp,ok,comma</name>  Step 6: trivial, expected differences  1c1,2  < <?xml version="1.0" encoding="UTF-8"?><Product\_Observational xmlns="http://pds.nasa.gov/pds4/pds/v1" xmlns:pds="http://pds.nasa.gov/pds4/pds/v1" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">  ---  > <?xml version="1.0" encoding="UTF-8"?>  > <Product\_Observational xmlns="http://pds.nasa.gov/pds4/pds/v1" xmlns:pds="http://pds.nasa.gov/pds4/pds/v1" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="">  6c7  < <information\_model\_version>1.3.0.1</information\_model\_version>  ---  > <information\_model\_version>1.2.0.1</information\_model\_version>  10c11  < <modification\_date>2015-10-14</modification\_date>  ---  > <modification\_date>2014-04-07</modification\_date> |
| Comments | Results met success criteria.  <https://oodt.jpl.nasa.gov/jira/browse/PDS-343> (formerly PDS-349), created during testing of build 5b, requested friendlier warning messages.  <https://oodt.jpl.nasa.gov/jira/browse/PDS-399> (folded into PDS-366), created during testing of build 6a, notes that step 2 works under java 1.6 but not 1.8. |
| Date of Testing | 2015.10.14 |
| Test Personnel | Richard Chen |

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| Test Case ID | PRV.1 |
| Description | Accept a file or a directory name for product(s) to be validated. If directory, be able to traverse the tree to find products. Indicate the schemas utilized during validation. Validate is built upon a Java API. |
| Requirements | PASS L5.PRP.VA.1: The tool shall accept the following as input for specifying the product(s) to be validated…  PASS L5.PRP.VA.2: The tool shall traverse a directory tree and validate products discovered within that tree.  PASS L5.PRP.VA.5: The tool shall verify that a product label is well-formed XML.  PASS L5.PRP.VA.6: The tool shall verify that a product label conforms to its associated schema file(s).  PASS L5.PRP.VA.9: The tool shall indicate the schema(s) utilized during validation.  PASS L5.GEN.4: Tools shall have an application programming interface.  PASS L5.GEN.7: Tools shall generate a report detailing results from a single execution of the tool. |
| Success Criteria | Validation tool validates a file or all eligible products in a directory tree. When validating a product, a label, or a schema, indicates which schemas it utilized during the validation. Ensures that a product label is well-formed XML and conforms to its schemas. |
| Test Steps | 1. cd *testDir/* 2. validate bundle\_clem/data/collection\_1.0.xml -m0300a   Use schema and schematron specified in the label via -f   1. validate bundle\_clem/data/collection\_1.0.xml -f   Some files need a local data dictionary. See those errors.   1. validate bundle\_clem -m0300a -e "\*.xml"   Clear step 4’s errors by validating against a second schema   1. validate bundle\_clem -e "\*.xml" -x bundle\_clem/XML\_Schema/PDS4\_PDS\_0300a.xsd bundle\_clem/XML\_Schema/imaging\_dictionary.xsd |
| Test Results | Step 2:  PDS Validate Tool Report  Configuration:  Version 1.8.0  Date 2015-10-15T02:35:48Z  Core Schemas [PDS4\_OPS\_0300a.xsd]  Core Schematrons [PDS4\_OPS\_0300a.sch]  Model Version 0300a  Parameters:  Targets [file:*testDir*/bundle\_clem/data/collection\_1.0.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Force Mode off  Referential Integrity Check off  Validation Details:  PASS: file:*testDir*/bundle\_clem/data/collection\_1.0.xml  Summary:  1 of 1 file(s) processed, 0 skipped  1 of 1 file(s) passed validation  End of Report  Step 3:  PDS Validate Tool Report  Configuration:  Version 1.8.0  Date 2015-10-15T02:36:58Z  Parameters:  Targets [file: *testDir*/bundle\_clem/data/collection\_1.0.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Force Mode on  Referential Integrity Check off  Validation Details:  PASS: file: *testDir*/bundle\_clem/data/collection\_1.0.xml  Summary:  1 of 1 file(s) processed, 0 skipped  1 of 1 file(s) passed validation  End of Report  Step 4: the files with locally defined keywords fail (see “img:”).  PDS Validate Tool Report  Configuration:  Version 1.8.0  Date 2015-10-15T03:24:22Z  Core Schemas [PDS4\_OPS\_0300a.xsd]  Core Schematrons [PDS4\_OPS\_0300a.sch]  Model Version 0300a  Parameters:  Targets [file:*testDir*/bundle\_clem/]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml]  Force Mode off  Referential Integrity Check off  Validation Details:  PASS: file:*testDir*/bundle\_clem/bundle\_1.xml  PASS: file:*testDir*/bundle\_clem/data/collection\_1.0.xml  FAIL: file:*testDir*/bundle\_clem/data/bi00\_35n/bi03n003.xml  ERROR line 71, 42: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Imaging\_Instrument\_Parameters'.  ERROR line 77, 21: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Geometry'.  ERROR line 86, 64: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Cartography'.  FAIL: file:*testDir*/bundle\_clem/data/bi00\_35n/bi03n009.xml  ERROR line 71, 42: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Imaging\_Instrument\_Parameters'.  ERROR line 77, 21: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Geometry'.  ERROR line 86, 64: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Cartography'.  FAIL: file:*testDir*/bundle\_clem/data/bi35\_70n/bi38n065.xml  ERROR line 71, 42: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Imaging\_Instrument\_Parameters'.  ERROR line 77, 21: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Geometry'.  ERROR line 86, 64: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Cartography'.  FAIL: file:*testDir*/bundle\_clem/data/bi35\_70n/bi38n075.xml  ERROR line 71, 42: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Imaging\_Instrument\_Parameters'.  ERROR line 77, 21: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Geometry'.  ERROR line 86, 64: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Cartography'.  FAIL: file:*testDir*/bundle\_clem/data/bi70\_35s/bi38s245.xml  ERROR line 71, 42: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Imaging\_Instrument\_Parameters'.  ERROR line 77, 21: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Geometry'.  ERROR line 86, 64: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Cartography'.  FAIL: file:*testDir*/bundle\_clem/data/bi70\_35s/bi38s255.xml  ERROR line 71, 42: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Imaging\_Instrument\_Parameters'.  ERROR line 77, 21: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Geometry'.  ERROR line 86, 64: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Cartography'.  PASS: file:*testDir*/bundle\_clem/document/collection\_1.0.xml  PASS: file:*testDir*/bundle\_clem/document/volinfo.xml  PASS: file:*testDir*/bundle\_clem/miscellaneous/transfer\_manifest.xml  PASS: file:*testDir*/bundle\_clem/XML\_Schema/collection\_1.0.xml  PASS: file:*testDir*/bundle\_clem/XML\_Schema/imaging\_dictionary.xml  PASS: file:*testDir*/bundle\_clem/XML\_Schema/PDS4\_PDS\_0300a.xml  Summary:  14 of 14 file(s) processed, 0 skipped  8 of 14 file(s) passed validation  End of Report  Step 5: It should look like this:  PDS Validate Tool Report  Configuration:  Version 1.8.0  Date 2015-10-15T03:29:41Z  Core Schematrons [PDS4\_PDS\_1500.sch]  Model Version 1500  Parameters:  Targets [file: *testDir*/bundle\_clem/]  User Specified Schemas [file: *testDir*/bundle\_clem/XML\_Schema/PDS4\_PDS\_0300a.xsd, file: *testDir*/bundle\_clem/XML\_Schema/imaging\_dictionary.xsd]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml]  Force Mode off  Referential Integrity Check off  Validation Details:  PASS: file: *testDir*/bundle\_clem/bundle\_1.xml  PASS: file: *testDir*/bundle\_clem/data/collection\_1.0.xml  PASS: file: *testDir*/bundle\_clem/data/bi00\_35n/bi03n003.xml  PASS: file: *testDir*/bundle\_clem/data/bi00\_35n/bi03n009.xml  PASS: file: *testDir*/bundle\_clem/data/bi35\_70n/bi38n065.xml  PASS: file: *testDir*/bundle\_clem/data/bi35\_70n/bi38n075.xml  PASS: file: *testDir*/bundle\_clem/data/bi70\_35s/bi38s245.xml  PASS: file: *testDir*/bundle\_clem/data/bi70\_35s/bi38s255.xml  PASS: file: *testDir*/bundle\_clem/document/collection\_1.0.xml  PASS: file: *testDir*/bundle\_clem/document/volinfo.xml  PASS: file: *testDir*/bundle\_clem/miscellaneous/transfer\_manifest.xml  PASS: file: *testDir*/bundle\_clem/XML\_Schema/collection\_1.0.xml  PASS: file: *testDir*/bundle\_clem/XML\_Schema/imaging\_dictionary.xml  PASS: file: *testDir*/bundle\_clem/XML\_Schema/PDS4\_PDS\_0300a.xml  Summary:  14 of 14 file(s) processed, 0 skipped  14 of 14 file(s) passed validation  End of Report |
| Comments | Results met success criteria.  <https://oodt.jpl.nasa.gov/jira/browse/PDS-351>, created during build 5b, showed validate with multiple schemas failing. Resolved in 6a. Closed |
| Date of Testing | 2015.10.14 |
| Test Personnel | Richard Chen |

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| Test Case ID | PRV.2 |
| Description | Verify that a referenced file exists. |
| Requirements | PASS L5.PRP.VA.10: The tool shall verify that a file exists when referenced from a product label. |
| Success Criteria | Validation tool succeeds if referenced file exists, throws an error if not |
| Test Steps | 1. mv bundle\_clem/data/collection\_1.0.tab . 2. validate bundle\_clem/data/collection\_1.0.xml -m0300a 3. mv collection\_1.0.tab bundle\_clem/data/ 4. validate bundle\_clem/data/collection\_1.0.xml -m0300a   References also consider <directory\_path\_name>, which can be absolute, relative, and with or without a trailing ‘/’.   1. diff testPrep/product\_document/Product\_Doc\_bad.xml testPrep/product\_document/Product\_Doc\_good.xml 2. validate -t testPrep/product\_document/Product\_Doc\_bad.xml 3. validate -t testPrep/product\_document/Product\_Doc\_good.xml |
| Test Results | Step 2: the referenced file was removed in step 1  PDS Validate Tool Report  Configuration:  Version 1.8.0  Date 2015-10-15T21:21:29Z  Core Schemas [PDS4\_OPS\_0300a.xsd]  Core Schematrons [PDS4\_OPS\_0300a.sch]  Model Version 0300a  Parameters:  Targets [file: *testDir*/bundle\_clem/data/collection\_1.0.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Force Mode off  Referential Integrity Check off  Validation Details:  FAIL: file: *testDir*/bundle\_clem/data/collection\_1.0.xml  ERROR line 103: URI reference does not exist: file: *testDir*/bundle\_clem/data/collection\_1.0.tab  Summary:  1 of 1 file(s) processed, 0 skipped  0 of 1 file(s) passed validation  End of Report  Step 4: the referenced file was restored in step 3  PDS Validate Tool Report  Configuration:  Version 1.8.0  Date 2015-10-15T22:04:14Z  Core Schemas [PDS4\_OPS\_0300a.xsd]  Core Schematrons [PDS4\_OPS\_0300a.sch]  Model Version 0300a  Parameters:  Targets [file:*testDir*/bundle\_clem/data/collection\_1.0.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Force Mode off  Referential Integrity Check off  Validation Details:  PASS: file:*testDir*/bundle\_clem/data/collection\_1.0.xml  Summary:  1 of 1 file(s) processed, 0 skipped  1 of 1 file(s) passed validation  End of Report  Step 5: the first difference (trailing /) doesn’t matter. The second does.  94c94  < <directory\_path\_name>meca\_rdr\_sis\_files/</directory\_path\_name>  ---  > <directory\_path\_name>meca\_rdr\_sis\_files</directory\_path\_name>  103c103  < <directory\_path\_name>/replaceWithFullPath</directory\_path\_name>  ---  > <directory\_path\_name> *testDir*/testPrep/product\_document/meca\_rdr\_sis\_files</directory\_path\_name>  Step 6: \_bad.xml should fail because of a non-existent path.  PDS Validate Tool Report  Configuration:  Version 1.8.0  Date 2015-10-15T22:52:28Z  Core Schemas [PDS4\_PDS\_1500.xsd]  Core Schematrons [PDS4\_PDS\_1500.sch]  Model Version 1500  Parameters:  Targets [file:*testDir*/testPrep/product\_document/Product\_Doc\_bad.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Force Mode off  Referential Integrity Check off  Validation Details:  FAIL: file:*testDir*/testPrep/product\_document/Product\_Doc\_bad.xml  ERROR line 97: URI reference does not exist: file:/replaceWithFullPath/image002.gif  Summary:  1 of 1 file(s) processed, 0 skipped  0 of 1 file(s) passed validation  End of Report  Step 7: non-existent path has been replaced by a real path  PDS Validate Tool Report  Configuration:  Version 1.8.0  Date 2015-10-15T22:53:20Z  Core Schemas [PDS4\_PDS\_1500.xsd]  Core Schematrons [PDS4\_PDS\_1500.sch]  Model Version 1500  Parameters:  Targets [file:*testDir*/testPrep/product\_document/Product\_Doc\_good.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Force Mode off  Referential Integrity Check off  Validation Details:  PASS: file:*testDir*/testPrep/product\_document/Product\_Doc\_good.xml  Summary:  1 of 1 file(s) processed, 0 skipped  1 of 1 file(s) passed validation  End of Report |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.15 |
| Test Personnel | Richard Chen |

