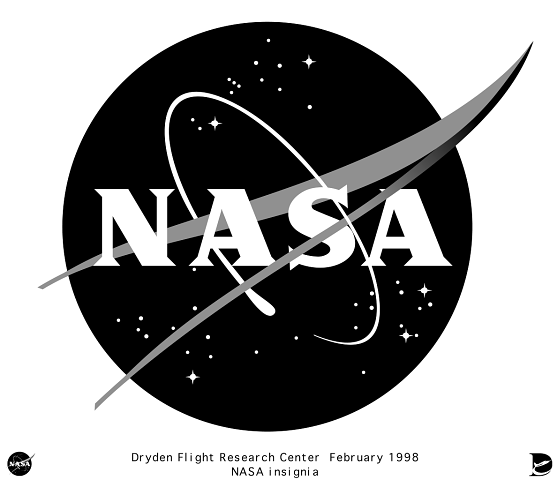
Plan Document

NASA Planetary Data System

PDS4 System

Build 10a 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 |
| 6b | Apr 29, 2016 | Added PRP.1, PRT.2, PRT.3, PRV.7, TPRT.5 | Richard Chen |
| 7a | Oct 24, 2016 | Added MOD.1, Changed DSV.1 to POR.1, added POR.2 | Richard Chen |
| 7b | Apr 17, 2017 | Added HVT.8 | Richard Chen |
| 8a | Oct 23, 2017 | Added harvest-search, search-analytics | Richard Chen |
| 8b | Apr 23, 2018 | Added PRI.1, PRS.1, TPRT.6. Removed obsolete PRV.6 | Richard Chen |
| 9a | Oct 30, 2018 | Removed SRCH.9 and merged it into POR.1 | Richard Chen |
| 9b | Jun 12, 2019 | Removed REG.10 | Richard Chen |
| 10a | Nov 11, 2019 | Removed AAFUNCTION.\*, CTLG.3, POR.\*, PRP.1, PRS.1, REG.\*, SRCH.\* Renamed AAFUNCTION.1 to REQ.4, GEN.\* to REQ.\*, HVT.[5-8] to HVT.[4-7], MOD.1 to LDD.1, PRG.1 to GEN.1, PRI.1 to VIEW.1, PRT.\* to XFRM.\*, PRV.\* to VAL.\*, SCMA.1 to REQ.3, SEC.1 to REQ.3 | Richard Chen |

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## Introduction

For over twenty 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 10a is free of critical defects. This document describes the integration and test activities and contains test cases that demonstrate compliance to requirements. The test scenarios verify and validate the system components and data products in an integrated manner. A test traceability matrix in section 5 below traces these scenarios to the new PDS4 system design requirements, which in turn can be traced to high-level PDS requirements.

### Scope

For PDS4 Build 10a, this document describes EN’s testing of the software modules as guided by <https://pds-engineering.jpl.nasa.gov/development/pds4/10.0.0/release/rdd.html>. The tested modules:

* Catalog (compare, validate) 1.16.0
* Feedback 1.2.0
* Generate 0.18.2
* Harvest 2.5.2
* LDDTool 10.1.1
* PDS-View 0.4.0
* Registry 2.2.1
* Report Manager 1.15.0
* Transport/OFSN 1.9.0, Transport/Proxy 1.8.0, Transport/Upload 0.6.0
* Validate 1.17.5

Module JParser 1.3.2 is a library called (and tested) by Validate.

This module is under evaluation and not tested:  
- Tracking Service 0.4.0

These modules are not available for download:  
- Design  
- Model/Model DM, Model/Model Ontology  
- Security  
- Transform 1.10.0

These modules have not been tested. They either have not been modified for build 10a and/or require older versions of registry and harvest and/or will go away at the completion of the transition to the SOLR-only database. The Engineering Node currently deploys them.  
- Catalog (ingest) 1.16.0  
- Data Set View 1.13.0  
- Filter 0.9.0  
- Harvest 1.15.0  
- Harvest PDAP 2.0.0  
- Portal: Data Dictionary Search, Data Search, Phone Book Search, Tool Registry  
- Product Service 1.2.0  
- Registry/Service 1.15.0, Registry/UI 1.15.0  
- Search User Interface 2.0.0  
- Storage Service 1.2.0  
- Transport/Registry 1.7.0

### 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 10a Integration testing is the execution and management of tests by the Engineering Node to ensure that the release of Build 10a 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 10a requirements as specified in their Software Requirements and Design documents.**

|  |  |  |  |
| --- | --- | --- | --- |
| **# of tests performed** | **# of tests passed** | **# of tests failed** | **# of high priority anomalies** |
| 27 | 25 | 2 | 0 |

Section 3.2 has one sequence of tests per software module. These tests cover level 4 and 5 requirements for completeness. The sequences:

* CTLG.\* tested catalog tool’s non-ingestion functions successfully.
* FEED.1 tested the Feedback Widget successfully
* GEN.1 tested the Generate tool successfully.
* HVT.\* tested the Registry and the majority of Harvest successfully. HVT.2 failed in running harvest-ctrl, and HVT.5 failed to harvest PDS3 files.
* LDD.1 tested LDDTool successfully.
* REQ.\* tested general functionality specified by requirements successfully.
* RPT.1 tested the Report Manager successfully
* SCMA.1 tested Model/Model Ontology successfully (but peripherally) via the PDS4 schema V1.D.0.0. These tests proceeded independently from software build 10a.
* TPRT.\* tested Transport/OFSN, Proxy, and Upload successfully.
* VAL.\* tested Validation tool successfully.
* VIEW.1 tested PDS4 Viewer successfully

Deleted tests (w.r.t. build 9b) mainly reflect the transition to a SOLR-only database: CTLG.3, POR.\*, PRP.1, PRS.1, REG.\*, SRCH.\*

Section 4 lists all issues discovered during this testing and their info: status, tracking number, relevant test case, and description. Testing of build 10a opened issues: harvest 19, 22, 23, validate 137, 139, 146 (all already closed), pds-view 26, 27, 28, 29.

Testing of build 10a also confirmed the closure of issues found in previous versions of this testing: feedback (JIRA) PDS-839; harvest (JIRA) PDS-113, (JIRA) PDS-398, (JIRA) PDS-952, (JIRA) PDS-953; validate 137, 139, 146, (JIRA) PDS-890

Section 5 shows the traceability of the test cases to the level 5 requirements (and level 4 if no level 5 requirement applies).

## Test Procedures

The following section defines the tests and their results. All tests below have been run for build 10a (except those written for future builds) and will be run as necessary to re-test the system after software changes.

Section 3.1 below provides background information needed to run the tests in section 3.2.