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| Test Case ID | PRV.3 |
| Description | Validate aggregate products’ integrity of LID references. This differs from validating a directory by 1) hierarchically validating based on bundle.xml’s lid\_reference and/or collection.tab’s inventory, and 2) validating only the references, not other syntax. |
| Requirements | PASS L5.PRP.VA.3: The tool shall validate aggregate products and all products referenced by such products. |
| Success Criteria | Find no bugs in bundle\_geo\_ra/. Find some bugs in bundleLID/. |
| Test Steps | 1. cd *testDir/* 2. validate -i -t bundle\_geo\_ra 3. validate -i -t bundleLID where bundleLID == bundle\_geo\_ra with some files removed except: 4. data\_test/data\_test\_collection\_1.xml has another collection’s logical\_identifier 5. context/context\_collection\_1.xml has a typo in its logical\_identifier 6. data\_derived/sol149b.xml has another product’s LIDVID 7. data\_test/scraping/pit\_test\_scraping\_pic[12].xml have the same LID but different VIDs, which should not be flagged. 8. data\_test/scraping/pit\_test\_scraping.xml’s LID changed to “<xxx>.xml” 9. data\_test/scraping/pit\_test\_scraping.xml’s <title> added various spaces 10. validate -i -t bundle\_geo\_ra/bundle\_1.xml  Integrity checking only 1 file is illogical since references point to other files |
| Test Results | Step 2 clears [PDS-371](https://oodt.jpl.nasa.gov/jira/browse/PDS-371), for validate used to warn for missing secondary members like context/collection\*.tab says the moon is.  Begin gathering LIDVIDs, bundle and collection members from the given target: file:*testDir/*bundle\_geo\_ra/  Finished gathering LIDVIDs, bundle and collection members from the given target: file:*testDir/*bundle\_geo\_ra/  PDS Validate Tool Report  Configuration:  Version 1.8.0  Date 2015-10-15T22:55:09Z  Core Schemas [PDS4\_PDS\_1500.xsd]  Core Schematrons [PDS4\_PDS\_1500.sch]  Model Version 1500  Parameters:  Targets [file:*testDir/*bundle\_geo\_ra/]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml]  Force Mode off  Referential Integrity Check on  Validation Details:  PASS: file:*testDir/*bundle\_geo\_ra/bundle\_1.xml  PASS: file:*testDir/*bundle\_geo\_ra/context/context\_collection\_1.xml  PASS: file:*testDir/*bundle\_geo\_ra/context/mars\_planet.xml  PASS: file:*testDir/*bundle\_geo\_ra/context/phoenix.xml  PASS: file:*testDir/*bundle\_geo\_ra/context/phx.xml  PASS: file:*testDir/*bundle\_geo\_ra/context/ra\_phx.xml  PASS: file:*testDir/*bundle\_geo\_ra/data\_derived/data\_derived\_collection\_1.xml  PASS: file:*testDir/*bundle\_geo\_ra/data\_derived/sol006.xml  PASS: file:*testDir/*bundle\_geo\_ra/data\_derived/sol007.xml  [snip…]  PASS: file:*testDir/*bundle\_geo\_ra/xml\_schema/collection.xml  PASS: file:*testDir/*bundle\_geo\_ra/xml\_schema/PDS4\_PDS\_1400.xml  Summary:  173 of 173 file(s) processed, 0 skipped  173 of 173 file(s) passed validation  End of Report  Step 3: flagging duplicate u:n:p:phx\_ra:data\_derived:sol149a::1.0 and not flagging pit\_test\_scraping\_pic[23].xml are correct, thus clearing [PDS-372](https://oodt.jpl.nasa.gov/jira/browse/PDS-372).  Begin gathering LIDVIDs, bundle and collection members from the given target: file:*testDir*/bundleLID/  Finished gathering LIDVIDs, bundle and collection members from the given target: file:*testDir*/bundleLID/  PDS Validate Tool Report  Configuration:  Version 1.9.0-dev  Date 2015-10-25T23:39:04Z  Core Schemas [PDS4\_PDS\_1500.xsd]  Core Schematrons [PDS4\_PDS\_1500.sch]  Model Version 1500  Parameters:  Targets [file: *testDir*/bundleLID/]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Force Mode off  Referential Integrity Check on  Validation Details:  FAIL: file: *testDir*/bundleLID/bundle\_1.xml  ERROR The member 'urn:nasa:pds:phx\_ra:data\_derived' is identified in multiple products, but with the same version id '1.0': [file: *testDir*/bundleLID/data\_test/data\_test\_collection\_1.xml, file: *testDir*/bundleLID/data\_derived/data\_derived\_collection\_1.xml]  WARNING The member 'urn:nasa:pds:phx\_ra:data\_test' could not be found in any product within the given target.  WARNING The member 'urn:nasa:pds:phx\_ra:context' could not be found in any product within the given target.  PASS: file: *testDir*/bundleLID/context/context\_collection\_1.xml  WARNING The lidvid 'urn:nasa:pds:phx\_ra:context\_typo::1.0' is not a member of any bundle within the given target.  PASS: file: *testDir*/bundleLID/context/PDS4\_host\_PHX\_1.0.xml  PASS: file: *testDir*/bundleLID/context/PDS4\_inst\_RA\_\_PHX.xml  PASS: file: *testDir*/bundleLID/context/PDS4\_mission\_PHOENIX\_1.0.xml  PASS: file: *testDir*/bundleLID/context/PDS4\_target\_MARS\_1.0.xml  FAIL: file: *testDir*/bundleLID/data\_derived/data\_derived\_collection\_1.xml  ERROR The member 'urn:nasa:pds:phx\_ra:data\_derived:sol149a::1.0' is identified in multiple products: [file: *testDir*/bundleLID/data\_derived/sol149a.xml, file: *testDir*/bundleLID/data\_derived/sol149b.xml]  WARNING The member 'urn:nasa:pds:phx\_ra:data\_derived:sol149b::1.0' could not be found in any product within the given target.  PASS: file: *testDir*/bundleLID/data\_derived/sol006.xml  PASS: file: *testDir*/bundleLID/data\_derived/sol149a.xml  PASS: file: *testDir*/bundleLID/data\_derived/sol149b.xml  PASS: file: *testDir*/bundleLID/data\_test/data\_test\_collection\_1.xml  PASS: file: *testDir*/bundleLID/data\_test/duricrust/pit\_test\_duricrust.xml  PASS: file: *testDir*/bundleLID/data\_test/duricrust/pit\_test\_duricrust\_dig1\_pic1.xml  PASS: file: *testDir*/bundleLID/data\_test/duricrust/pit\_test\_duricrust\_dig2\_pic13.xml  PASS: file: *testDir*/bundleLID/data\_test/scraping/pit\_test\_scraping.xml  PASS: file: *testDir*/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic1.xml  PASS: file: *testDir*/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic2.xml  Summary:  17 of 17 file(s) processed, 0 skipped  15 of 17 file(s) passed validation  End of Report  Step 4:  Must specify a target directory when performing integrity checking: file: *testDir*/bundle\_geo\_ra/bundle\_1.xml |
| Comments | Results met success criteria.  <https://oodt.jpl.nasa.gov/jira/browse/PDS-352>, created in build 5b, requests a better error message for the test of step 4. Implemented. Closed.  <https://oodt.jpl.nasa.gov/jira/browse/PDS-401>, created in build 6a, requests notification when the bundle refers to LIDs not there, e.g. ...:phx\_ra:data\_test and ...:phx\_ra:context in step 3 and when the collection refers to missing product LIDs. Cleared in 6a. |
| Date of Testing | 2015.10.25 |
| Test Personnel | Richard Chen |

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| Test Case ID | PRV.4 |
| Description | Merge label fragments |
| Requirements | PASS L5.PRP.VA.4: The tool shall merge the contents of label fragments referenced by include elements with the contents of the parent label when validating a product. |
| Success Criteria | After merging, resulting label validates as if the fragments were physically merged. |
| Test Steps | 1. cd *testDir/* 2. validate -t testPrep/product\_document/Product\_Doc\_part1.xml 3. mv testPrep/product\_document/Product\_Doc\_part2.xml .   Product\_Doc\_part1.xml includes \_part2, so remove it and see the error   1. validate -t testPrep/product\_document/Product\_Doc\_part1.xml 2. mv Product\_Doc\_part2.xml testPrep/product\_document/ |
| Test Results | Step 2:  PDS Validate Tool Report  Configuration:  Version 1.8.0  Date 2015-10-16T07:46:45Z  Core Schemas [PDS4\_PDS\_1500.xsd]  Core Schematrons [PDS4\_PDS\_1500.sch]  Model Version 1500  Parameters:  Targets [file:*testDir*/testPrep/product\_document/Product\_Doc\_part1.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Force Mode off  Referential Integrity Check off  Validation Details:  PASS: file:*testDir*/testPrep/product\_document/Product\_Doc\_part1.xml  Summary:  1 of 1 file(s) processed, 0 skipped  1 of 1 file(s) passed validation  End of Report  Step 4:  PDS Validate Tool Report  Configuration:  Version 1.8.0  Date 2015-10-16T07:47:26Z  Core Schemas [PDS4\_PDS\_1500.xsd]  Core Schematrons [PDS4\_PDS\_1500.sch]  Model Version 1500  Parameters:  Targets [file:*testDir*/testPrep/product\_document/Product\_Doc\_part1.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Force Mode off  Referential Integrity Check off  Validation Details:  FAIL: file:*testDir*/testPrep/product\_document/Product\_Doc\_part1.xml  WARNING line 96, 56: Include operation failed, reverting to fallback. Resource error reading file as XML (href='./Product\_Doc\_part2.xml'). Reason: *testDir*/testPrep/product\_document/Product\_Doc\_part2.xml (No such file or directory)  ERROR line 97, 47: cvc-complex-type.2.4.a: Invalid content was found starting with element 'somethingInvalid'. One of '{"http://pds.nasa.gov/pds4/pds/v1":comment, "http://pds.nasa.gov/pds4/pds/v1":directory\_path\_name, "http://pds.nasa.gov/pds4/pds/v1":document\_standard\_id}' is expected.  ERROR line 89: URI reference does not exist: file: *testDir*/testPrep/product\_document/image001.gif  Summary:  1 of 1 file(s) processed, 0 skipped  0 of 1 file(s) passed validation  End of Report |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.16 |
| Test Personnel | Richard Chen |

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| Test Case ID | PRV.5 |
| Description | Validate schemas |
| Requirements | PASS L5.PRP.VA.8: The tool shall verify that a schema file is valid. |
| Success Criteria | Validation tool verifies whether a schema is well formed. |
| Test Steps | The validate tool does not accept a schema as its target, i.e. this does not work  validate PDS4\_PDS\_1500.xsd  However, validate, when validating a label file, does complain when the schema is bad   1. validate bundle\_geo\_ra/bundle\_1.xml -x PDS4\_PDS\_1500.xsd -S PDS4\_PDS\_1500.sch 2. diff PDS4\_PDS\_1500.xsd testPrep/PDS4\_PDS\_1500.bad.xsd 3. validate bundle\_geo\_ra/bundle\_1.xml -x testPrep/PDS4\_PDS\_1500.bad.xsd -S PDS4\_PDS\_1500.sch   Validate also threw a null pointer exception when given a non-existent schema   1. validate bundle\_geo\_ra/bundle\_1.xml -x xxx.xsd -S PDS4\_PDS\_1500.sch |
| Test Results | Step 1: a normal validation with a schema specified on the command line  PDS Validate Tool Report  Configuration:  Version 1.8.0  Date 2015-10-16T07:53:03Z  Parameters:  Targets [file:*testDir*/bundle\_geo\_ra/bundle\_1.xml]  User Specified Schemas [file:*testDir*/PDS4\_PDS\_1500.xsd]  User Specified Schematrons [file:*testDir*/PDS4\_PDS\_1500.sch]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Force Mode off  Referential Integrity Check off  Validation Details:  PASS: file:*testDir/*bundle\_geo\_ra/bundle\_1.xml  Summary:  1 of 1 file(s) processed, 0 skipped  1 of 1 file(s) passed validation  End of Report  Step 2: the first schema is good; the second has an important line commented out  12c12  < <xs:annotation>  ---  > <!--xs:annotation-->  Step 3: validate fails because of the schema’s syntactic problems  Error while getting targetNamespace of schema 'file: *testDir*/testPrep/PDS4\_PDS\_1500.bad.xsd': org.xml.sax.SAXParseException; systemId: file: *testDir*/testPrep/PDS4\_PDS\_1500.bad.xsd; lineNumber: 15; columnNumber: 5; The element type "xs:schema" must be terminated by the matching end-tag "</xs:schema>".  Step 4: validate throws a better exception. Clears [PDS-375](https://oodt.jpl.nasa.gov/jira/browse/PDS-375). Weird copy/paste below.  java.io.FileNotFoundException: *testDir*/xxx.xsd (No such file or directory)  at java.io.FileInputStream.open0(Native Method)  at java.io.FileInputStream.open(FileInputStream.java:195)  at java.io.FileInputStream.<init>(FileInputStream.java:138)  at java.io.FileInputStream.<init>(FileInputStream.java:93)  at sun.net.www.protocol.file.FileURLConnection.connect(FileURLConnection.java:90)  at sun.net.www.protocol.file.FileURLConnection.getInputStream(FileURLConnection.java:188)  at gov.nasa.pds.tools.util.Utility.openConnection(Utility.java:71)  at gov.nasa.pds.tools.label.CachedLSResourceResolver.resolveResource(CachedLSResourceResolver.java:175)  at gov.nasa.pds.validate.ValidateLauncher.validateSchemas(ValidateLauncher.java:767)  at gov.nasa.pds.validate.ValidateLauncher.processMain(ValidateLauncher.java:831)  at gov.nasa.pds.validate.ValidateLauncher.main(ValidateLauncher.java:872)  null |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.16 |
| Test Personnel | Richard Chen |

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| Test Case ID | PRV.6 |
| Description | Accept schema file specified by file or directory |
| Requirements | PASS L5.PRP.VA.7: The tool shall accept the following as input for specifying the associated schema file(s)… |
| Success Criteria | Label file validates against the schema specified. |
| Test Steps | Besides PRV.1 and PRV.5:   1. cd *testDir*/testPrep 2. validate 376i750800r.xml -x 376PDS4\_PDS\_0300a.xsd 376imaging\_dictionary.xsd 376mpf\_dictionary.xsd |
| Test Results | Step 2 clears [PDS-376](https://oodt.jpl.nasa.gov/jira/browse/PDS-376)  PDS Validate Tool Report  Configuration:  Version 1.8.0  Date 2015-10-22T07:35:51Z  Core Schematrons [PDS4\_PDS\_1500.sch]  Model Version 1500  Parameters:  Targets [file: *testDir*/testPrep/376i750800r.xml]  User Specified Schemas [file: *testDir*/testPrep/376PDS4\_PDS\_0300a.xsd, file: *testDir*/testPrep/376imaging\_dictionary.xsd, file: *testDir*/testPrep/376mpf\_dictionary.xsd]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Force Mode off  Referential Integrity Check off  Validation Details:  PASS: file: *testDir*/testPrep/376i750800r.xml  Summary:  1 of 1 file(s) processed, 0 skipped  1 of 1 file(s) passed validation  End of Report |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.22 |
| Test Personnel | Richard Chen |

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| Test Case ID | REG.1 |
| Description | Validate and accept metadata to register an artifact or modify an artifact’s registration, query for a registered artifact, delete a registered artifact. Use the REST-based API. |
| Requirements | PASS L5.REG.1: The service shall accept artifact registrations.  PASS L5.REG.4: The service shall accept metadata for a registered artifact in a defined format.  PASS L5.REG.5: The service shall validate metadata for a registered artifact.  PASS L5.REG.13: The service shall allow deletion of registered artifacts.  PASS L5.REG.14: The service shall allow queries for registered artifacts.  PASS L5.GEN.3: The system shall generate metrics regarding performance and activity. |
| Success Criteria | Registry service validates and accepts metadata for an artifact in a defined format, consistent with the appropriate schema for the artifact. Registering an Inventory artifact should allow locating and auditing the artifact. Registering a Dictionary artifact should be reflected in the Information Model. Registering a Document artifact, e.g. a schema, should store the file and make the document available. Registering a Service artifact should document and promote the service. Query and delete artifacts or provide error messages for unrecognized artifacts. |
| Test Steps | Clean database as described in RESETREGISTRY in Section 3.1   1. cd *testDir* 2. http://localhost:8080/registry-pds3/extrinsics/logicals/testing.REG.1   in a browser shows no current product has lid “testing.REG.1”, which input files test.REG.1[ab].xml have.   1. curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.1a.xml http://localhost:8080/registry-pds3/extrinsics   attempts to register the bad input file   1. Repeat step 2 to ensure lid still does not exist. 2. curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.1b.xml http://localhost:8080/registry-pds3/extrinsics   registers a good input file   1. Repeat step 2 to see the lid 2. At <http://localhost:8080/registry-ui/>, select “Product 1234 v1”, Delete, OK 3. Repeat step 2 to ensure lid no longer exists |
| Test Results | Step 2: The error message should be (if lid does exist, run step 7):Macintosh HD:Users:rchen:Desktop:Screen Shot 2014-10-19 at 12.00.52 AM.png  Step 3:  \* About to connect() to localhost port 8080 (#0)  \* Trying 127.0.0.1...  \* connected  \* Connected to localhost (127.0.0.1) port 8080 (#0)  > POST /registry-pds3/extrinsics HTTP/1.1  > User-Agent: curl/7.24.0 (x86\_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8} zlib/1.2.5  > Host: localhost:8080  > Accept: \*/\*  > Content-type:application/xml  > Content-Length: 653  \* upload completely sent off: 653 out of 653 bytes  < HTTP/1.1 400 Bad Request  < Server: Apache-Coyote/1.1  < Content-Length: 0  < Date: Fri, 16 Oct 2015 08:04:51 GMT  < Connection: close  \* Closing connection #0  Step 4: Same as step 2  Step 5:  \* About to connect() to localhost port 8080 (#0)  \* Trying 127.0.0.1...  \* connected  \* Connected to localhost (127.0.0.1) port 8080 (#0)  > POST /registry-pds3/extrinsics HTTP/1.1  > User-Agent: curl/7.24.0 (x86\_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8} zlib/1.2.5  > Host: localhost:8080  > Accept: \*/\*  > Content-type:application/xml  > Content-Length: 629  \* upload completely sent off: 629 out of 629 bytes  < HTTP/1.1 201 Created  < Server: Apache-Coyote/1.1  < Location: http://localhost:8080/registry-pds3/extrinsics/testing.REG.1.v1.0  < Content-Type: application/xml  < Transfer-Encoding: chunked  < Date: Fri, 16 Oct 2015 08:06:16 GMT  \* Connection #0 to host localhost left intact  testing.REG.1.v1.0\* Closing connection #0  Step 6: Upon success, the registry service returns good xml. In firefox: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-16 at 1.08.09 AM.png  Step 7: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-04-18 at 10.13.01 PM.png  Step 8: Same as step 2 |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.16 |
| Test Personnel | Richard Chen |

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| Test Case ID | REG.2 |
| Description | Relate artifact registrations. Query and delete such associations. |
| Requirements | PASS L5.REG.2: The service shall provide a means for relating artifact registrations.  PASS L5.REG.13: The service shall allow deletion of registered artifacts. PASS L5.REG.14: The service shall allow queries for registered artifacts. |
| Success Criteria | Registry service relates together multiple artifacts during their registrations, whether as a batch or as individual registrations. The associations are removed from the registry after deletion. |
| Test Steps | 1. http://localhost:8080/registry-pds3/associations/linkREG.1toREG.2a   shows no such associations   1. curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.2.xml http://localhost:8080/registry-pds3/associations   adds 1 association (from a nonexistent sourceLid) to desired targetLid   1. Repeat step 1 to see the association. 2. curl -X DELETE -v http://localhost:8080/registry-pds3/associations/linkREG.1toREG.2a 3. Repeat step 1 to see no association |
| Test Results | Step 1: The error should look likeMacintosh HD:Users:rchen:Desktop:Screen Shot 2014-10-19 at 12.07.24 AM.png  If not (i.e. if output looks like step 3’s below), delete as is Test Step 4.  Step 2: Benign output messages without “ERROR”  \* About to connect() to localhost port 8080 (#0)  \* Trying 127.0.0.1...  \* connected  \* Connected to localhost (127.0.0.1) port 8080 (#0)  > POST /registry-pds3/associations HTTP/1.1  > User-Agent: curl/7.24.0 (x86\_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8} zlib/1.2.5  > Host: localhost:8080  > Accept: \*/\*  > Content-type:application/xml  > Content-Length: 225  \* upload completely sent off: 225 out of 225 bytes  < HTTP/1.1 201 Created  < Server: Apache-Coyote/1.1  < Location: http://localhost:8080/registry-pds3/associations/linkREG.1toREG.2a  < Content-Type: text/plain  < Transfer-Encoding: chunked  < Date: Fri, 16 Oct 2015 08:13:12 GMT  \* Connection #0 to host localhost left intact  linkREG.1toREG.2a\* Closing connection #0  Step 3:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-16 at 1.14.41 AM.png  Step 4:  \* About to connect() to localhost port 8080 (#0)  \* Trying 127.0.0.1...  \* connected  \* Connected to localhost (127.0.0.1) port 8080 (#0)  > DELETE /registry-pds3/associations/linkREG.1toREG.2a HTTP/1.1  > User-Agent: curl/7.24.0 (x86\_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8} zlib/1.2.5  > Host: localhost:8080  > Accept: \*/\*  < HTTP/1.1 200 OK  < Server: Apache-Coyote/1.1  < Content-Length: 0  < Date: Fri, 16 Oct 2015 08:15:16 GMT  \* Connection #0 to host localhost left intact  \* Closing connection #0  Step 5: same as step 1 |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.16 |
| Test Personnel | Richard Chen |

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| Test Case ID | REG.3 |
| Description | Maintain policies for classes of artifacts, i.e. all classes of artifacts capture a base set of metadata, in the form of XML attributes: objectType, guid as well as metadata specific to each artifact class. |
| Requirements | PASS L5.REG.3: The system shall register products of a data delivery into an instance of the registry. |
| Success Criteria | Registry service defines separate policies for each class of artifact. Changes to the policies of a class can reflect in the validation of a registered artifact in that class. |
| Test Steps | In a browser,   1. http://localhost:8080/registry-pds3/extrinsics (REG.1’s step 5 shows here) 2. http://localhost:8080/registry-pds3/associations (REG.2’s step 2 shows here) 3. http://localhost:8080/registry-pds3/services 4. http://localhost:8080/registry-pds3/schemes 5. http://localhost:8080/registry-pds3/events 6. http://localhost:8080/registry-pds3/packages 7. http://localhost:8080/registry-pds3/docs   From a command line (to show the registry version, [PDS-44](https://oodt.jpl.nasa.gov/jira/browse/PDS-44)),   1. curl -X GET -H "Accept:application/xml" -v http://localhost:8080/registry-pds3/report |
| Test Results | Specific results will differ, but every item in every class has XML attributes objectType, guid. Each class may have others attributes such as lid, name, home.  Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-16 at 1.25.23 AM.png  Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-16 at 1.27.51 AM.png  Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-16 at 1.26.11 AM.png  Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-16 at 1.27.06 AM.png  Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-16 at 1.29.20 AM.png  Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-16 at 1.29.55 AM.png  Step 7 clears [PDS-382](https://oodt.jpl.nasa.gov/jira/browse/PDS-382), no output formattingMacintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-21 at 11.43.34 PM.png  Step 8:  \* About to connect() to localhost port 8080 (#0)  \* Trying 127.0.0.1...  \* connected  \* Connected to localhost (127.0.0.1) port 8080 (#0)  > GET /registry-pds3/report HTTP/1.1  > User-Agent: curl/7.24.0 (x86\_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8} zlib/1.2.5  > Host: localhost:8080  > Accept:application/xml  >  < HTTP/1.1 200 OK  < Server: Apache-Coyote/1.1  < Content-Type: application/xml  < Content-Length: 319  < Date: Tue, 20 Oct 2015 08:10:53 GMT  <  \* Connection #0 to host localhost left intact  <?xml version="1.0" encoding="UTF-8" standalone="yes"?><ns2:report xmlns:ns2="http://registry.pds.nasa.gov" status="OK" serverStarted="2015-10-19T23:42:58.025-07:00" associations="71" extrinsics="0" services="0" classificationSchemes="2" classificationNodes="69" packages="4" events="10000097" registryVersion="1.9.0"/>\* Closing connection #0 |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.16 |
| Test Personnel | Richard Chen |

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| Test Case ID | REG.4 |
| Description | Assign a global unique identifier to a registered artifact with no global unique identifier, query for the registered artifact, delete the registered artifact. |
| Requirements | PASS L5.REG.6: The service shall assign a global unique identifier to a registered artifact.  PASS L5.REG.13: The service shall allow deletion of registered artifacts.  PASS L5.REG.14: The service shall allow queries for registered artifacts. |
| Success Criteria | Registry service assigns each registered artifact, including multiple versions of an artifact, a global unique identifier. |
| Test Steps | 1. curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.4.xml http://localhost:8080/registry-pds3/extrinsics   From the output, copy the GUID (assigned by the registry) from the last line   1. http://localhost:8080/registry-pds3/extrinsics/*guid* 2. To be nice, delete via http://localhost:8080/registry-ui |
| Test Results | Step 1: Note the value (an assigned LID) of “Location:” in the positive message:  \* About to connect() to localhost port 8080 (#0)  \* Trying 127.0.0.1...  \* connected  \* Connected to localhost (127.0.0.1) port 8080 (#0)  > POST /registry-pds3/extrinsics HTTP/1.1  > User-Agent: curl/7.24.0 (x86\_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8} zlib/1.2.5  > Host: localhost:8080  > Accept: \*/\*  > Content-type:application/xml  > Content-Length: 668  \* upload completely sent off: 668 out of 668 bytes  < HTTP/1.1 201 Created  < Server: Apache-Coyote/1.1  < Location: http://localhost:8080/registry-pds3/extrinsics/urn:uuid:9d1c6a3b-d47a-48fd-9c6f-9ca0897e0803  < Content-Type: application/xml  < Transfer-Encoding: chunked  < Date: Fri, 16 Oct 2015 08:33:38 GMT  \* Connection #0 to host localhost left intact  urn:uuid:9d1c6a3b-d47a-48fd-9c6f-9ca0897e0803\* Closing connection #0  Step 2:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-16 at 1.35.18 AM.png |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.16 |
| Test Personnel | Richard Chen |

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| Test Case ID | REG.5 |
| Description | Assign a version to a registered artifact based on its unique identifier |
| Requirements | PASS L5.REG.7: The service shall assign a version to a registered artifact based on its logical identifier. |
| Success Criteria | Registry service assigns each registered artifact, especially multiple versions of an artifact, a version identifier, derivable from its logical identifier. |
| Test Steps | 1. http://localhost:8080/registry-pds3/extrinsics/logicals/testing.REG.2b   shows no current product with lid “testing.REG.2b”   1. Register a product with no versionId attribute curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.5a.xml http://localhost:8080/registry-pds3/extrinsics 2. Repeat step 1. Note that versionName is 1.0   As of build 4b, versionName is independent of extrinsicObject’s attributes versionId, name, and guid. |
| Test Results | Step 1: Macintosh HD:Users:rchen:Desktop:Screen Shot 2014-10-19 at 12.52.53 AM.png  Step 2:  \* About to connect() to localhost port 8080 (#0)  \* Trying 127.0.0.1...  \* connected  \* Connected to localhost (127.0.0.1) port 8080 (#0)  > POST /registry-pds3/extrinsics HTTP/1.1  > User-Agent: curl/7.24.0 (x86\_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8} zlib/1.2.5  > Host: localhost:8080  > Accept: \*/\*  > Content-type:application/xml  > Content-Length: 641  \* upload completely sent off: 641 out of 641 bytes  < HTTP/1.1 201 Created  < Server: Apache-Coyote/1.1  < Location: http://localhost:8080/registry-pds3/extrinsics/urn:uuid:e89d5b13-15eb-4384-bb53-3a3999c3bc1d  < Content-Type: application/xml  < Transfer-Encoding: chunked  < Date: Fri, 16 Oct 2015 08:37:29 GMT  \* Connection #0 to host localhost left intact  urn:uuid:e89d5b13-15eb-4384-bb53-3a3999c3bc1d\* Closing connection #0  Step 3: Note that versionName=1.0 even though input file had no versionId attribute  Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-16 at 1.38.32 AM.png |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.16 |
| Test Personnel | Richard Chen |