### Setup

The root URL for this release is <https://pds-engineering.jpl.nasa.gov/development/pds4/10.0.0/release/rdd.html>

The tests in section 3.2 require the installation of the following PDS4 software:

* **Catalog**, <https://pds-engineering.jpl.nasa.gov/development/pds4/10.0.0/ingest/catalog/index.html>
* **Feedback**, <https://github.com/NASA-PDS-Incubator/feedback-widget#pds-feedback-widget>
* **Generate**, <https://pds-engineering.jpl.nasa.gov/development/pds4/10.0.0/generate/index.html>
* **Harvest**, <https://pds-engineering.jpl.nasa.gov/development/pds4/10.0.0/harvest/index.html>
* **Registry**, <https://nasa-pds-incubator.github.io/registry/>
* **LDDtool**, <https://nasa-pds-incubator.github.io/pds4-information-model/model-lddtool/index.html>
* **Report-mgr**, <https://pds-engineering.jpl.nasa.gov/development/pds4/10.0.0/report/report-manager/index.html>
* **Transport**, <https://pds-engineering.jpl.nasa.gov/development/pds4/10.0.0/transport/>
* **Validate**, <https://nasa-pds-incubator.github.io/validate/>
* **PDS-View**, <https://github.com/NASA-PDS-Incubator/pds-view/#pdsview>
* an **XML editor**, e.g. Oxygen. This can be skipped, though not recommended.
* an XML-friendly web **browser**, e.g. firefox
* **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 |
| http://localhost:8983 | Use the URL of the SOLR server |

Many tests in Section 3.2 first require running 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\_10a\_deliverables, download  PDS4test.build10a.tgz, then   * mkdir *testDir* * cd *testDir* * tar xzf PDS4test.build10a.tgz |

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. |
| Test Steps | Typically the registry is running, and this suffices   1. registry-mgr -delete-all 2. rm -r /PDS4tools/solr-docs\_\*   If this is the first time running the registry, do these before the steps above   1. setenv REGISTRY\_HOME /PDS4tools/registry 2. setenv SOLR\_HOME /opt/solr 3. Install docker 4. Docker -> Preferences -> File Sharing: add /PDS4tools 5. Download solr-8.2.0 6. mv solr-8.2.0 /opt 7. ln -s /opt/solr-8.2.0 /opt/solr # to match what docker expects   If the registry and even docker aren’t running or if uninstall desired:   1. restart docker (through clicking) 2. docker system prune # retry until no message "connection refused" 3. registry\_uninstall.sh 4. registry\_install.sh   Enter an installation mode (docker or standalone): docker # slow   1. http://localhost:8983/solr # to verify it worked |
| Test Results | Step 12: |

### Testing

The following test cases test all Build 10a functions, including those not covered above. These tests ensure complete verification and validation of Build 10a level 5 requirements.

|  |  |
| --- | --- |
| 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 1.16.0  Date Sat, Nov 09 2019 at 10:17:26 AM  Parameters:  Mode compare  Target(s)  Source = file:/Users/rchen/Desktop/test/testCatalog/CORPWS\_0164/  Target = file:/Users/rchen/Desktop/test/testCatalog/CORPWS\_0180/  Directory Recursion true  Severity Level WARNING  Compare Details:  SAME: file:/Users/rchen/Desktop/test/testCatalog/CORPWS\_0180/INSTHOST.CAT  SAME: file:/Users/rchen/Desktop/test/testCatalog/CORPWS\_0180/KEYDS.CAT  SAME: file:/Users/rchen/Desktop/test/testCatalog/CORPWS\_0180/LRFULLDS.CAT  SAME: file:/Users/rchen/Desktop/test/testCatalog/CORPWS\_0180/MISSION.CAT  SAME: file:/Users/rchen/Desktop/test/testCatalog/CORPWS\_0180/PERSON.CAT  SAME: file:/Users/rchen/Desktop/test/testCatalog/CORPWS\_0180/PROJREF.CAT  SAME: file:/Users/rchen/Desktop/test/testCatalog/CORPWS\_0180/RAWDS.CAT  SAME: file:/Users/rchen/Desktop/test/testCatalog/CORPWS\_0180/REF.CAT  SAME: file:/Users/rchen/Desktop/test/testCatalog/CORPWS\_0180/RPWSINST.CAT  DIFFERENT: file:/Users/rchen/Desktop/test/testCatalog/CORPWS\_0180/VOLDESC.CAT  line 9: Element "VOLUME\_NAME" has different value than source.  Source: line 9 of file:/Users/rchen/Desktop/test/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 11: Element "VOLUME\_ID" has different value than source.  Source: line 11 of file:/Users/rchen/Desktop/test/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:/Users/rchen/Desktop/test/testCatalog/CORPWS\_0164/VOLDESC.CAT  15c15  < 2011-12-22  ----  > 2013-03-28  line 16: Element "DESCRIPTION" has different value than source.  Source: line 16 of file:/Users/rchen/Desktop/test/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:/Users/rchen/Desktop/test/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 74: Element "DATA\_SET\_ID" has different value than source.  Source: line 70 of file:/Users/rchen/Desktop/test/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 80: Pointer "DATA\_SET\_CATALOG" has different value than source.  Source: line 71 of file:/Users/rchen/Desktop/test/testCatalog/CORPWS\_0164/VOLDESC.CAT  71c80  < KEYDS.CAT  ----  > {KEYDS.CAT, RAWDS.CAT, LRFULLDS.CAT, WBFULLDS.CAT, WFFULLDS.CAT}  line 86: Pointer "REFERENCE\_CATALOG" has different value than source.  Source: line 72 of file:/Users/rchen/Desktop/test/testCatalog/CORPWS\_0164/VOLDESC.CAT  72c86  < {REF.CAT}  ----  > {REF.CAT, PROJREF.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 1.16.0  Date Sat, Nov 09 2019 at 10:18:18 AM  Parameters:  Mode compare  Target(s)  Source = file:/Users/rchen/Desktop/test/testCatalog/CORPWS\_0164/RAWDS.CAT  Target = file:/Users/rchen/Desktop/test/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 | 2019.11.09 |
| Test Personnel | Richard Chen |

|  |  |
| --- | --- |
| 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 1.16.0  Date Sat, Nov 09 2019 at 10:19:09 AM  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: Data Set  Parent File(s): [gdrds.cat, prpds.cat, rdrds.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: Mission  Parent File(s): [mission.cat]  Begin checking children  End checking children  PASS: Personnel  Parent File(s): [person.cat]  Begin checking children  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 childrenNew 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 | 2019.11.09 |
| Test Personnel | Richard Chen |