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| Test Case ID | REG.6 |
| Description | Allow replacement, approval, deprecation, undeprecation, and verification of registered artifacts. The Tomcat server access log lists the search. |
| Requirements | PASS L5.REG.9: The service shall allow updates to registered artifacts.  PASS L5.REG.10: The service shall allow approval of registered artifacts.  PASS L5.REG.11: The service shall allow deprecation of registered artifacts.  PASS L5.REG.12: The service shall allow undeprecation of registered artifacts.  PASS L5.GEN.6: Applications shall generate metrics in a format suitable for ingestion by the Report Service. |
| Success Criteria | Registry service provides these standard functions with expected results. Initial registration results in an artifact being in an unapproved state. Also, the Tomcat server access log lists the actions. |
| Test Steps | 1. Show that no current product has LID “testing.REG.2a”: http://localhost:8080/registry-pds3/extrinsics/logicals/testing.REG.2a 2. curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.6a.xml http://localhost:8080/registry-pds3/extrinsics 3. Repeat step 1 to see the lid   An alternative to the steps below is to modify via GUID  curl -X POST -H "Content-type:application/xml" -v http://localhost:8080/registry-pds3/extrinsics/testing.REG.2a.v1.0/{approve,deprecate,undeprecate}   1. In a browser,  [http://localhost:8080/registry-ui/](http://pdsops2.jpl.nasa.gov/registry-ui/)   Under “LID”, enter “testing.REG.2a”. Click “Refresh”   1. Select row, set “Status” to “Approved”, hit “Update Status” 2. Select row, set “Status” to “Deprecated”, hit “Update Status” 3. Select row, set “Status” to “Submitted”, hit “Update Status”   The above actions get into the Tomcat server log, which the report service can process.   1. grep testing.REG.2a $CATALINA\_HOME/logs/localhost\_access\_log.*yyyy*-*mm*-*dd*.txt |
| Test Results | Step 1: If browser isn’t as below, delete using http://localhost:8080/registry-ui  Macintosh HD:Users:rchen:Desktop:Screen Shot 2014-10-19 at 12.57.51 AM.png  Step 2: Benign output messages without “ERROR”  \* About to connect() to localhost port 8080 (#0)  \* Trying 127.0.0.1...  \* connected  \* Connected to localhost (127.0.0.1) port 8080 (#0)  > POST /registry-pds3/extrinsics HTTP/1.1  > User-Agent: curl/7.24.0 (x86\_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8} zlib/1.2.5  > Host: localhost:8080  > Accept: \*/\*  > Content-type:application/xml  > Content-Length: 645  \* upload completely sent off: 645 out of 645 bytes  < HTTP/1.1 201 Created  < Server: Apache-Coyote/1.1  < Location: http://localhost:8080/registry-pds3/extrinsics/testing.REG.2a.v1.0  < Content-Type: application/xml  < Transfer-Encoding: chunked  < Date: Fri, 16 Oct 2015 08:50:41 GMT  \* Connection #0 to host localhost left intact  testing.REG.2a.v1.0\* Closing connection #0  Step 3: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-16 at 1.51.47 AM.png  Step 4: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-16 at 1.55.22 AM.png  Step 5: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-16 at 1.55.48 AM.png  Step 6: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-16 at 1.57.56 AM.png  Step 7: same as Step 4  Step 8:  *127.0.0.1 - - [16/Oct/2015:01:50:13 -0700] "GET /registry-pds3/extrinsics/logicals/testing.REG.2a HTTP/1.1" 404 68*  *127.0.0.1 - - [16/Oct/2015:01:51:12 -0700] "GET /registry-pds3/extrinsics/logicals/testing.REG.2a HTTP/1.1" 200 776*  *127.0.0.1 - - [16/Oct/2015:01:55:43 -0700] "GET /registry-pds3/extrinsics/testing.REG.2a.v1.0 HTTP/1.1" 200 720*  *127.0.0.1 - - [16/Oct/2015:01:55:43 -0700] "POST /registry-pds3/extrinsics/testing.REG.2a.v1.0 HTTP/1.1" 200 -*  *127.0.0.1 - - [16/Oct/2015:01:56:08 -0700] "GET /registry-pds3/extrinsics/testing.REG.2a.v1.0 HTTP/1.1" 200 719*  *127.0.0.1 - - [16/Oct/2015:01:56:08 -0700] "POST /registry-pds3/extrinsics/testing.REG.2a.v1.0 HTTP/1.1" 200 -*  *127.0.0.1 - - [16/Oct/2015:01:56:43 -0700] "GET /registry-pds3/extrinsics/testing.REG.2a.v1.0 HTTP/1.1" 200 721*  *127.0.0.1 - - [16/Oct/2015:01:56:43 -0700] "POST /registry-pds3/extrinsics/testing.REG.2a.v1.0 HTTP/1.1" 200 -*  *127.0.0.1 - - [16/Oct/2015:01:57:52 -0700] "GET /registry-pds3/extrinsics/testing.REG.2a.v1.0 HTTP/1.1" 200 720*  *127.0.0.1 - - [16/Oct/2015:01:57:52 -0700] "POST /registry-pds3/extrinsics/testing.REG.2a.v1.0 HTTP/1.1" 200 -*  *127.0.0.1 - - [16/Oct/2015:01:58:57 -0700] "GET /registry-pds3/extrinsics/testing.REG.2a.v1.0 HTTP/1.1" 200 721*  *127.0.0.1 - - [16/Oct/2015:01:58:57 -0700] "POST /registry-pds3/extrinsics/testing.REG.2a.v1.0 HTTP/1.1" 200 -*  *127.0.0.1 - - [16/Oct/2015:01:59:09 -0700] "GET /registry-pds3/extrinsics/testing.REG.2a.v1.0 HTTP/1.1" 200 719*  *127.0.0.1 - - [16/Oct/2015:01:59:09 -0700] "POST /registry-pds3/extrinsics/testing.REG.2a.v1.0 HTTP/1.1" 200 -* |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.16 |
| Test Personnel | Richard Chen |

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| Test Case ID | REG.7 \*not ready for build 5a. This is reserved for future testing |
| Description | Enable replication of registry contents. |
| Requirements | SKIP L5.REG.15: The service shall enable replication of registry contents with another instance of the service. |
| Success Criteria | Contents of the registry are duplicated on a separate machine. |
| Test Steps |  |
| Test Results |  |
| Comments |  |
| Date of Testing |  |
| Test Personnel |  |

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| Test Case ID | REG.8 \*not ready for build 5a. This is reserved for future testing |
| Description | Verify registry contents. |
| Requirements | SKIP L5.REG.16: The service shall enable verification of registry contents. |
| Success Criteria | Contents and checksums of the registry artifacts match what have been ingested. |
| Test Steps |  |
| Test Results |  |
| Comments |  |
| Date of Testing |  |
| Test Personnel |  |

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| Test Case ID | REG.9 |
| Description | Test scalability of registry. |
| Requirements | PASS No specific functional requirement. This is a performance test case. |
| Success Criteria | Performance of registry in ingesting and viewing artifacts remains acceptable under logarithmic increases in volume. |
| Test Steps | This requires python to be installed on the local machine and possible editing of stressTest.py to change the location of the python executable.  Step 3 is configurable. 5M registrations for build 6a took 16 hours.   1. cd *testDir*/bin 2. ./stressTest.py 3. ./stressTest.py -v -n500000 > ../out.txt 4. grep Time ../out.txt |
| Test Results | Step 2:  stressTesting.T000000.v1.0  stressTesting.T000001.v1.0  stressTesting.T000002.v1.0  REGSTR 3 good. Time(sec): avg=0.015 median=0.017 stdDev=0.00431 sum=0.0  <?xml version="1.0" encoding="UTF-8" standalone="yes"?><ns2:extrinsicObject xmlns:ns2="http://registry.pds.nasa.gov" lid="stressTesting.T000000" name="Stress The Registry " objectType="Product" status="Submitted" description="Stolen from http://pdscm/2010/registry/registry-service/operate/index.html with attribute lid above changed for uniqueness" versionName="1.0" guid="stressTesting.T000000.v1.0" home="http://localhost:8080/registry"><ns2:slot id="175" name="last-name"><ns2:value>Doe</ns2:value></ns2:slot><ns2:slot id="176" name="cannotPossibleBeAnExistingSlot"><ns2:value>cannot possibly be an existing value</ns2:value></ns2:slot><ns2:slot id="177" name="phone"><ns2:value>(818)777-7777</ns2:value><ns2:value>(818)888-8888</ns2:value></ns2:slot><ns2:slot id="178" name="first-name"><ns2:value>John</ns2:value></ns2:slot></ns2:extrinsicObject>  <?xml version="1.0" encoding="UTF-8" standalone="yes"?><ns2:extrinsicObject xmlns:ns2="http://registry.pds.nasa.gov" lid="stressTesting.T000001" name="Stress The Registry " objectType="Product" status="Submitted" description="Stolen from http://pdscm/2010/registry/registry-service/operate/index.html with attribute lid above changed for uniqueness" versionName="1.0" guid="stressTesting.T000001.v1.0" home="http://localhost:8080/registry"><ns2:slot id="180" name="last-name"><ns2:value>Doe</ns2:value></ns2:slot><ns2:slot id="181" name="cannotPossibleBeAnExistingSlot"><ns2:value>cannot possibly be an existing value</ns2:value></ns2:slot><ns2:slot id="182" name="phone"><ns2:value>(818)777-7777</ns2:value><ns2:value>(818)888-8888</ns2:value></ns2:slot><ns2:slot id="183" name="first-name"><ns2:value>John</ns2:value></ns2:slot></ns2:extrinsicObject>  <?xml version="1.0" encoding="UTF-8" standalone="yes"?><ns2:extrinsicObject xmlns:ns2="http://registry.pds.nasa.gov" lid="stressTesting.T000002" name="Stress The Registry " objectType="Product" status="Submitted" description="Stolen from http://pdscm/2010/registry/registry-service/operate/index.html with attribute lid above changed for uniqueness" versionName="1.0" guid="stressTesting.T000002.v1.0" home="http://localhost:8080/registry"><ns2:slot id="185" name="last-name"><ns2:value>Doe</ns2:value></ns2:slot><ns2:slot id="186" name="cannotPossibleBeAnExistingSlot"><ns2:value>cannot possibly be an existing value</ns2:value></ns2:slot><ns2:slot id="187" name="phone"><ns2:value>(818)777-7777</ns2:value><ns2:value>(818)888-8888</ns2:value></ns2:slot><ns2:slot id="188" name="first-name"><ns2:value>John</ns2:value></ns2:slot></ns2:extrinsicObject>  VIEW 3 good. Time(sec): avg=0.010 median=0.010 stdDev=0.00145 sum=0.0  stressTesting.T000000.v1.0 deleted  stressTesting.T000001.v1.0 deleted  stressTesting.T000002.v1.0 deleted  DELETE 3 good. Time(sec): avg=0.014 median=0.012 stdDev=0.00283 sum=0.0  Step 4: In 5b, the sums for 500,000 were 2348.7, 10706.9, 2476.9, so the average time needed per register/view/deleted for 6a were 89%/12%/86% of 5b. This resovles [PDS-362](https://oodt.jpl.nasa.gov/jira/browse/PDS-362), improved performance for registry.  REGSTR 5000000 good. Time(sec): avg=0.004 median=0.004 stdDev=0.00457 sum=20907.4  VIEW 5000000 good. Time(sec): avg=0.003 median=0.002 stdDev=0.00472 sum=13532.4  DELETE 5000000 good. Time(sec): avg=0.004 median=0.004 stdDev=0.00514 sum=21290.1 |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.16 |
| Test Personnel | Richard Chen |

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| Test Case ID | REG.10 |
| Description | Access registry via the registry client API. |
| Requirements | PASS L5.GEN.3: Services shall have an application programming interface.  PASS L5.REG.14: The service shall allow queries for registered artifacts. |
| Success Criteria | Contents and checksums of the registry artifacts match what have been ingested. |
| Test Steps | To setup the registry client, which only needs to be done once,  cd <wherever the .tar.gz file was expanded>  sudo python setup.py install  Clean the database as described in RESETREGISTRY in Section 3.1. Then harvest two files and see their associations listed via the registry client   1. cd *testDir* 2. harvest *testDir*/bundle\_geo\_ra/data\_test/scraping -c harvest-policy-master.xml -e "\*.xml" –l h.out 3. bin/registry-file-list.py <http://localhost:8080/registry-pds4> 4. grep <GUIDs from previous step> h.out |
| Test Results | Step 3:  Association Type: file\_ref, Target: urn:uuid:ac829f79-5103-4b16-8627-2c5a23dca169  Association Type: file\_ref, Target: urn:uuid:bd9ccf90-e8a2-4218-badb-24c0aec5e724  Step 4:  % grep "ac829f79-5103-4b16-8627-2c5a23dca169\|bd9ccf90-e8a2-4218-badb-24c0aec5e724" h.out  INFO: [*testDir*/bundle\_geo\_ra/data\_test/scraping/pit\_test\_scraping.xml] Product has the following GUID: urn:uuid:ac829f79-5103-4b16-8627-2c5a23dca169  INFO: [*testDir*/bundle\_geo\_ra/data\_test/scraping/pit\_test\_scraping.xml] Product has the following GUID: urn:uuid:bd9ccf90-e8a2-4218-badb-24c0aec5e724  SUCCESS: [*testDir*/bundle\_geo\_ra/data\_test/scraping/pit\_test\_scraping.xml] Successfully registered association to 'urn:uuid:ac829f79-5103-4b16-8627-2c5a23dca169'  SUCCESS: [*testDir*/bundle\_geo\_ra/data\_test/scraping/pit\_test\_scraping.xml] Successfully registered association to 'urn:uuid:bd9ccf90-e8a2-4218-badb-24c0aec5e724' |
| Comments | Results met success criteria |
| Date of Testing | 2015.10.20 |
| Test Personnel | Richard Chen |

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| Test Case ID | RPT.1 |
| Description | Various requirements regarding reporting |
| Requirements | PASS L5.RPT.1: The service shall support periodic submission of metrics.  PASS L5.RPT.2: The service shall allow the submission of metrics in the form of a log file.  PASS L5.RPT.3: The service shall utilize a secure transfer protocol for transferring log files across the Internet.  PASS L5.RPT.4: The service shall support log files from the following sources…  PASS L5.RPT.5: The service shall discover product-related information by querying the Registry service.  PASS L5.RPT.6: The service shall aggregate and store the metrics in a repository.  PASS L5.RPT.7: The service shall control access to the user interface and metrics repository.  PASS L5.RPT.8: The service shall allow users to tailor reports and report templates as follows...  PASS L5.RPT.9: The service shall allow users to save report templates for reuse.  PASS L5.RPT.10: The service shall allow periodic generation of reports from saved templates.  PASS L5.RPT.11: The service shall export reports in the following formats... |
| Success Criteria | Following operator configuration of content, representation, filter, and scope of reports and report templates, Report Service receives metrics periodically in log files generated by web and FTP servers, PDS4 services, and node-specific services. Tools can view the repository to compare against log. Report Service queries Registry Service for metrics regarding products instead of transfers or views. Tools can view the repository to compare against the registry. Report Service authenticates for proper access, and reports unsuccessful attempts. Generated reports, even when generated from saved templates, should match configuration and meet the export format specified. |
| Test Steps | Commercial applications, in particular Sawmill, provide the functionality required. Verification of installation suffices. |
| Test Results | Report Service was installed |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.16 |
| Test Personnel | Richard Chen |

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| Test Case ID | SCMA.1 |
| Description | Verify various change requests made to the Information Model schema and schemarons. |
| Requirements | PASS 1.3.3: PDS will provide criteria for validating archival products |
| Success Criteria | Validate tool accepts (or rejects) constructs deemed as valid (or invalid), primarily through software change requests. |
| Test Steps | Document testScma.docx describes the testing of the PDS4 schema and schematron. |
| Test Results | Document testScma.docx includes the test results of testing the PDS4 schema and schematron. |
| Comments | Results met success criteria. |
| Date of Testing | 2015.09.22 |
| Test Personnel | Richard Chen |

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| Test Case ID | SEC.1 |
| Description | Various requirements regarding security |
| Requirements | PASS L5.SEC.1: The service shall authenticate a user given identifying credentials for that user.  PASS L5.SEC.2: The service shall encrypt the transmission of identifying credentials across the network.  PASS L5.SEC.3: The service shall authorize an authenticated user for access to a controlled capability.  PASS L5.SEC.4: The service shall allow an operator of the system to create, update or delete a user identity.  PASS L5.SEC.5: The service shall capture identifying information associated with a user identity.  PASS L5.SEC.6: The service shall allow an operator of the system to create, update or delete a group identity.  PASS L5.SEC.7: The service shall allow an operator of the system to add or remove a user from a group. |
| Success Criteria | Security service provides standard functions. Tools to view identities verify each activity. Security service allows an operator of the system to add or remove a user from a group. The user should subsequently be able or unable to access capabilities specific to the group. Security service captures identifying information. Tools to view identities show the information. Captured network packets show encryption, or trust that security service’s protocol encrypts. Security service authorizes valid users, denies invalid users. |
| Test Steps | (From https://pds-engineering.jpl.nasa.gov/development/pds4/5.0.0/security/)  The Security Service provides the authentication and authorization functions for the PDS4 system. The intent of this service is to control access to interfaces and services that require authentication and authorization (e.g., Monitor, Report, Registry interfaces, etc.). |
| Test Results | The functionality for this service is satisfied by the open source software package OpenDS, which is a directory service supporting the Lightweight Directory Access Protocol (LDAP). |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.16 |
| Test Personnel | Richard Chen |

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| Test Case ID | SRCH.1 \*not ready for build 5a. This is reserved for future testing |
| Description | Degrade gracefully on archaic browsers. |
| Requirements | SKIP L5.SCH.2: The service shall degrade gracefully on browsers that lack modern features and not depend on them for operation. |
| Success Criteria | Using an archaic browser to search does not freeze the browser. |
| Test Steps |  |
| Test Results |  |
| Comments |  |
| Date of Testing |  |
| Test Personnel |  |

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| Test Case ID | SRCH.2 |
| Description | Comply with Section 508 and adhere to WCAG level A |
| Requirements | PASS L5.SCH.3: The service's browser-based user interface shall be Section 508 compliant and adhere to WCAG …  PASS L5.GEN.9: Applications shall meet Section 508 compliance guidelines. |
| Success Criteria | PDS home page successfully passes through JPL website release process. |
| Test Steps | Submit PDS portal to JPL document review office to get approval for release |
| Test Results | JPL approved the release result PDS portal made available to general public |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10 |
| Test Personnel | Paul Zimdars |

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| Test Case ID | SRCH.3 |
| Description | Provide HTTP-based API to enter queries and return results. The browser utilizes the REST-based API. The Tomcat server access log lists the search. |
| Requirements | PASS L5.SCH.4: The service shall provide a programmatic interface for entering of queries and return of search results that communicates over HTTP for use by client applications developed by PDS, PDS nodes, and others.  PASS L5.GEN.3: Services shall have an application programming interface.  PASS L5.GEN.5: Services shall generate metrics in a format suitable for ingestion by the Report Service. |
| Success Criteria | Receives correct search results after using HTTP-based API. |
| Test Steps | This test is best run on an operational machine or after harvesting a large number of files including context products, e.g. after HVT.3 (assume database is registry-pds3):   1. http://localhost:8080/registry-ui/ 2. set Registry Service(s) to registry-pds3 3. Click tab “Packages”. Select one of the “Harvest-Package\_\*”, set Status to “Approved”, click “Update Status”. This took 35 minutes in build 6a. 4. search-core -H *binDir*/search-service/pds -p *binDir*/search-core/conf/defaults/pds/pds3/core.properties   The search-core above may take an hour.   1. http://localhost:8080/search-service/pds/search?q=cassini cda 2. In the center of <http://localhost:8080/search-ui>, type “cassini cda” (without quotes) and hit the “Search” button   The search-ui gets into the Tomcat server log, which the report service can process.   1. grep cassini $CATALINA\_HOME/logs/localhost\_access\_log.*yyyy*-*mm*-*dd*.txt |
| Test Results | Step 3: Note that this actually takes only ~10 minutes, which is not badMacintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-13 at 2.46.13 PM.png  Step 5:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-13 at 4.37.01 PM.png  Step 6: Note that search-ui filters deprecated data sets, in this case all HRD < 14.0  Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-13 at 4.37.53 PM.png  Step 7:  127.0.0.1 - - [13/Oct/2015:11:16:40 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&sort=guid HTTP/1.1" 200 48  127.0.0.1 - - [13/Oct/2015:11:16:40 -0700] "GET /registry-pds3/extrinsics/logicals/urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens/latest HTTP/1.1" 404 117  127.0.0.1 - - [13/Oct/2015:11:16:40 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens:mission\_CASSINI-HUYGENS\_1.0\_xml&sort=guid HTTP/1.1" 200 48  127.0.0.1 - - [13/Oct/2015:11:16:40 -0700] "GET /registry-pds3/extrinsics/logicals/urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens:mission\_CASSINI-HUYGENS\_1.0\_xml/latest HTTP/1.1" 404 149  127.0.0.1 - - [13/Oct/2015:15:48:27 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:48:34 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:48:43 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:49:07 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:49:16 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:49:32 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:49:49 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:50:01 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:50:07 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:50:16 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:51:04 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:51:10 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:51:23 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:53:28 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:53:34 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:53:57 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:54:51 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:56:12 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:56:25 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:57:52 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:58:19 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:58:22 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:58:29 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:58:49 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:59:01 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:59:34 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:15:59:44 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:16:00:26 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:16:01:04 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:16:02:27 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:16:02:34 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:16:02:42 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:16:04:24 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:16:04:34 -0700] "GET /registry-pds3/extrinsics?queryOp=AND&lid=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&start=1&sort=guid&rows=100 HTTP/1.1" 200 128892  127.0.0.1 - - [13/Oct/2015:16:05:40 -0700] "GET /registry-pds3/extrinsics/logicals/urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens/latest HTTP/1.1" 200 128855  0:0:0:0:0:0:0:1 - - [13/Oct/2015:16:21:25 -0700] "GET /search-ui/search.jsp?q=cassini+cda HTTP/1.1" 200 6786  0:0:0:0:0:0:0:1 - - [13/Oct/2015:16:21:26 -0700] "GET /search-service/pds/archive-filter?q=cassini+cda& HTTP/1.1" 200 5362  0:0:0:0:0:0:0:1 - - [13/Oct/2015:16:23:32 -0700] "GET /search-service/pds/search?q=cassini%20cda HTTP/1.1" 200 12269  0:0:0:0:0:0:0:1 - - [13/Oct/2015:16:37:42 -0700] "GET /search-ui/search.jsp?q=cassini+cda HTTP/1.1" 200 6786  0:0:0:0:0:0:0:1 - - [13/Oct/2015:16:37:42 -0700] "GET /search-service/pds/archive-filter?q=cassini+cda& HTTP/1.1" 304 - |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.13 |
| Test Personnel | Richard Chen |

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| Test Case ID | SRCH.5 |
| Description | Search based on a sequence of open text keywords. Do so in a browser. |
| Requirements | PASS L5.SCH.1: The service shall provide a user interface for entering of queries and display of search results  PASS L5.SCH.6: The service shall support searching by accepting criteria as a sequence of open text keywords. |
| Success Criteria | Receives reasonable results based on text such as “Cassini”. Also, the Tomcat server access log lists the searched data. |
| Test Steps | This test is best run on an operational machine or after harvesting a large number of files including context products, e.g. HVT.3. If running after HVT.3, first:  search-core -H *binDir*/search-service/pds -p *binDir*/search-core/conf/pds/pds3/core.properties  The search-core above may take an hour.  In <http://localhost:8080/search-ui>, type   1. mro spice 2. voyager plasma wave 3. (continued) In Refine Your Search, click “Comet SL9/Jupiter Collision (9)” 4. mars digital elevation maps   The “More” and “Hide” link failed for a while on firefox and chrome, so test that on various platforms for Neptune   1. Neptune 2. jupiter images 3. corona 4. NEAR-A-SPICE-6-V1.0 (a specific data set ID) |
| Test Results | Step 1: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-04-17 at 3.56.51 PM.png  Step 2: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-04-17 at 3.57.59 PM.pngStep 3: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-04-17 at 4.00.18 PM.png  Step 4: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-04-17 at 4.01.44 PM.png  Step 5: “More” and “Hide” work from both firefox and Chrome, closing [PDS-374](https://oodt.jpl.nasa.gov/jira/browse/PDS-374).Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-22 at 1.58.52 AM.png  Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-22 at 1.59.22 AM.png  Step 6: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-04-17 at 4.06.08 PM.png  Step 7: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-04-17 at 4.06.42 PM.png    Step 8: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-04-17 at 4.07.52 PM.png |
| Comments | Results met success criteria.  <https://oodt.jpl.nasa.gov/jira/browse/PDS-165>, created during testing of build 3b, requests an improvement: for targets, show the PRIMARY\_BODY\_NAME when it is not N/A.  <https://oodt.jpl.nasa.gov/jira/browse/PDS-258>, created during testing of build 4b, suggests merging 2 related facets into 1 |
| Date of Testing | 2015.10.14 |
| Test Personnel | Richard Chen |

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| Test Case ID | SRCH.6 |
| Description | Search based on constraints on specific indexes, and narrow results based on more constraints. Support ordering of results based on specified criteria. Results returned as clickable URIs with metadata describing each URI. |
| Requirements | PASS L5.SCH.7: The service shall accept criteria as a series of values for constraints on specified indexes.  PASS L5.SCH.8: The service shall support narrowing of additional index results…  PASS L5.SCH.9: The service shall support the ordering of results based on specified criteria...  PASS L5.SCH.10: The service shall provide results to a search as a sequence of matching URIs…  PASS L5.SCH.11: The service shall annotate each URI of a result with metadata describing the URI. |
| Success Criteria | Results match constraint criteria and consist of clickable links with text describing each link. |
| Test Steps | Also best run after HVT.3. In <http://localhost:8080/search-ui>:   1. mission: mars global surveyor 2. target:mercury 3. target: mercury |
| Test Results | Step 1: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-04-17 at 4.11.35 PM.png  Step 2: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-14 at 12.38.41 AM.png  Step 3: inserting a space bfore “mercury” gives significantly different resultsMacintosh HD:Users:rchen:Desktop:Screen Shot 2015-04-17 at 4.13.39 PM.png |
| Comments | Results met success criteria.  <https://oodt.jpl.nasa.gov/jira/browse/PDS-319>, created during build 5a, notes differences in search results between “target:mercury” and “target: mercury” |
| Date of Testing | 2015.10.14 |
| Test Personnel | Richard Chen |

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| Test Case ID | SRCH.7 \*not ready for build 6a. This is reserved for future testing |
| Description | Capture metrics on search index usage and contents |
| Requirements | SKIP L5.SCH .13: The service shall capture metrics pertaining to its search indexes usage and contents. |
| Success Criteria | A log shows metrics pertaining to usage of search indexes. |
| Test Steps |  |
| Test Results |  |
| Comments |  |
| Date of Testing |  |
| Test Personnel |  |

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| Test Case ID | SRCH.8 |
| Description | Query for the data dictionary’s PDS3 elements and objects and PDS4 attributes and classes. |
| Requirements | PASS L5.SCH.1: The service shall provide a user interface for entering of queries and display of search results… |
| Success Criteria | Results match parameters and consist of clickable links with text describing each link. |
| Test Steps | As of 2015.10, the former PDS3 interface to the data dictionary is gone; however, compare [https://pds.nasa.gov/tools/dd-search](https://pds.nasa.gov/tools/dd-search/)‘s PDS3 values with pdsdd.full. After various edits and greps on pdsdd.full, compare   1. dd-search’s Class,PDS3 vs pdsdd.full’s GENERIC\_OBJECT\_DEFINITION 2. dd-search’s Attribute,PDS3 vs pdsdd.full’s ELEMENT\_DEFINITION 3. dd-search’s attribute aperture\_type vs pdsdd.full’s APERTURE\_TYPE element   Compare dd-search’s PDS4 with schema PDS4\_PDS\_1500.xsd. The left part of each step is dd-search with “PDS4” selected; the right is commands in a terminal window.   1. “Class” vs. `grep "simpleType " PDS4\_PDS\_1500.xsd | sort -b` and `grep "complexType " PDS4\_PDS\_1500.xsd | sort -b` 2. “Class”, “Observation\_Area” vs. `grep -A19 Observation\_Area PDS4\_PDS\_1500.xsd | more` 3. “Attribute” vs. `grep 'simpleType \*name="[a-z]' PDS4\_PDS\_1500.xsd | sort -b` and `grep 'complexType \*name="[a-z]' PDS4\_PDS\_1500.xsd | sort -b ` 4. “Attribute”, “abstract\_flag(DD\_Class)” vs. `grep 'simpleType \*name="abstract\_flag' -A11 PDS4\_PDS\_1500.xsd` |
| Test Results | Step 1: dd-search has 81 results. Pdsdd.full has 89 generic objects. The extras are  CATALOG  DATA\_PRODUCER  DATA\_SUPPLIER  DIRECTORY  GAZETTEER\_TABLE  HEADER, PALETTE  VOLUME  Step 2: dd-search has 2154 results. Pdsdd.full has 2163 elements. The extras:  MESS:IMG\_ID\_LSB  MESS:IMG\_ID\_MSB  MESS:PIV\_POS\_MOTOR  NEWHORIZONS:APPROX\_TARGET\_LINE  NEWHORIZONS:APPROX\_TARGET\_NAME  NEWHORIZONS:APPROX\_TARGET\_SAMPLE  NEWHORIZONS:OBSERVATION\_DESC  NEWHORIZONS:SEQUENCE\_ID  PPI:TIME\_FORMAT  Step 3: pdsdd.full:  OBJECT = ELEMENT\_DEFINITION  NAME = APERTURE\_TYPE  STATUS\_TYPE = APPROVED  GENERAL\_DATA\_TYPE = IDENTIFIER  UNIT\_ID = NONE  STANDARD\_VALUE\_TYPE = DYNAMIC  MAXIMUM\_LENGTH = 6  DESCRIPTION = "  The APERTURE\_TYPE element describes a short string of free-format text  which provides a distinguishing name or abbreviation for one (or more)  of a set of apertures used during data collection.  Note: For the International Ultraviolet Explorer (IUE) spacecraft,  the spectrographs have small and large apertures, and can operate with  either or both open."  STANDARD\_VALUE\_SET = {  "BOTH",  "LARGE",  "SMALL"}  END\_OBJECT = ELEMENT\_DEFINITION  END  dd-search covers all those pairsMacintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-19 at 2.17.03 PM.png  Step 4:  Macintosh HD:Users:rchen:Desktop:5.png  Step 5:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-19 at 2.46.32 PM.png  Step 6:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-19 at 2.50.58 PM.png  Step 7:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-19 at 2.52.31 PM.png |
| Comments | Results met success criteria.  <https://oodt.jpl.nasa.gov/jira/browse/PDS-355>, some attributes out of order, was resolved in 6a.  <https://oodt.jpl.nasa.gov/jira/browse/PDS-357>, created during testing of 5b, handles the other questions raised below.  Maybe it would help the user to see what schemas and versions of schemas are used.  Is it ok for ddsearch to lack:  Steps 1 and 2: is it all right for ddsearch not to have the equivalent attributes listed in the output? It may be because EN did not produce the corresponding Product\_Class\_Definition or \_Attribute\_. There are very likely more missing Product\_Class\_Attribute, but full lists (especially for dd-search) are hard to create.  Step 4: Does dd-search’s list correspond to the .xsd’s complexType + simpleType="[A-Z]\*" but not simpleType="[a-z]\*"? Where did dd-search’s Unsigned\* classes come from? There are probably more mismatches, but full lists are hard to create.  Step 6: Do the PDS4 attributes come from all (including node) released schemas? That would explain "along\_track\_timing\_offset". "abstract\_flag" is listed twice because dd search shows one attribute per Class x Attribute? Where do "alias" and "alias\_list" come from? dd-search:"Class" has a capitalized version of each. Where does character\_constraint come from? |
| Date of Testing | 2015.10.19 |
| Test Personnel | Richard Chen |