|  |  |
| --- | --- |
| Test Case ID | FEED.1 |
| Description | On any web page, add widget that sends help to pds\_operator |
| Requirements | PASS. No specific functional requirement. |
| Success Criteria | Email gets sent |
| Test Steps | 1. cd /*testDir*/testFeed 2. To some modifiable web site, upload \* to the remote root 3. Per <https://github.com/NASA-PDS-Incubator/feedback-widget#pds-feedback-widget>, email pds\_operator@jpl.nasa.gov with web site URL 4. In a browser, view /killme.shtml 5. diff killme.shtml killme0.shtml 6. View /killme0.shtml 7. Click “Need Help”. Send a message. Eventually receive email confirmation. 8. diff killme0.shtml killme7.shtml; echo xxx; diff feedback/js/config.js feedback/js/config7.js #[feed7](https://github.com/NASA-PDS-Incubator/feedback-widget/issues/7) 9. View /killme7.shtml |
| Test Results | Step 4:  Step 5:  9a10,17  > <!-- PDS Feedback Widget -->  > <!-- Only add JQuery if you do not already include a library -->  > <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>  > <script src='https://www.google.com/recaptcha/api.js?onload=onloadCallback&render=explicit' async defer></script>  > <link rel="stylesheet" href="/feedback/css/feedback.css" type="text/css" media="screen" />  > <script src="/feedback/js/modernizr-custom.js"></script>  > <script src="/feedback/js/config.js"></script>  > <script src="/feedback/js/feedback.js"></script>  Step 6:  Step 8:  16c16  < <script src="/feedback/js/config.js"></script>  ---  > <script src="/feedback/js/config7.js"></script>  xxx  33c33  < fontSize: "16", // default: 16  ---  > fontSize: "77", // default: 16  Step 9: Note how large the widget’s font is |
| Comments | Results met success criteria.  Build 10a closes [PDS-839](https://osr.jpl.nasa.gov/jira/browse/PDS-839). |
| Date of Testing | 2019.11.07 |
| Test Personnel | Richard Chen |