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| Test Case ID | TPRT.1 |
| Description | Request data from transport-registry by specifying a LID |
| Requirements | PASS L5.TRS.1: The service shall accept requests for download of PDS products.  PASS L5.TRS.2: The service shall accept requests for download of an individual file.  PASS L5.TRS.4: The service shall package the requested product(s) or file into the specified format.  PASS L5.TRS.5: The service shall include a checksum manifest … along with their associated MD5 checksums.  PASS L5.TRS.6: The service shall transfer the result of a request via HTTP to the calling application.  PASS L5.GEN.3: Services shall have an application programming interface.  PASS L5.GEN.5: Services shall generate metrics in a format suitable for ingestion by the Report Service. |
| Success Criteria | The transport service returns the requested data. Also, the Tomcat server access log lists the transport. |
| Test Steps | Harvest must have run (e.g. HVT.3) and gotten absolute paths as inputs. Get some of the harvested LIDs; see <http://localhost:8080/registry-ui> if needed. This test uses   * urn:nasa:pds:context\_pds3:target:satellite.titan * urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens * urn:nasa:pds:context\_pds3:data\_set:data\_set.co-ssa-rss-1-tigr17-v1.0   Ensure CATALINA\_HOME/webapps/transport-registry/WEB-INF/config.xml has transport.RegistryProductHandler.registryUrl = http://8080/registry-pds3 Check transport-registry’s many downloading options by getting the same three files:   1. curl -X GET -o x1.zip -v "http://localhost:8080/transport-registry/prod?q=identifier+EQ+urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens+AND+identifier+EQ+urn:nasa:pds:context\_pds3:target:satellite.titan+AND+identifier+EQ+urn:nasa:pds:context\_pds3:data\_set:data\_set.co-ssa-rss-1-tigr17-v1.0" 2. curl -X GET -o x2.tgz -v "http://localhost:8080/transport-registry/prod?q=identifier+EQ+urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens+AND+identifier+EQ+urn:nasa:pds:context\_pds3:target:satellite.titan+AND+identifier+EQ+urn:nasa:pds:context\_pds3:data\_set:data\_set.co-ssa-rss-1-tigr17-v1.0+AND+package+EQ+TGZ" 3. curl -X GET -o x3.zip "http://localhost:8080/transport-registry/prod?identifier=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&identifier=urn:nasa:pds:context\_pds3:target:satellite.titan&identifier=urn:nasa:pds:context\_pds3:data\_set:data\_set.co-ssa-rss-1-tigr17-v1.0" 4. Same thing but in a browser, http://localhost:8080/transport-registry/prod?identifier=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&identifier=urn:nasa:pds:context\_pds3:target:satellite.titan&identifier=urn:nasa:pds:context\_pds3:data\_set:data\_set.co-ssa-rss-1-tigr17-v1.0&package=TGZ which creates file pds-package-<yyyymmddhhmmss>.tar.gz 5. Extract the four directories. 6. diff -r x1 x2 7. diff -r x1 x3 8. diff -r x1 pds-package-<yyyymmddhhmmss> 9. diff x1/data\_set\_CO-SSA-RSS-1-TIGR17-V1.0\_1.0.xml *testDir/*contextPDS3/context\_dataset/Product/data\_set\_CO-SSA-RSS-1-TIGR17-V1.0\_1.0.xml 10. diff x1/mission\_CASSINI-HUYGENS\_1.0.xml *testDir/*contextPDS3/context\_mission/Product/mission\_CASSINI-HUYGENS\_1.0.xml 11. diff x1/target\_TITAN\_1.0.xml *testDir/*contextPDS3/context\_target/Product/target\_TITAN\_1.0.xml 12. Does x1/md5\_checksum.txt have correct checksums for all 3 files? On a mac: openssl md5 x1/\*.xml   To get size, replace step 4’s package=TGZ with package=TGZ\_SIZE. In a browser:   1. http://localhost:8080/transport-registry/prod?identifier=urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens&identifier=urn:nasa:pds:context\_pds3:target:satellite.titan&identifier=urn:nasa:pds:context\_pds3:data\_set:data\_set.co-ssa-rss-1-tigr17-v1.0&package=TGZ\_SIZE 2. date; ls –l pds-package-20151014074653 |awk '{ total += $5 }; END { print total }' |
| Test Results | Step 1 (Steps 2 and 3 are very similar):  \* About to connect() to localhost port 8080 (#0)  \* Trying ::1...  % Total % Received % Xferd Average Speed Time Time Time Current  Dload Upload Total Spent Left Speed  0 0 0 0 0 0 0 0 --:--:-- --:--:-- --:--:-- 0\* connected  \* Connected to localhost (::1) port 8080 (#0)  > GET /transport-registry/prod?q=identifier+EQ+urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens+AND+identifier+EQ+urn:nasa:pds:context\_pds3:target:satellite.titan+AND+identifier+EQ+urn:nasa:pds:context\_pds3:data\_set:data\_set.co-ssa-rss-1-tigr17-v1.0 HTTP/1.1  > User-Agent: curl/7.24.0 (x86\_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8} zlib/1.2.5  > Host: localhost:8080  > Accept: \*/\*  >  0 0 0 0 0 0 0 0 --:--:-- 0:00:01 --:--:-- 0< HTTP/1.1 200 OK  < Server: Apache-Coyote/1.1  < Content-disposition: attachment; filename="products\_pds-package-20151014074257.zip.zip"  < Content-Type: application/zip  < Content-Length: 49097  < Date: Wed, 14 Oct 2015 14:42:57 GMT  <  { [data not shown]  100 49097 100 49097 0 0 28055 0 0:00:01 0:00:01 --:--:-- 28071  \* Connection #0 to host localhost left intact  \* Closing connection #0  Step 4:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-04-17 at 5.00.16 PM.png  Steps 6-11 show no differences  Step 12: Compare the values below with those in x1/md5\_checksum.txt  MD5(x1/data\_set\_CO-SSA-RSS-1-TIGR17-V1.0\_1.0.xml)= 7cc6def118d46e8464e0ff044b36baf8  MD5(x1/mission\_CASSINI-HUYGENS\_1.0.xml)= 01ec4ed23856092cc22b07f632cb3eb6  MD5(x1/target\_TITAN\_1.0.xml)= 16e42c4f2d9f85077bd6789b8277c444  Step 13: Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-10-14 at 7.52.25 AM.png  Step 14:  Wed Oct 14 07:58:04 PDT 2015  169941 |
| Comments | Results met success criteria. |
| Date of Testing | 2015.10.14 |
| Test Personnel | Richard Chen |

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| Test Case ID | TPRT.3 |
| Description | Request data from transport-ofsn by specifying a path. Transport-ofsn can also transform the requested product. |
| Requirements | L5.TRS.3: The service shall transform the requested product(s) or file into the specified format. |
| Success Criteria | The original and the transformed products have the same data. |
| Test Steps | Besides $CATALINA\_HOME/webapps/transport-ofsn/WEB-INF/config.xml, modify $CATALINA\_HOME/webapps/transport-ofsn/WEB-INF/ofsn-ps.xml so that  productRoot=*testDir*  To activate that change:  shutdown.sh; startup.sh  Test every Return Type listed in the middle of <https://pds-engineering.jpl.nasa.gov/development/pds4/6.0.0/transport/transport-ofsn/operate/index.html>. First, some ls information:   1. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/&RT=DIRFILELIST" 2. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/&RT=DIRFILELIST1" 3. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/&RT=DIRLIST" 4. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/&RT=DIRLIST1" 5. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/ladee\_ldex.tab&RT=FILELIST" 6. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/ladee\_ldex.tab&RT=FILE\_LIST\_ZIP"   A get, then some ls information about that file   1. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/ladee\_ldex.tab&RT=RAW" > x.xml 2. diff x.xml *testDir*/testTprt/ladee\_ldex.tab 3. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/ladee\_ldex.tab&RT=RAW\_SIZE" 4. ls -ol *testDir*/testTprt/ladee\_ldex.tab 5. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/ladee\_ldex.tab&RT=MD5" 6. openssl md5 test/testTprt/ladee\_ldex.tab   Some image transformations (get and transform)   1. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/tfm\_i943630r.xml&RT=PDS\_TO\_JPG" > x.jpg 2. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/tfm\_i943630r.xml&RT=PDS\_TO\_JP2" 3. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/tfm\_i943630r.xml&RT=PDS\_TO\_BMP" > x.bmp 4. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/tfm\_i943630r.xml&RT=PDS\_TO\_GIF" > x.gif 5. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/tfm\_i943630r.xml&RT=PDS\_TO\_PNG" > x.png 6. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/tfm\_i943630r.xml&RT=PDS\_TO\_RAW" 7. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/tfm\_i943630r.xml&RT=PDS\_TO\_TIFF" 8. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/tfm\_i943630r.xml&RT=PDS\_TO\_TIF" 9. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/tfm\_i943630r.xml&RT=PDS\_TO\_PNM"   Some label transformations   1. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/lld2.xml&RT=PDS4\_TO\_PVL" > x.pvl 2. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/lld2.xml&RT=PDS4\_TO\_HTML" > x.html 3. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/lld2.xml&RT=PDS4\_TO\_HTML\_STRUCTURE\_ONLY" > xSO.html 4. Using editor or browser, visually compare x.\* with *testDir*/testTprt/lld2.xml   Data transformation   1. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/lld2.xml&RT=PDS4\_TO\_CSV" 2. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/msl\_chemcam.lbl&RT=PDS3\_TO\_PDS4\_LABEL" 3. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/msl\_chemcam.lbl&RT=PDS\_LABEL"   More “Return Type”s   1. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/msl\_chemcam.lbl&RT=PDS\_ZIP" > x.zip 2. unzip x.zip 3. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/msl\_chemcam.lbl&RT=PDS\_ZIP\_SIZE" 4. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt&RT=PDS\_ZIPD" > x.zip 5. unzip x.zip 6. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt&RT=PDS\_ZIPD\_SIZE"   Currently unsupported capabilities: ASCII\_Date\_Time, FITS file, CDF file   1. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/ladee\_ldex.xml&RT=PDS4\_TO\_CSV" 2. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/mvn\_iuv.xml&RT=PDS\_TO\_JPG" 3. curl <http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/mvn_lpw.xml&RT=PDS_TO_JPG>   Check proper handling of inaccessible directories   1. chmod 000 testTprt/dirLevel1a/dirLevel2 2. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/dirLevel1a/&RT=DIRFILELIST" 3. cp testTprt/dirLevel1a/fileLevel2b.txt testTprt/dirLevel1a/.ignoreME 4. chmod 777 testTprt/dirLevel1a/dirLevel2 5. repeat step 39 6. rm testTprt/dirLevel1a/.ignoreME |
| Test Results | Step 1:  <?xml version="1.0" encoding="UTF-8"?>  <dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0">  <dirEntry xmlns="">  <OFSN>/testTprt/ladee\_ldex.tab</OFSN>  <fileSize>500</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/ladee\_ldex.xml</OFSN>  <fileSize>6939</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/lld2.xml</OFSN>  <fileSize>7020</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/msl\_chemcam.csv</OFSN>  <fileSize>2241087</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/msl\_chemcam.lbl</OFSN>  <fileSize>28086</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_iuv.fits</OFSN>  <fileSize>449280</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_iuv.xml</OFSN>  <fileSize>75327</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_lpw.cdf</OFSN>  <fileSize>230296</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_lpw.xml</OFSN>  <fileSize>8423</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1b/tcshrc</OFSN>  <fileSize>29</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a/fileLevel2a.txt</OFSN>  <fileSize>72</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a/fileLevel2b.txt</OFSN>  <fileSize>307</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a/dirLevel2/fileLevel3.txt</OFSN>  <fileSize>1550</fileSize>  </dirEntry>  </dirResult>  Step 2:  <?xml version="1.0" encoding="UTF-8"?>  <dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0">  <dirEntry xmlns="">  <OFSN>/testTprt/ladee\_ldex.tab</OFSN>  <fileSize>500</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/ladee\_ldex.xml</OFSN>  <fileSize>6939</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/lld2.xml</OFSN>  <fileSize>7020</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/msl\_chemcam.csv</OFSN>  <fileSize>2241087</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/msl\_chemcam.lbl</OFSN>  <fileSize>28086</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_iuv.fits</OFSN>  <fileSize>449280</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_iuv.xml</OFSN>  <fileSize>75327</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_lpw.cdf</OFSN>  <fileSize>230296</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_lpw.xml</OFSN>  <fileSize>8423</fileSize>  </dirEntry>  </dirResult>  Step 3:  <?xml version="1.0" encoding="UTF-8"?>  <dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0">  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a</OFSN>  <fileSize>8077</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1b</OFSN>  <fileSize>29</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a/dirLevel2</OFSN>  <fileSize>1550</fileSize>  </dirEntry>  </dirResult>  Step 4:  <?xml version="1.0" encoding="UTF-8"?>  <dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0">  <dirEntry>  <OFSN>testTprt/dirLevel1a</OFSN>  <fileSize>379</fileSize>  </dirEntry>  <dirEntry>  <OFSN>testTprt/dirLevel1b</OFSN>  <fileSize>29</fileSize>  </dirEntry>  </dirResult>  Step 5:  <?xml version="1.0" encoding="UTF-8"?>  <dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0">  <dirEntry xmlns="">  <OFSN>/testTprt/ladee\_ldex.tab</OFSN>  <fileSize>500</fileSize>  </dirEntry>  </dirResult>  Step 6:  <?xml version="1.0" encoding="UTF-8"?>  <dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0">  <dirEntry xmlns="">  <OFSN>ladee\_ldex.tab.zip</OFSN>  <fileSize>295</fileSize>  </dirEntry>  </dirResult>  Step 7:  % Total % Received % Xferd Average Speed Time Time Time Current  Dload Upload Total Spent Left Speed  100 500 100 500 0 0 4310 0 --:--:-- --:--:-- --:--:-- 4385  Step 8 shows no difference  Step 9:  <?xml version="1.0" encoding="UTF-8"?>  <dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0">  <dirEntry xmlns="">  <fileSize>500</fileSize>  </dirEntry>  Step 10: Result from this step matches previous step  -rw-r--r-- 1 rchen 500 Oct 25 13:41 *testDir*/testTprt/ladee\_ldex.tab  Step 11:  1c95600a27bf27ddaddaa9bdedaff44d  Step 12: Result from this step matches previous step  MD5(testTprt/ladee\_ldex.tab)= 1c95600a27bf27ddaddaa9bdedaff44d  Steps 13-21: for build 6a, these fail for the same reason as PRT.1. See <https://oodt.jpl.nasa.gov/jira/browse/PDS-399>.  Steps 13, 15, 16, 17: the file sizes differ, but the images are always:  Macintosh HD:Users:rchen:Desktop:x.jpg  Step 14: April 29, 2015, generic error message. Build 5a’s error message included:  The export image type jpeg2000 is not currently supported  Steps 18, 19, 20, 21: Output is an error message that includes (xxx=raw, tiff, tif, pnm):  Format value ‘xxx’ is not one of the valid formats for a PDS4 transformation: [bmp, jpg, jpeg, wbmp, png, gif, jp2, pvl, html, html-structure-only, csv]  Step 22:  % Total % Received % Xferd Average Speed Time Time Time Current  Dload Upload Total Spent Left Speed  100 6032 100 6032 0 0 23915 0 --:--:-- --:--:-- --:--:-- 23936  Step 23:  % Total % Received % Xferd Average Speed Time Time Time Current  Dload Upload Total Spent Left Speed  100 29185 100 29185 0 0 354k 0 --:--:-- --:--:-- --:--:-- 360k  Step 24:  % Total % Received % Xferd Average Speed Time Time Time Current  Dload Upload Total Spent Left Speed  100 10799 100 10799 0 0 364k 0 --:--:-- --:--:-- --:--:-- 390k  Step 25:Macintosh HD:Users:rchen:Desktop:Screen Shot 2015-04-19 at 1.32.04 AM.png  Step 26: This returned an error on Oct 19, 2015. Wrong. Build 5a returned  PACKET\_TIME,IMPACT\_PEAK\_MCP,IMPACT\_PEAK\_TARGET,HV\_ADJUST  2013-325T00:25:09.284,00.012894,00.000992,846.4  2013-325T00:25:25.864,00.003662,00.000839,846.4  2013-325T00:25:45.887,00.003128,00.000458,846.4  2013-325T00:26:22.988,00.002060,00.000992,846.4  2013-325T00:26:39.828,00.002670,00.000839,846.4  2013-325T00:27:05.899,00.012055,00.000381,846.4  2013-325T00:27:37.388,00.004807,00.000763,846.4  2013-325T00:27:51.048,00.006561,00.000763,846.4  2013-325T00:28:05.312,00.002365,00.000687,846.4  2013-325T00:28:20.467,00.005036,00.000763,846.4  Step 27: This returned an error on Oct 19, 2015. Wrong. Build 5a returned  <Product\_Observational xmlns="http://pds.nasa.gov/pds4/pds/v1"  xmlns:pds="http://pds.nasa.gov/pds4/pds/v1"  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  xsi:schemaLocation="">  <Identification\_Area>  <logical\_identifier>urn:nasa:pds:data:msl-m-chemcam-libs-4-5-rdr-v1.0:cl5\_449257862rdr\_f0300786ccam01583p3</logical\_identifier  [snip..]  Step 28:  PDS\_VERSION\_ID = PDS3  /\* FILE DATA ELEMENTS \*/  RECORD\_TYPE = FIXED\_LENGTH  RECORD\_BYTES = 660  FILE\_RECORDS = 6161  /\* POINTERS TO DATA OBJECTS \*/  ^HEADER = ("MSL\_CHEMCAM.CSV", 1)  ^SPREADSHEET = ("MSL\_CHEMCAM.CSV", 1855)  /\* IDENTIFICATION DATA ELEMENTS \*/  ACTIVE\_FLIGHT\_STRING\_ID = B  DATA\_SET\_ID = "MSL-M-CHEMCAM-LIBS-4/5-RDR-V1.0"  [snip…]  Step 30: After unzipping, the files match *testDir*/testTprt/  Step 31:  <?xml version="1.0"?>  <!DOCTYPE dirresult PUBLIC "-//JPL/DTD OODT dirresult 1.0//EN" "http://starbrite.jpl.nasa.gov:80/dtd/dirresult.dtd">  <dirResult>  <dirEntry>  <fileSize>2269173</fileSize>  </dirEntry>  </dirResult>  Steps 32,33: Unzipped dir matches exactly  Step 34:  <?xml version="1.0"?>  <!DOCTYPE dirresult PUBLIC "-//JPL/DTD OODT dirresult 1.0//EN" "http://starbrite.jpl.nasa.gov:80/dtd/dirresult.dtd">  <dirResult>  <dirEntry>  <fileSize>3061212</fileSize>  </dirEntry>  </dirResult>  Step 39: [PDS-373](https://oodt.jpl.nasa.gov/jira/browse/PDS-373): inaccessible directory ignored  <?xml version="1.0" encoding="UTF-8"?>  <dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0">  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a/fileLevel2a.txt</OFSN>  <fileSize>72</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a/fileLevel2b.txt</OFSN>  <fileSize>307</fileSize>  </dirEntry>  Step 42: [PDS-373](https://oodt.jpl.nasa.gov/jira/browse/PDS-373): file with name .something ignored  <?xml version="1.0" encoding="UTF-8"?>  <dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0">  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a/fileLevel2a.txt</OFSN>  <fileSize>72</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a/fileLevel2b.txt</OFSN>  <fileSize>307</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a/dirLevel2/fileLevel3.txt</OFSN>  <fileSize>1550</fileSize>  </dirEntry>  </dirResult> |
| Comments | Results met test criteria  <https://oodt.jpl.nasa.gov/jira/browse/PDS-322>, created during build 5a, requests:  1) (from Step 27) PDS3\_TO\_PDS4\_LABEL translate PDS3’s SPREADSHEET/FIELD/DESCRIPTION to PDS4’s Field\_Delimited/description  2) (from Step 29) PDS\_LABEL correctly carry over PDS3 constructs GROUP,  namespaces, post-value units, and pointers to documentation  <https://oodt.jpl.nasa.gov/jira/browse/PDS-353>, created during build 5b, notes that RT=DIRFILELIST or DIRFILELIST1 gets the same results as DIRLIST. Resolved in 6a. |
| Date of Testing | 2015.10.19 |
| Test Personnel | Richard Chen |

|  |  |
| --- | --- |
| Test Case ID | TPRT.4 |
| Description | Request data using the Transport Proxy, a proxy layer for PDS3 product servers |
| Requirements | PASS L5.TRS.1: The service shall accept requests for download of PDS products. |
| Success Criteria | The transport service returns the requested data. |
| Test Steps | $CATALINA\_HOME/webapps/prod/WEB-INF/classes/aliases.properties determines where the aliased request, so append (possibly done in installation):  urn\:eda\:rmi\:PDS.testme=http\://localhost\:8080/transport-ofsn/prod  and shutdown.sh and startup.sh. Then   1. curl -X GET -v "http://localhost:8080/prod/?object=PDS.testme&keywordQuery=OFSN+EQ+/testTprt+AND+RT+EQ+DIRFILELIST" |
| Test Results | Step 1: the heart of the output matches step 1 of TRPT.1  \* About to connect() to localhost port 8080 (#0)  \* Trying 127.0.0.1...  \* connected  \* Connected to localhost (127.0.0.1) port 8080 (#0)  > GET /prod/?object=PDS.testme&keywordQuery=OFSN+EQ+/testTprt+AND+RT+EQ+DIRFILELIST HTTP/1.1  > User-Agent: curl/7.24.0 (x86\_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8} zlib/1.2.5  > Host: localhost:8080  > Accept: \*/\*  >  < HTTP/1.1 200 OK  < Server: Apache-Coyote/1.1  < Content-Type: text/xml  < Content-Length: 1641  < Date: Tue, 20 Oct 2015 06:43:14 GMT  <  <?xml version="1.0" encoding="UTF-8"?>  <dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0">  <dirEntry xmlns="">  <OFSN>/testTprt/ladee\_ldex.tab</OFSN>  <fileSize>500</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/ladee\_ldex.xml</OFSN>  <fileSize>6939</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/lld2.xml</OFSN>  <fileSize>7020</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/msl\_chemcam.csv</OFSN>  <fileSize>2241087</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/msl\_chemcam.lbl</OFSN>  <fileSize>28086</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_iuv.fits</OFSN>  <fileSize>449280</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_iuv.xml</OFSN>  <fileSize>75327</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_lpw.cdf</OFSN>  <fileSize>230296</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_lpw.xml</OFSN>  <fileSize>8423</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1b/tcshrc</OFSN>  <fileSize>29</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a/fileLevel2a.txt</OFSN>  <fileSize>72</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a/fileLevel2b.txt</OFSN>  <fileSize>307</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a/dirLevel2/fileLevel3.txt</OFSN>  <fileSize>1550</fileSize>  </dirEntry>  \* Connection #0 to host localhost left intact  </dirResult>\* Closing connection #0 |
| Comments | Results met test criteria |
| Date of Testing | 2015.10.20 |
| Test Personnel | Richard Chen |

## Anomalies

PDS uses the JIRA tracking system (<http://www.atlassian.com/software/jira>) to capture issues such as those found during testing. The full list of issues, including those raised by sources other than testing, is located at:

<http://oodt.jpl.nasa.gov/jira/browse/PDS>

In the tables below:

* Column 1: the issue’s status. Issues below are closed (i.e. resolved) unless marked “open”.
* Column 2: the JIRA issue number. To see the full issue, go to  
  http://oodt.jpl.nasa.gov/jira/browse/PDS-<n>
* Column 3: the issue’s severity: major anomaly, minor anomaly, request for improvement
* Column 4: test case that demonstrates the issue and its resolution, if closed
* Column 5: brief description of the issue

Testing of build 1b found 1 major anomaly, 0 minor, 0 improvements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| closed | [PDS-1](http://oodt.jpl.nasa.gov/jira/browse/PDS-1) | major | REG.1 | Registry: >1 copy of associations if reregistration of a deleted product |

Testing of build 1c found 0 major anomalies, 1 minor, 1 improvement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| closed | [PDS-34](http://oodt.jpl.nasa.gov/jira/browse/PDS-34) | improve | n/a – expected behavior | Registry: association to obsoleted product not automatically updated |
| closed | [PDS-35](http://oodt.jpl.nasa.gov/jira/browse/PDS-35) | minor | n/a – expected behavior | Validate: -x fails unexpectedly |

Testing of build 1d found 1 major anomaly, 2 minor, 2 improvements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| closed | [PDS-45](http://oodt.jpl.nasa.gov/jira/browse/PDS-45) | improve | REG.9 | Registry: curl –X DELETE …/registry/packages/<guid>/members fails |
| closed | [PDS-46](http://oodt.jpl.nasa.gov/jira/browse/PDS-46) | minor | REG.4 | Validate: -x fails unexpectedly |
| closed | [PDS-47](http://oodt.jpl.nasa.gov/jira/browse/PDS-47) | minor | REG.6 | Registry: product’s initial status is “Unknown” |
| closed | [PDS-48](http://oodt.jpl.nasa.gov/jira/browse/PDS-48) | improve | n/a – expected behavior | Validate: files within bundle.xml are not validated |
| closed | [PDS-49](http://oodt.jpl.nasa.gov/jira/browse/PDS-49) | major | HVT.2 | Harvest: HarvestController does not start |

Testing of build 2a found 0 major anomalies, 0 minor, 0 improvements

Testing of build 2b found 3 major anomalies, 2 minor, 3 improvements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| closed | [PDS-52](http://oodt.jpl.nasa.gov/jira/browse/PDS-52) | major | CTLG.3 | Catalog: -m ingest does not handle multiple \*\_CATALOG in voldesc |
| closed | [PDS-53](http://oodt.jpl.nasa.gov/jira/browse/PDS-53) | major | n/a – expected behavior | Catalog: -m ingest quits without voldec.cat |
| closed | [PDS-54](http://oodt.jpl.nasa.gov/jira/browse/PDS-54) | improve | CTLG.3 | Catalog: -m ingest gives uninformative error message for dsmap file |
| closed | [PDS-55](http://oodt.jpl.nasa.gov/jira/browse/PDS-55) | improve | moved to PDS-113 and -114 | Generate: can’t handle some constructs |
| closed | [PDS-56](http://oodt.jpl.nasa.gov/jira/browse/PDS-56) | major | SCH.5 | Search: if >10 results, only the first 10 are accessible |
| closed | [PDS-57](http://oodt.jpl.nasa.gov/jira/browse/PDS-57) | minor | SCH.3 | Search: superseded datasets returned |
| closed | [PDS-58](http://oodt.jpl.nasa.gov/jira/browse/PDS-58) | improve | PRG.1 | Generate: bad error message when neither –d nor –o is given |
| closed | [PDS-63](http://oodt.jpl.nasa.gov/jira/browse/PDS-63) | minor | HVT.6 | Harvest: crashes on one specific file |

Testing of build 2c found 0 major anomalies, 1 minor, 4 improvements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| closed | [PDS-85](http://oodt.jpl.nasa.gov/jira/browse/PDS-85) | improve | PRV.1 | Validate: should use schema and schematron specified in labels |
| closed | [PDS-86](http://oodt.jpl.nasa.gov/jira/browse/PDS-86) | improve | n/a – expected behavior | Search: after searching and refining, new search unintentionally refines |
| closed | [PDS-87](http://oodt.jpl.nasa.gov/jira/browse/PDS-87) | minor | CTLG.1 | Catalog: -cconfig fails |
| closed | [PDS-88](http://oodt.jpl.nasa.gov/jira/browse/PDS-88) | improve | CTLG.3 | Catalog: bad output message when voldesc points to a missing file |
| closed | [PDS-89](http://oodt.jpl.nasa.gov/jira/browse/PDS-89) | improve | CTLG.3 | Catalog: -m ingest gives too long an error message for a bad password |

Testing of build 3a found 0 major anomalies, 2 minor, 3 improvements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| open | [PDS-113](http://oodt.jpl.nasa.gov/jira/browse/PDS-113) | improve | PRG.1 | Generate: handle detached files in labels |
| closed | [PDS-114](http://oodt.jpl.nasa.gov/jira/browse/PDS-114) | improve | PRG.1 | Generate: update tool scenario documentation |
| closed | [PDS-123](http://oodt.jpl.nasa.gov/jira/browse/PDS-123) | improve | CTLG.3 | Catalog: poor error message if no config file or command-line params |
| closed | [PDS-125](http://oodt.jpl.nasa.gov/jira/browse/PDS-125) | minor | SCH.3, SCH.5 | Search: superseded data sets appear, and search tools don’t |
| closed | [PDS-134](http://oodt.jpl.nasa.gov/jira/browse/PDS-134) | minor | SCH.5 | Search: incorrectly handles slashes in dataset ID |

Testing of build 3b found 0 major anomalies, 1 minor, 5 improvements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| closed | [PDS-161](http://oodt.jpl.nasa.gov/jira/browse/PDS-161) | improve | CTLG.1 | Catalog: -m compare should compare token by token, not line by line |
| closed | [PDS-162](http://oodt.jpl.nasa.gov/jira/browse/PDS-162) | improve | n/a – expected behavior | Catalog: -m ingest does nothing with reference.cat |
| closed | [PDS-163](http://oodt.jpl.nasa.gov/jira/browse/PDS-163) | improve | CTLG.3 | Catalog: -m ingest reregisters files if listed in multiple voldescs |
| closed | [PDS-164](http://oodt.jpl.nasa.gov/jira/browse/PDS-164) | minor | n/a – expected behavior | Search: search-ui returns differently than search-service |
| open | [PDS-165](http://oodt.jpl.nasa.gov/jira/browse/PDS-165) | improve | SRCH.5 | Search: for targets, show PRIMARY\_BODY\_NAME when not N/A. |
| open | [PDS-166](http://oodt.jpl.nasa.gov/jira/browse/PDS-166) | improve | HVT.5 | Harvest: check if secondary members match primary members |