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| Test Case ID | GEN.1 |
| Description | Generate a PDS4 label from a PDS3 label. |
| 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 | 1. cd *testDir*/testPrep 2. generate -p genImgJNC.LBL -t genImgJNC.vm 3. diff -w genImgJNC.xml genImgJNC.baseline.xml 4. rm velocity.log genImgJNC.xml   Create *binDir*/generateFMT – same as generate except it allows PDS3’s ^STRUCTURE   1. diff *binDir*/generate *binDir*/generateFMT 2. generateFMT -o .. -p genTabRSS.LBL -t genTabRSS.vm #PDS-113 #PDS-398 3. diff -w genTabRSS.baseline.xml ../genTabRSS.xml 4. rm velocity.log ../genTabRSS.xml |
| Test Results | Step 2:  New PDS4 Label: *testDir*/testPrep/gendoc.xml  Step 3: Differences only in spacing  Step 5:  50c50  < ${JAVA\_CMD} -jar ${GENERATE\_JAR} "$@"  ---  > ${JAVA\_CMD} -jar -Dpds.generate.parser.type=product-tools ${GENERATE\_JAR} "$@"  Step 7 shows no differences |
| Comments | Generate converts most constructs in a PDS3 label into a PDS4 label.  Results met success criteria.  10a verified the closing of [PDS-113](https://oodt.jpl.nasa.gov/jira/browse/PDS-113) (carets for detached labels and format files), and [PDS-398](https://oodt.jpl.nasa.gov/jira/browse/PDS-398) (`generate -o .` write output to a different directory). |
| Date of Testing | 2019.11.02 |
| 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 | This test extends AAFUNCTION.\* to clear some issues   1. Clean database as described in RESETREGISTRY in Section 3.1 2. cd *testDir*; harvest -o /PDS4tools -C /PDS4tools/harvest/conf/search/defaults -c harvest-policy-master.xml *testDir*/contextPDS4onlyPHX -l h.out -e "\*.xml" 3. grep -v "SUCCESS\|INFO" h.out | uniq 4. <http://localhost:8983/solr>, set “Collection Select” = “registry”, hit “Query”, then button “Execute Query” #harv11 5. Available collections are “data”, “registry”, “xPath”, but no “.system” #pds952 6. grep "<policy\|Product\_Observ" harvest-policy-master.xml #harv8 7. registry-mgr /PDS4tools/solr-docs 8. <http://localhost:8983/solr>, “Collection Select” = “data”, “Query”, “q” = ”data\_class:Target”, button “Execute Query” #pds953 |
| Test Results | Step 3: Note the 26 files processed. Each has a unique LID and gets registered  PDS Harvest Tool Log  Version Version 2.5.1  Time Tue, Oct 29 2019 at 12:10:28 AM  Target(s) [/Users/rchen/Desktop/test/contextPDS4onlyPHX]  File Inclusions [\*.xml]  Config directory /PDS4tools/harvest/conf/search/defaults  Output directory /PDS4tools/solr-docs  Transaction ID 2a706a43-ca37-4450-8c5a-ab2a3997653c  Summary:  26 of 26 file(s) processed, 0 other file(s) skipped  0 error(s), 0 warning(s)  Product Labels:  26 Successfully registered  0 Failed to register  Search Service Solr Documents:  26 Successfully created  0 Failed to get created  XPath Solr Documents (Quick Look Only, Ignore Failed Ingestions):  26 Successfully registered  0 Failed to register  Product Types Handled:  5 Product\_Collection  20 Product\_Context  1 Product\_Bundle  Registry Package Id: 2a706a43-ca37-4450-8c5a-ab2a3997653c  End of Log  Step 4: Notice 26 items in registry  Step 7:  /Library/Java/JavaVirtualMachines/jdk-12.0.1.jdk/Contents/Home/bin/java -classpath /PDS4tools/harvest/lib/solr-core-8.2.0.jar -Dauto=yes -Dc=data -Ddata=files -Drecursive=yes org.apache.solr.util.SimplePostTool /PDS4tools/solr-docs  SimplePostTool version 5.0.0  Posting files to [base] url http://localhost:8983/solr/data/update...  Entering auto mode. File endings considered are xml,json,jsonl,csv,pdf,doc,docx,ppt,pptx,xls,xlsx,odt,odp,ods,ott,otp,ots,rtf,htm,html,txt,log  Entering recursive mode, max depth=999, delay=0s  Indexing directory /PDS4tools/solr-docs (1 files, depth=0)  POSTing file solr\_doc\_0.xml (application/xml) to [base]  1 files indexed.  COMMITting Solr index changes to http://localhost:8983/solr/data/update...  Time spent: 0:00:00.156  Step 8: |
| Comments | Results met success criteria. |
| Date of Testing | 2019.10.29 |
| 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. |
| Test Steps | 1. Clean database as described in RESETREGISTRY in Section 3.1 2. cd *testDir/*; mkdir x; mv contextPDS4onlyPHX/\* x 3. harvest -o /PDS4tools -C /PDS4tools/harvest/conf/search/defaults -c harvest-policy-master.xml *testDir*/contextPDS4onlyPHX -l log.txt -e "\*.xml" -P 9001 -w 120 4. <http://localhost:8983/solr>, “Collection Select” = “registry”, “Query”, “Execute Query” shows no data in registry-pds4   In a different terminal window   1. harvest-ctrl --url http://localhost:9001/xmlrpc --operation --isRunning 2. cd *testDir*; mv x/\* contextPDS4onlyPHX; rmdir x 3. After at most 120 seconds, repeat step 4 to see 26 items in registry 4. harvest-ctrl --url http://localhost:9001/xmlrpc --operation --stop 5. tail -27 log.txt |
| Test Results | Step 5: Yes  Step 7: Same Num Records as in HVT.1, assuming both started with 0 records  Step 8:  Crawl Daemon: [http://localhost:9001/xmlrpc]: shutdown successful  Step 9:  Summary:  26 of 26 file(s) processed, 0 other file(s) skipped  0 error(s), 0 warning(s)  Product Labels:  26 Successfully registered  0 Failed to register  Search Service Solr Documents:  26 Successfully created  0 Failed to get created  XPath Solr Documents (Quick Look Only, Ignore Failed Ingestions):  26 Successfully registered  0 Failed to register  Product Types Handled:  5 Product\_Collection  20 Product\_Context  1 Product\_Bundle  Registry Package Id: ed626426-8979-43fb-939b-996abf5466cd  End of Log |
| Comments | Build 10a opened [harv19](https://github.jpl.nasa.gov/PDSEN/harvest/issues/19), harvest-ctrl failure. |
| Date of Testing | 2019.10.29 |
| 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. date; harvest -o /PDS4tools -C /PDS4tools/harvest/conf/search/defaults -c harvest-policy-master.xml *testDir*/contextPDS3 -l log.txt -e "\*.xml"; date 4. Check for harvested files. <http://localhost:8983/solr>, “Collection Select” = “registry”, “Query”, “Execute Query”   Help SRCH.3 show Archive information   1. harvest -o /PDS4tools -C /PDS4tools/harvest/conf/search/defaults -c harvest-policy-master.xml *testDir*/testHarv/archivePDS3 -l h.out; grep -v "SUCCESS\|INFO" h.out |
| Test Results | Step 3: Time to harvest: 214 minutes in build 5b, 25 minutes in 9b  Tue Oct 29 14:12:53 PDT 2019  Tue Oct 29 15:03:36 PDT 2019  The bottom of h.out:  Summary:  27302 of 27302 file(s) processed, 0 other file(s) skipped  10403 error(s), 8 warning(s)  Product Labels:  27294 Successfully registered  8 Failed to register  Search Service Solr Documents:  16891 Successfully created  0 Failed to get created  XPath Solr Documents (Quick Look Only, Ignore Failed Ingestions):  27294 Successfully registered  0 Failed to register  Product Types Handled:  13 Product\_Collection  199 Product\_Instrument\_Host\_PDS3  4254 Product\_Target\_PDS3  2293 Product\_Data\_Set\_PDS3  7161 Product\_Context  2184 Product\_Attribute\_Definition  626 Product\_Instrument\_PDS3  1 Product\_Bundle  71 Product\_Mission\_PDS3  89 Product\_Class\_Definition  Registry Package Id: 8cba93fe-85c6-4b43-8497-3fdb3309effe  End of Log  Step 4:  Step 5:  \*\*\*\*\*\*\* The optimized code generation is disabled \*\*\*\*\*\*\*\*\*\*\*\*  PDS Harvest Tool Log  Version Version 2.5.2  Time Tue, Oct 29 2019 at 03:32:45 PM  Target(s) [/Users/rchen/Desktop/test/testHarv/archivePDS3]  Config directory /PDS4tools/harvest/conf/search/defaults  Output directory /PDS4tools/solr-docs  Transaction ID fa196d47-2f7d-4a5d-a760-f3d904ddb7f9  Summary:  1 of 1 file(s) processed, 0 other file(s) skipped  0 error(s), 0 warning(s)  Product Labels:  1 Successfully registered  0 Failed to register  Search Service Solr Documents:  1 Successfully created  0 Failed to get created  XPath Solr Documents (Quick Look Only, Ignore Failed Ingestions):  1 Successfully registered  0 Failed to register  Product Types Handled:  1 Product\_Context  Registry Package Id: fa196d47-2f7d-4a5d-a760-f3d904ddb7f9  End of Log |
| Comments | Results met success criteria. |
| Date of Testing | 2019.10.29 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.4 |
| 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 -o /PDS4tools -C /PDS4tools/harvest/conf/search/defaults -c harvestPolicyNoDoc.xml *testDir*/bundle\_geo\_ra -l h.out -e "\*.xml" 3. grep -v "SUCCESS\|INFO" h.out | uniq 4. In browser, <http://localhost:8983/solr>, “Collection Select” = “registry”, “Query”, “Execute Query”   Repeat to show nothing more gets registered.   1. Repeat step 2 2. Repeat step 4   Run harvest with config file that accepts Product\_Document   1. harvest -o /PDS4tools -C /PDS4tools/harvest/conf/search/defaults -c harvest-policy-master.xml *testDir*/bundle\_geo\_ra -l h.out -e "\*.xml 2. grep -v "WARNING\|INFO" h.out | uniq 3. <http://localhost:8983/solr>, “Collection Select” = “xpath”, “Query”, “q” =”Product\_Document.xmlns:\*”, “Execute Query” |
| Test Results | Step 3: Note the SKIPs of Product\_Document:  \*\*\*\*\*\*\* The optimized code generation is disabled \*\*\*\*\*\*\*\*\*\*\*\*  PDS Harvest Tool Log  Version Version 2.5.2  Time Wed, Oct 30 2019 at 12:57:29 AM  Target(s) [/Users/rchen/Desktop/test/bundle\_geo\_ra]  File Inclusions [\*.xml]  Config directory /PDS4tools/harvest/conf/search/defaults  Output directory /PDS4tools/solr-docs  Transaction ID 459d736c-c333-448a-b6b9-6be410241af5  SKIP: [/Users/rchen/Desktop/test/bundle\_geo\_ra/document/activity\_table\_desc.xml] 'Product\_Document' is not an object type found in the policy file.  SKIP: [/Users/rchen/Desktop/test/bundle\_geo\_ra/document/readme.xml] 'Product\_Document' is not an object type found in the policy file.  SKIP: [/Users/rchen/Desktop/test/bundle\_geo\_ra/document/ra\_instrument.xml] 'Product\_Document' is not an object type found in the policy file.  SKIP: [/Users/rchen/Desktop/test/bundle\_geo\_ra/document/ra\_dataset.xml] 'Product\_Document' is not an object type found in the policy file.  SKIP: [/Users/rchen/Desktop/test/bundle\_geo\_ra/context/mission.phoenix\_1.1.xml] Not a primary member.  Summary:  168 of 168 file(s) processed, 5 other file(s) skipped  0 error(s), 0 warning(s)  Product Labels:  168 Successfully registered  0 Failed to register  Search Service Solr Documents:  168 Successfully created  0 Failed to get created  XPath Solr Documents (Quick Look Only, Ignore Failed Ingestions):  168 Successfully registered  0 Failed to register  Product Types Handled:  1 Product\_XML\_Schema  5 Product\_Collection  120 Product\_Observational  38 Product\_Browse  3 Product\_Context  1 Product\_Bundle  Registry Package Id: 459d736c-c333-448a-b6b9-6be410241af5  End of Log  Step 4:  Step 6: Note that numFound is the same, i.e. no additional registrations  Step 8: Many WARNINGs had “Product already exists”  \*\*\*\*\*\*\* The optimized code generation is disabled \*\*\*\*\*\*\*\*\*\*\*\*  PDS Harvest Tool Log  Version Version 2.5.2  Time Wed, Oct 30 2019 at 01:43:29 PM  Target(s) [/Users/rchen/Desktop/test/bundle\_geo\_ra]  File Inclusions [\*.xml]  Config directory /PDS4tools/harvest/conf/search/defaults  Output directory /PDS4tools/solr-docs  Transaction ID 8c463338-36b5-49e3-b0cf-d1c9e620b479  SUCCESS: [/Users/rchen/Desktop/test/bundle\_geo\_ra/document/activity\_table\_desc.xml] Successfully registered product: urn:nasa:pds:phx\_ra:document:activity\_table\_desc::1.0  SUCCESS: [/Users/rchen/Desktop/test/bundle\_geo\_ra/document/activity\_table\_desc.xml] Successfully posted document of XPaths of entire label to the xpath Solr collection  SUCCESS: [/Users/rchen/Desktop/test/bundle\_geo\_ra/document/activity\_table\_desc.xml] Successfully generated document file for urn:nasa:pds:phx\_ra:document:activity\_table\_desc::1.0.  SUCCESS: [/Users/rchen/Desktop/test/bundle\_geo\_ra/document/readme.xml] Successfully registered product: urn:nasa:pds:phx\_ra:document:readme::1.0  SUCCESS: [/Users/rchen/Desktop/test/bundle\_geo\_ra/document/readme.xml] Successfully posted document of XPaths of entire label to the xpath Solr collection  SUCCESS: [/Users/rchen/Desktop/test/bundle\_geo\_ra/document/readme.xml] Successfully generated document file for urn:nasa:pds:phx\_ra:document:readme::1.0.  SUCCESS: [/Users/rchen/Desktop/test/bundle\_geo\_ra/document/ra\_instrument.xml] Successfully registered product: urn:nasa:pds:phx\_ra:document:ra\_instrument::1.0  SUCCESS: [/Users/rchen/Desktop/test/bundle\_geo\_ra/document/ra\_instrument.xml] Successfully posted document of XPaths of entire label to the xpath Solr collection  SUCCESS: [/Users/rchen/Desktop/test/bundle\_geo\_ra/document/ra\_instrument.xml] Successfully generated document file for urn:nasa:pds:phx\_ra:document:ra\_instrument::1.0.  SUCCESS: [/Users/rchen/Desktop/test/bundle\_geo\_ra/document/ra\_dataset.xml] Successfully registered product: urn:nasa:pds:phx\_ra:document:ra\_dataset::1.0  SUCCESS: [/Users/rchen/Desktop/test/bundle\_geo\_ra/document/ra\_dataset.xml] Successfully posted document of XPaths of entire label to the xpath Solr collection  SUCCESS: [/Users/rchen/Desktop/test/bundle\_geo\_ra/document/ra\_dataset.xml] Successfully generated document file for urn:nasa:pds:phx\_ra:document:ra\_dataset::1.0.  SKIP: [/Users/rchen/Desktop/test/bundle\_geo\_ra/context/mission.phoenix\_1.1.xml] Not a primary member.  Summary:  172 of 172 file(s) processed, 1 other file(s) skipped  0 error(s), 168 warning(s)  Product Labels:  4 Successfully registered  168 Failed to register  Search Service Solr Documents:  4 Successfully created  0 Failed to get created  XPath Solr Documents (Quick Look Only, Ignore Failed Ingestions):  4 Successfully registered  0 Failed to register  Product Types Handled:  4 Product\_Document  Registry Package Id: 8c463338-36b5-49e3-b0cf-d1c9e620b479  End of Log  Step 9: 4 Product Documents |