Testing of build 4a found 1 major anomaly, 0 minor, 3 improvements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| closed | [PDS-213](http://oodt.jpl.nasa.gov/jira/browse/PDS-213) | major | PRV.2 | Validate: the tool is not finding document files correctly |
| closed | [PDS-220](http://oodt.jpl.nasa.gov/jira/browse/PDS-220) | improve | AAFUNCTION.4 | Search: many resultant resource products clutter output |
| closed | [PDS-225](http://oodt.jpl.nasa.gov/jira/browse/PDS-225) | improve | SCMA.1/SCMA.REL1101N2 | Validate: treat role="warning" differently than default (role="error") |
| closed | [PDS-227](https://oodt.jpl.nasa.gov/jira/browse/PDS-227) | improve | CTLG.3 | Catalog: Re-ingesting a file skipped during ingest (e.g. ref.cat) re-registers it |

Testing of build 4b found 0 major anomalies, 2 minor, 1 improvement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| closed | [PDS-257](https://oodt.jpl.nasa.gov/jira/browse/PDS-257) | minor | PRV.2 | Transform tool does nothing with TABLEs and COLUMNs for PDS3->PDS4 |
| open | [PDS-258](https://oodt.jpl.nasa.gov/jira/browse/PDS-258) | improve | SCH.5 | In search-ui’s results, merge 2 related facets into 1 |
| closed | [PDS-259](https://oodt.jpl.nasa.gov/jira/browse/PDS-259) | minor | SCH.5 | Generate balks at a getRecords() call that previously worked |

Testing of build 5a found 0 major anomalies, 4 minor, 7 improvements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| closed | [PDS-312](https://oodt.jpl.nasa.gov/jira/browse/PDS-312) | improve | AAFUNCTION.3 | http://localhost:8080/registry-ui needs one unexpected click |
| closed | [PDS-313](https://oodt.jpl.nasa.gov/jira/browse/PDS-313) | minor | PRT.1 | transform transforms only the first column of a table |
| closed | [PDS-314](https://oodt.jpl.nasa.gov/jira/browse/PDS-314) | minor | PRV.1 | validate dirX passes, but validate 1fileInDirX fails |
| closed | [PDS-315](https://oodt.jpl.nasa.gov/jira/browse/PDS-315) | minor | PRV.2 | validate misses invalid directory\_path\_name |
| closed | [PDS-316](https://oodt.jpl.nasa.gov/jira/browse/PDS-316) | improve | PRV.3 | clarify and check for proper usage of referential integrity feature |
| closed | [PDS-317](https://oodt.jpl.nasa.gov/jira/browse/PDS-317) | improve | SRCH.3 | registry-ui takes FOREVER to approve a large package |
| open | [PDS-319](https://oodt.jpl.nasa.gov/jira/browse/PDS-319) | improve | SRCH.6 | search-ui returns different results for “target:mercury” and “target: mercury” |
| closed | [PDS-321](https://oodt.jpl.nasa.gov/jira/browse/PDS-321) | minor | TPRT.1 | transport TGZ\_SIZE, ZIPD\_SIZE oddly return the sum of size of raw files |
| open | [PDS-322](https://oodt.jpl.nasa.gov/jira/browse/PDS-322) | improve | TPRT.3 | transport with various RTs could handle some PDS3 features better |
| closed | [PDS-323](https://oodt.jpl.nasa.gov/jira/browse/PDS-323) | improve | TPRT.3 | transport PDS4\_TO\_CSV chokes on data\_type ASCII\_Date\_Time |
| closed | [PDS-324](https://oodt.jpl.nasa.gov/jira/browse/PDS-324) | improve | TPRT.3 | transport doesn’t transform FITS or CDF files |

Testing of build 5b found 0 major anomalies, 5 minor, 3 improvements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| closed | [PDS-348](https://oodt.jpl.nasa.gov/jira/browse/PDS-348) | minor | HVT.5 | Cannot delete two packages at one time. |
| open | [PDS-343](https://oodt.jpl.nasa.gov/jira/browse/PDS-343) | minor | PRT.1 | Was PDS-349. Ugly warning message from transform |
| closed | [PDS-350](https://oodt.jpl.nasa.gov/jira/browse/PDS-350) | improve | DSV.1 | Remove extra carriage-return in long output value |
| closed | [PDS-351](https://oodt.jpl.nasa.gov/jira/browse/PDS-351) | minor | PRV.1 | Validate with multiple schemas fails |
| closed | [PDS-352](https://oodt.jpl.nasa.gov/jira/browse/PDS-352) | improve | PRV.3 | Reduce ugliness of error message |
| closed | [PDS-353](https://oodt.jpl.nasa.gov/jira/browse/PDS-353) | minor | TPRT.3 | Disambiguate transport-ofsn’s output |
| closed | [PDS-355](https://oodt.jpl.nasa.gov/jira/browse/PDS-355) | minor | SRCH.8 | dd-search incorrectly orders PDS3 Attribute |
| open | [PDS-357](https://oodt.jpl.nasa.gov/jira/browse/PDS-357) | improve | SRCH.8 | Questions about why some Attributes and Classes are missing. |

Testing of build 6a found 0 major anomalies, 3 minor, 2 improvements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| closed | [PDS-397](https://oodt.jpl.nasa.gov/jira/browse/PDS-397) | minor | HVT.2 | harvest –P –w finds no files in persistent mode |
| open | [PDS-398](https://oodt.jpl.nasa.gov/jira/browse/PDS-398) | improve | PRG.1 | generate -o behaves unexpectedly |
| open | [PDS-366](https://oodt.jpl.nasa.gov/jira/browse/PDS-366) | improve | PRT.1 | Was PDS-399. works under java 1.6 but not 1.8 |
| closed | [PDS-401](https://oodt.jpl.nasa.gov/jira/browse/PDS-401) | minor | PRV.3 | warn when bundle has LID references not in the bundle |
| open | [PDS-402](https://oodt.jpl.nasa.gov/jira/browse/PDS-402) | minor | HVT.7 | associations persist after package deleted |

## Requirements Traceability

This test traceability matrix lists the requirement ID, the system component of the requirement, the ID of the test case in Section that tests the requirement, and the status of the test.

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirement #** | **System Component** | **Test case ID** | **Test Status** |
| L5.GEN.1 | General System | GEN.1 | pass |
| L5.GEN.2 | General System | GEN.1 | pass |
| L5.GEN.3 | General System | REG.1, REG.10,SRCH.3, TPRT.1 | pass |
| L5.GEN.4 | General System | PRV.1, PRT.1 | pass |
| L5.GEN.5 | General System | SRCH.3, TPRT.1 | pass |
| L5.GEN.6 | General System | SRCH.5, REG.6 | pass |
| L5.GEN.7 | General System | HVT.1, PRV.1 | pass |
| L5.GEN.8 | General System | GEN.4 | skip |
| L5.GEN.9 | General System | SRCH.2 | pass |
| L5.GEN.10 | General System | GEN.2 | skip |
| L5.GEN.11 | General System | GEN.7 | pass |
| L5.HVT.1 | Harvest Tool | AAFUNCTION.3, HVT.1, HVT.2, HVT.5 | pass |
| L5.HVT.2 | Harvest Tool | AAFUNCTION.3, HVT.1 | pass |
| L5.HVT.3 | Harvest Tool | HVT.2 | pass |
| L5.HVT.4 | Harvest Tool | AAFUNCTION.3, HVT.1, HVT.2 | pass |
| L5.HVT.5 | Harvest Tool | AAFUNCTION.3, HVT.1, HVT.2, HVT.5 | pass |
| L5.HVT.6 | Harvest Tool | AAFUNCTION.3, HVT.1, HVT.2 | pass |
| L5.HVT.7 | Harvest Tool | AAFUNCTION.3, HVT.1, HVT.2 | pass |
| L5.HVT.8 | Harvest Tool | AAFUNCTION.3, HVT.1, HVT.2, HVT.5 | pass |
| L5.PRP.DE.1 | Prep: Design Tool | AAFUNCTION.1 | pass |
| L5.PRP.DE.2 | Prep: Design Tool | AAFUNCTION.1 | pass |
| L5.PRP.DE.3 | Prep: Design Tool | AAFUNCTION.1 | pass |
| L5.PRP.DE.4 | Prep: Design Tool | AAFUNCTION.1 | pass |
| L5.PRP.DE.5 | Prep: Design Tool | AAFUNCTION.1 | pass |
| L5.PRP.DE.6 | Prep: Design Tool | AAFUNCTION.1 | pass |
| L5.PRP.DE.7 | Prep: Design Tool | AAFUNCTION.1 | pass |
| L5.PRP.VA.1 | Prep: Validation Tool | AAFUNCTION.2, PRV.1 | pass |
| L5.PRP.VA.2 | Prep: Validation Tool | AAFUNCTION.2, PRV.1 | pass |
| L5.PRP.VA.3 | Prep: Validation Tool | AAFUNCTION.2, PRV.3 | pass |
| L5.PRP.VA.4 | Prep: Validation Tool | PRV.4 | pass |
| L5.PRP.VA.5 | Prep: Validation Tool | AAFUNCTION.2, PRV.1 | pass |
| L5.PRP.VA.6 | Prep: Validation Tool | AAFUNCTION.2, PRV.1 | pass |
| L5.PRP.VA.7 | Prep: Validation Tool | AAFUNCTION.2, PRV.6 | pass |
| L5.PRP.VA.8 | Prep: Validation Tool | PRV.5 | pass |
| L5.PRP.VA.9 | Prep: Validation Tool | AAFUNCTION.2, PRV.1 | pass |
| L5.PRP.VA.10 | Prep: Validation Tool | PRV.2 | pass |
| L5.REG.1 | Registry Service | AAFUNCTION.3, REG.1 | pass |
| L5.REG.2 | Registry Service | AAFUNCTION.3, REG.2 | pass |
| L5.REG.3 | Registry Service | REG.3 | pass |
| L5.REG.4 | Registry Service | AAFUNCTION.3, REG.1 | pass |
| L5.REG.5 | Registry Service | REG.1 | pass |
| L5.REG.6 | Registry Service | AAFUNCTION.3, REG.4 | pass |
| L5.REG.7 | Registry Service | REG.5 | pass |
| L5.REG.8 | Registry Service | AAFUNCTION.3 | pass |
| L5.REG.9 | Registry Service | REG.6 | pass |
| L5.REG.10 | Registry Service | REG.6 | pass |
| L5.REG.11 | Registry Service | REG.6 | pass |
| L5.REG.12 | Registry Service | REG.6 | pass |
| L5.REG.13 | Registry Service | REG.1, REG.2, REG.4 | pass |
| L5.REG.14 | Registry Service | REG.1, REG.2, REG.4, REG.10 | pass |
| L5.REG.15 | Report Service | REG.7 | skip |
| L5.REG.16 | Report Service | REG.8 | skip |
| L5.RPT.1 | Report Service | RPT.1 | pass |
| L5.RPT.2 | Report Service | RPT.1 | pass |
| L5.RPT.3 | Report Service | RPT.1 | pass |
| L5.RPT.4 | Report Service | RPT.1 | pass |
| L5.RPT.5 | Report Service | RPT.1 | pass |
| L5.RPT.6 | Report Service | RPT.1 | pass |
| L5.RPT.7 | Report Service | RPT.1 | pass |
| L5.RPT.8 | Report Service | RPT.1 | pass |
| L5.RPT.9 | Report Service | RPT.1 | pass |
| L5.RPT.10 | Report Service | RPT.1 | pass |
| L5.RPT.11 | Report Service | RPT.1 | pass |
| L5.SCH.1 | Search Service | AAFUNCTION.4, DSV.1, SRCH.5,SRCH.8 | pass |
| L5.SCH.2 | Search Service | SRCH.1 | skip |
| L5.SCH.3 | Search Service | SRCH.2 | pass |
| L5.SCH.4 | Search Service | SRCH.3 | pass |
| L5.SCH.5 | Search Service | AAFUNCTION.4, SRCH.4 | pass |
| L5.SCH.6 | Search Service | AAFUNCTION.4, SRCH.5 | pass |
| L5.SCH.7 | Search Service | SRCH.6 | pass |
| L5.SCH.8 | Search Service | AAFUNCTION.4, SRCH.6 | pass |
| L5.SCH.9 | Search Service | AAFUNCTION.4, SRCH.6 | pass |
| L5.SCH.10 | Search Service | AAFUNCTION.4, SRCH.6 | pass |
| L5.SCH.11 | Search Service | AAFUNCTION.4, SRCH.6 | pass |
| L5.SCH.12 | Search Service | AAFUNCTION.4 | pass |
| L5.SCH.13 | Search Service | SRCH.7 | skip |
| L5.SEC.1 | Security Service | GEN.2, SEC.1 | pass |
| L5.SEC.2 | Security Service | AAFUNCTION.3, SEC.1 | pass |
| L5.SEC.3 | Security Service | GEN.2, SEC.1 | pass |
| L5.SEC.4 | Security Service | SEC.1 | pass |
| L5.SEC.5 | Security Service | SEC.1 | pass |
| L5.SEC.6 | Security Service | SEC.1 | pass |
| L5.SEC.7 | Security Service | SEC.1 | pass |
| L5.TRS.1 | Transport Service | TPRT.1, TPRT.3, TPRT.4 | pass |
| L5.TRS.2 | Transport Service | TPRT.1 | pass |
| L5.TRS.3 | Transport Service | TPRT.3 | pass |
| L5.TRS.4 | Transport Service | TPRT.1 | pass |
| L5.TRS.5 | Transport Service | TPRT.1 | pass |
| L5.TRS.6 | Transport Service | TPRT.1 | pass |
| 4.2.4 | Catalog Tool | CTLG.1 | pass |
| 4.2.4 | Catalog Tool | CTLG.2 | pass |
| 4.2.4 | Catalog Tool | CTLG.3 | pass |
| 4.2.4 | Harvest Tool | HVT.6 | pass |
| L4.PRP.2 | Prep: Generate Tool | PRG.1 | pass |
| L4.PRP.4 | Prep: Transform Tool | PRT.1 | pass |
| 1.3.3 | PDS Requirements | SCMA.1 | pass |

Test Status: “skip” signifies requirements not implemented nor tested in build 6a. Those test cases are included for future builds only.

Of the 96 requirements listed above, 90 were tested during Build 6a integration and test.

## Miscellaneous

### Test Data

<https://pds-engineering.jpl.nasa.gov/content/build_6a_deliverables> has this document as well as test data PDS4test.build6a.tgz.

### Test Environment

Build 6a integration and test environment encompasses the following:

|  |  |  |  |
| --- | --- | --- | --- |
| **Hostname** | **OS** | **Memory** | **Software** |
| local host (mac) | Mac OS X 10.8.5 | 16GB RAM | Catalog, Design, Generate, Harvest, Product, Registry, Report, Search, Storage, Transform, Transport, Validate |
| pds-gamma | Linux | 24GB | Security |
| pdsops | Linux | 12GB | Report |

### Configuration Management

The PDS Configuration Management (CM) process will uniquely identify the build 6a and other releases. It will be followed and maintained by the Operations Team, which will act as the configuration management process engineer.

### Acronyms

CM – Configuration Management

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

SDD – Software Design Document

SRD – Software Requirements Document

UI – User Interface