| Comments | Results met success criteria.  [PDS-166](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. |
| Date of Testing | 2019.10.30 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.5 |
| 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:8983/solr>, “Collection Select” = “registry”, “Query”, “Execute Query”shows no data 3. cd *testDir* 4. harvest -o /PDS4tools -C /PDS4tools/harvest/conf/search/defaults -c testHarv/harvestDawnNondata.xml #harv22 5. harvest -o /PDS4tools -C /PDS4tools/harvest/conf/search/defaults -c testHarv/harvestDawnNondata.xml testHarv/DAWNGRAND1B/DATA #harv23 6. <http://localhost:8983/solr> shows such files.   Using that version of harvest again, harvest the 4 .LBLs and the files they point to.   1. harvest -c testHarv/harvestDawnData.xml 2. <http://localhost:8983/solr> includes labelled files |
| Test Results | Step 2: “There is no data to display”  Step 4:  java.lang.NullPointerException  at gov.nasa.pds.harvest.search.crawler.metadata.extractor.Pds3MetExtractorConfig.(Pds3MetExtractorConfig.java:44)  at gov.nasa.pds.harvest.search.HarvesterSearch.harvest(HarvesterSearch.java:229)  at gov.nasa.pds.harvest.search.HarvestSearchLauncher.doHarvesting(HarvestSearchLauncher.java:497)  at gov.nasa.pds.harvest.search.HarvestSearchLauncher.processMain(HarvestSearchLauncher.java:601)  at gov.nasa.pds.harvest.search.HarvestSearchLauncher.main(HarvestSearchLauncher.java:620)  null  \*\*\*\*\*\*\* The optimized code generation is disabled \*\*\*\*\*\*\*\*\*\*\*\*  PDS Harvest Tool Log  Version Version 2.5.2  Time Tue, Oct 29 2019 at 04:02:18 PM  Target(s) [/Users/rchen/Desktop/test/testHarv/DAWNGRAND1B/DATA]  Target Type PDS3  File Inclusions [\*.LBL]  Severity Level INFO  Config directory /PDS4tools/harvest/conf/search/defaults  Output directory /PDS4tools/solr-docs  Transaction ID d5bb8905-4cd3-473c-a8ca-a4fcde971495  INFO: XML extractor set to the following default namespace: http://pds.nasa.gov/pds4/pds/v1  Summary:  0 of 0 file(s) processed, 0 other file(s) skipped  0 error(s), 0 warning(s)  Product Labels:  0 Successfully registered  0 Failed to register  Search Service Solr Documents:  0 Successfully created  0 Failed to get created  XPath Solr Documents (Quick Look Only, Ignore Failed Ingestions):  0 Successfully registered  0 Failed to register  Product Types Handled:  Registry Package Id: N/  Step 5:  \*\*\*\*\*\*\* The optimized code generation is disabled \*\*\*\*\*\*\*\*\*\*\*\*  PDS Harvest Tool Log  Version Version 2.5.2  Time Tue, Oct 29 2019 at 05:34:05 PM  Target(s) [testHarv/DAWNGRAND1B/DATA]  Severity Level INFO  Config directory /PDS4tools/harvest/conf/search/defaults  Output directory /PDS4tools/solr-docs  Transaction ID 6177ddb2-46fa-4789-abdb-8eddc46d9b50  INFO: XML extractor set to the following default namespace: http://pds.nasa.gov/pds4/pds/v1  INFO: [testHarv/DAWNGRAND1B/DATA/GRD-L1B-151023-151216\_160816-EPG.LBL] Begin processing.  ERROR: [testHarv/DAWNGRAND1B/DATA/GRD-L1B-151023-151216\_160816-EPG.LBL] line 1: Content is not allowed in prolog.  INFO: [testHarv/DAWNGRAND1B/DATA/GRD-L1B-151023-151216\_160816-EPG.TAB] Begin processing.  ERROR: [testHarv/DAWNGRAND1B/DATA/GRD-L1B-151023-151216\_160816-EPG.TAB] line 1: Content is not allowed in prolog.  INFO: [testHarv/DAWNGRAND1B/DATA/GRD-L1B-151023-151216\_160816-CTL-BGOC.TAB] Begin processing.  ERROR: [testHarv/DAWNGRAND1B/DATA/GRD-L1B-151023-151216\_160816-CTL-BGOC.TAB] line 1: Content is not allowed in prolog.  INFO: [testHarv/DAWNGRAND1B/DATA/GRD-L1B-151023-151216\_160816-CTL-BGOC.LBL] Begin processing.  ERROR: [testHarv/DAWNGRAND1B/DATA/GRD-L1B-151023-151216\_160816-CTL-BGOC.LBL] line 1: Content is not allowed in prolog.  Summary:  0 of 4 file(s) processed, 0 other file(s) skipped  4 error(s), 0 warning(s)  Product Labels:  0 Successfully registered  0 Failed to register  Search Service Solr Documents:  0 Successfully created  0 Failed to get created  XPath Solr Documents (Quick Look Only, Ignore Failed Ingestions):  0 Successfully registered  0 Failed to register  Product Types Handled:  Registry Package Id: N/A  End of Log  Step 6:  Step 7:  PDS Harvest Tool Log  End of Log  Step 8: |
| Comments | Build 10a opened [harv22](https://github.jpl.nasa.gov/PDSEN/harvest/issues/22), failure to harvest PDS3 files.  Build10a opened [harv23](https://github.jpl.nasa.gov/PDSEN/harvest/issues/23), bad error message “Content is not allowed in prolog.” |
| Date of Testing | 2019.10.30 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.6 |
| 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 -o /PDS4tools -C /PDS4tools/harvest/conf/search/defaults -c harvest388.xml *testDir*/bundleLID/data\_test/scraping -e "\*.xml" | grep -v INFO: 5. registry-mgr /PDS4tools/solr-docs #harv13 6. Show 2 product with 1 LID (different VIDs) and URL with ‘?’:   <http://localhost:8983/solr>, “Collection Select” = “data”, “Query”, “Execute Query” |
| Test Results | Step 3:  31c31  < <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>  END\_DIFF\_22222  10,16c10,12  < <logical\_identifier>urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1</logical\_identifier> <!--same as other -->  < <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”.  \*\*\*\*\*\*\* The optimized code generation is disabled \*\*\*\*\*\*\*\*\*\*\*\*  PDS Harvest Tool Log  Version Version 2.5.2  Time Wed, Oct 30 2019 at 04:32:23 PM  Target(s) [/Users/rchen/Desktop/test/bundleLID/data\_test/scraping]  File Inclusions [\*.xml]  Severity Level INFO  Config directory /PDS4tools/harvest/conf/search/defaults  Output directory /PDS4tools/solr-docs  Transaction ID 1949304c-cd7a-4d0d-b121-334e88d94585  ERROR: [/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping.xml] Lid cannot end in '.xml': urn:nasa:pds:phx\_ra:data\_test:pit\_test.xml  SUCCESS: [/Users/rchen/Desktop/test/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: [/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic1.xml] Successfully posted document of XPaths of entire label to the xpath Solr collection  SUCCESS: [/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic1.xml] Successfully generated document file for urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1::1.0.  SUCCESS: [/Users/rchen/Desktop/test/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: [/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic2.xml] Successfully posted document of XPaths of entire label to the xpath Solr collection  SUCCESS: [/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic2.xml] Successfully generated document file for urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1::1.2.  Summary:  3 of 3 file(s) processed, 0 other file(s) skipped  1 error(s), 0 warning(s)  Product Labels:  2 Successfully registered  0 Failed to register  Search Service Solr Documents:  2 Successfully created  0 Failed to get created  XPath Solr Documents (Quick Look Only, Ignore Failed Ingestions):  2 Successfully registered  0 Failed to register  Product Types Handled:  2 Product\_Browse  Registry Package Id: 1949304c-cd7a-4d0d-b121-334e88d94585  End of Log  Step 5:  /Library/Java/JavaVirtualMachines/jdk-12.0.1.jdk/Contents/Home/bin/java -classpath /PDS4tools/harvest/lib/solr-core-8.2.0.jar -Dauto=yes -Dc=data -Ddata=files -Drecursive=yes org.apache.solr.util.SimplePostTool /PDS4tools/solr-docs  SimplePostTool version 5.0.0  Posting files to [base] url http://localhost:8983/solr/data/update...  Entering auto mode. File endings considered are xml,json,jsonl,csv,pdf,doc,docx,ppt,pptx,xls,xlsx,odt,odp,ods,ott,otp,ots,rtf,htm,html,txt,log  Entering recursive mode, max depth=999, delay=0s  Indexing directory /PDS4tools/solr-docs (1 files, depth=0)  POSTing file solr\_doc\_0.xml (application/xml) to [base]  1 files indexed.  COMMITting Solr index changes to http://localhost:8983/solr/data/update...  Time spent: 0:00:00.141  Step 6:  Step 7 shows numFound returns correctly. |
| Comments | Results met success criteria.  In 10a, [PDS-888](https://osr.jpl.nasa.gov/jira/browse/PDS-888) has become obsolete. |
| Date of Testing | 2019.10.30 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.7 |
| Description | Test new capabilities of 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*   harvestAtmV1/ and …V2/ show NAIF’s versioning of a growing ATM dataset.   1. diff harvestAtmV1/checksum.bad harvestAtmV2/checksum.works 2. validate -M harvestAtmV1/checksum.bad -t harvestAtmV1 3. harvest -o /PDS4tools -C /PDS4tools/harvest/conf/search/defaults -c harvestAtmV1/harvestpolicy.xml *testDir*/harvestAtmV1 -e "\*.xml" -l h1.out 4. <http://localhost:8983/solr>, “Collection Select” = “xPath”, “Query”, “q” = ”Product\_Observational.xmlns:\*”, “Execute Query” 5. validate -M harvestAtmV2/checksum.works -t harvestAtmV2 6. harvest -o /PDS4tools -C /PDS4tools/harvest/conf/search/defaults -c harvestAtmV2/harvestpolicy.xml *testDir*/harvestAtmV2 -e "\*.xml" -l h2.out 7. <http://localhost:8983/solr>, “Collection Select” = “xPath”, “Query”, “q” = ”Product\_Observational.xmlns:\*”, “Execute Query” |
| Test Results | Step 3: line 1 has the debateable leading \. One line has an all CAPS checksum  1c1  < a9e18e8e7bc034f69c77e7aeee114fa0 \bundle\_v001.xml  ---  > 3d20c6cecfb18f6f2421d72a031b1e1d bundle\_v002.xml  3a4,5  > 9209d2f4b6b55b9391686c2c9567f04e data\_mer1\collection\_v002.csv  > e8d92e26de80b508be15833a1dc1f25c data\_mer1\collection\_v002.xml  10,13c12,17  < 7b69a8dc6136ddd98b4da378441dbc3c data\_mer2\sol0013\a0013\_p236402\_01\_01v04.qub  < 194601535dca45f7b587b7786790d7eb data\_mer2\sol0013\a0013\_p236402\_01\_01v04.xml  < ed1398a702ae0dae28ed13a98ceb832e data\_mer2\sol1245\a1245\_p276309\_02\_02v01.qub  < 5d013088de380339795b8627b50d97b1 data\_mer2\sol1245\a1245\_p276309\_02\_02v01.xml  ---  > 1c095f0a7cfc33908e29d8860c6cbd7a data\_mer2\collection\_v002.csv  > 5dea8f9e6af0adfc2d3bfcd0bdb351a9 data\_mer2\collection\_v002.xml  > 7b69a8dc6136ddd98b4da378441dbc3c data\_mer2\sol0013/a0013\_p236402\_01\_01v04.qub  > 194601535dca45f7b587b7786790d7eb data\_mer2\sol0013/a0013\_p236402\_01\_01v04.xml  > ed1398a702ae0dae28ed13a98ceb832e data\_mer2\sol1245/a1245\_p276309\_02\_02v01.qub  > 5d013088de380339795b8627b50d97b1 data\_mer2\sol1245/a1245\_p276309\_02\_02v01.xml  Step 4: bad checksum is deliberate. Ignore errors about harvestpolicy.xml  PDS Validate Tool Report  Configuration:  Version 1.17.5  Date 2019-10-31T06:56:05Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/harvestAtmV1/]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Checksum Manifest File file:/Users/rchen/Desktop/test/harvestAtmV1/checksum.bad  Manifest File Base Path file:/Users/rchen/Desktop/test/harvestAtmV1/  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/harvestAtmV1/bundle\_v001.xml  ERROR [error.label.missing\_checksum] No checksum found in the manifest for 'file:/Users/rchen/Desktop/test/harvestAtmV1/bundle\_v001.xml'  PASS: file:/Users/rchen/Desktop/test/harvestAtmV1/harvestpolicy.xml  WARNING [warning.label.missing\_schematron\_spec] No schematrons specified in the label  WARNING [warning.label.missing\_schematron\_spec] No schematrons specified in the label  FAIL: file:/Users/rchen/Desktop/test/harvestAtmV1/data\_mer2/collection\_v001.xml  ERROR [error.label.checksum\_mismatch] Generated checksum '0d0ddeeaa2036ebb69cc4aeb30e11203' does not match supplied checksum '0D0DDEEAA2036EBB69CC4AEB30E11203' in the manifest for 'file:/Users/rchen/Desktop/test/harvestAtmV1/data\_mer2/collection\_v001.xml'  ........................  PASS: file:/Users/rchen/Desktop/test/harvestAtmV1/data\_mer2/sol0013/a0013\_p236402\_01\_01v04.xml  PASS: file:/Users/rchen/Desktop/test/harvestAtmV1/document/pancam\_instrument\_description.xml  PASS: file:/Users/rchen/Desktop/test/harvestAtmV1/document/collection\_document\_inventory.xml  PASS: file:/Users/rchen/Desktop/test/harvestAtmV1/miscellaneous/mer1\_cube\_list.xml  PASS: file:/Users/rchen/Desktop/test/harvestAtmV1/miscellaneous/mer2\_cube\_list.xml  FAIL: file:/Users/rchen/Desktop/test/harvestAtmV1/miscellaneous/collection\_misc\_inventory.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/harvestAtmV1/miscellaneous/collection\_misc\_inventory.csv  ERROR [error.inventory\_table.invalid\_member\_status] table 1, record 1: Invalid member status p. It should begin with 'P' or 'S'.  ERROR [error.inventory\_table.invalid\_member\_status] table 1, record 2: Invalid member status p. It should begin with 'P' or 'S'.  End Content Validation: file:/Users/rchen/Desktop/test/harvestAtmV1/miscellaneous/collection\_misc\_inventory.csv  PASS: file:/Users/rchen/Desktop/test/harvestAtmV1/data\_mer1/collection\_v001.xml  ............  PASS: file:/Users/rchen/Desktop/test/harvestAtmV1/data\_mer1/sol0011/b0011\_p237201\_01\_01v02.xml  Validation complete.  Summary:  4 error(s)  2 warning(s)  Message Types:  2 error.inventory\_table.invalid\_member\_status  1 error.label.missing\_checksum  1 error.label.checksum\_mismatch  2 warning.label.missing\_schematron\_spec  End of Report  Step 5: The interesting parts of h1.out:  PDS Harvest Tool Log  Version Version 1.15.0  Time Tue, Jun 11 2019 at 04:57:14 PM  Target(s) [/Users/rchen/Desktop/test/harvestAtmV1]  File Inclusions [\*.xml]  Severity Level INFO  Registry Location http://localhost:8080/registry-pds4  Registry Package Name Harvest-Package\_20190611165714  Registration Package GUID urn:uuid:be49bac2-463d-488d-9491-57d5aeb7e054  Checksum Manifest File /Users/rchen/Desktop/test/harvestAtmV1/checksum.bad  Manifest File Base Path /Users/rchen/Desktop/test/harvestAtmV1  INFO: XML extractor set to the following default namespace: http://pds.nasa.gov/pds4/pds/v1  INFO: [/Users/rchen/Desktop/test/harvestAtmV1/checksum.bad] Processing checksum manifest.  INFO: [/Users/rchen/Desktop/test/harvestAtmV1/bundle\_v001.xml] Begin processing.  INFO: [/Users/rchen/Desktop/test/harvestAtmV1/bundle\_v001.xml] line 54: Mapping reference type 'bundle\_to\_investigation' to 'investigation\_ref'.  [snip…]  WARNING: [/Users/rchen/Desktop/test/harvestAtmV1/data\_mer2/collection\_v001.xml] Generated checksum '0d0ddeeaa2036ebb69cc4aeb30e11203' does not match supplied checksum '0D0DDEEAA2036EBB69CC4AEB30E11203' in the manifest for file object '/Users/rchen/Desktop/test/harvestAtmV1/data\_mer2/collection\_v001.xml'.  [snip…]  SUCCESS: [/Users/rchen/Desktop/test/harvestAtmV1/data\_mer2/sol0013/a0013\_p236402\_01\_01v04.xml] Successfully registered association to 'urn:uuid:375dce16-faf2-4e99-89df-4165af149f62'  INFO: [/Users/rchen/Desktop/test/harvestAtmV1/data\_mer2/sol0013/a0013\_p236402\_01\_01v04.xml] Association has the following GUID: urn:uuid:cabbe446-aa8d-434d-89b2-cd4b4fc2ff0f  Summary:  10 of 10 file(s) processed, 1 other file(s) skipped  0 error(s), 1 warning(s)  10 of 10 products registered.  19 of 19 ancillary products registered.  Product Types Registered:  4 Product\_Collection  2 Product\_Observational  1 Product\_Document  2 Product\_Ancillary  19 Product\_File\_Repository  1 Product\_Bundle  18 of 19 generated checksums matched their supplied value in the manifest, 0 value(s) not checked.  0 of 0 generated checksums matched the supplied value in their product label, 19 value(s) not checked.  19 of 19 associations registered.  End of Log  Step 6:  Step 8: The interesting parts of h2.out:  PDS Harvest Tool Log  Version Version 1.15.0  Time Thu, Oct 18 2018 at 02:47:58 PM  Target(s) [/Users/rchen/Desktop/test/harvestAtmV2]  File Inclusions [\*.xml]  Severity Level INFO  Registry Location http://localhost:8080/registry-pds4  Registry Package Name Harvest-Package\_20181018144758  Registration Package GUID urn:uuid:a668bbcd-3a4d-48bc-a80e-6628bd3748b6  Checksum Manifest File /Users/rchen/Desktop/test/harvestAtmV2/checksum.works  Manifest File Base Path /Users/rchen/Desktop/test/harvestAtmV2  INFO: XML extractor set to the following default namespace: http://pds.nasa.gov/pds4/pds/v1  INFO: [/Users/rchen/Desktop/test/harvestAtmV2/checksum.works] Processing checksum manifest.  INFO: [/Users/rchen/Desktop/test/harvestAtmV2/bundle\_v001.xml] Begin processing.  [snip…]  WARNING: [/Users/rchen/Desktop/test/harvestAtmV2/bundle\_v001.xml] Product already exists: urn:nasa:pds:mer\_pancam\_photometry::1.0  WARNING: [/Users/rchen/Desktop/test/harvestAtmV2/miscellaneous/collection\_misc\_inventory.xml] Product already exists: urn:nasa:pds:mer\_pancam\_photometry:misc::1.0  WARNING: [/Users/rchen/Desktop/test/harvestAtmV2/miscellaneous/mer1\_cube\_list.xml] Product already exists: urn:nasa:pds:mer\_pancam\_photometry:misc:mer1\_cube\_list::1.0  WARNING: [/Users/rchen/Desktop/test/harvestAtmV2/miscellaneous/mer2\_cube\_list.xml] Product already exists: urn:nasa:pds:mer\_pancam\_photometry:misc:mer2\_cube\_list::1.0  WARNING: [/Users/rchen/Desktop/test/harvestAtmV2/document/collection\_document\_inventory.xml] Product already exists: urn:nasa:pds:mer\_pancam\_photometry:document::1.0  WARNING: [/Users/rchen/Desktop/test/harvestAtmV2/document/pancam\_instrument\_description.xml] Product already exists: urn:nasa:pds:mer\_pancam\_photometry:document:pancam\_inst::1.0  WARNING: [/Users/rchen/Desktop/test/harvestAtmV2/data\_mer2/collection\_v001.xml] Product already exists: urn:nasa:pds:mer\_pancam\_photometry:mer2::1.0  WARNING: [/Users/rchen/Desktop/test/harvestAtmV2/data\_mer2/sol0013/a0013\_p236402\_01\_01v04.xml] Product already exists: urn:nasa:pds:mer\_pancam\_photometry:mer2:a0013\_p236402\_01\_01v04::1.0  WARNING: [/Users/rchen/Desktop/test/harvestAtmV2/data\_mer1/collection\_v001.xml] Product already exists: urn:nasa:pds:mer\_pancam\_photometry:mer1::1.0  WARNING: [/Users/rchen/Desktop/test/harvestAtmV2/data\_mer1/sol0011/b0011\_p237201\_01\_01v02.xml] Product already exists: urn:nasa:pds:mer\_pancam\_photometry:mer1:b0011\_p237201\_01\_01v02::1.0  [snip…]  Summary:  15 of 15 file(s) processed, 0 other file(s) skipped  0 error(s), 10 warning(s)  5 of 15 products registered.  9 of 9 ancillary products registered.  Product Types Registered:  2 Product\_Collection  2 Product\_Observational  9 Product\_File\_Repository  1 Product\_Bundle  9 of 9 generated checksums matched their supplied value in the manifest, 0 value(s) not checked.  0 of 0 generated checksums matched the supplied value in their product label, 9 value(s) not checked.  9 of 9 associations registered.  End of Log  Step 9: |
| Comments | Results met success criteria. |
| Date of Testing | 2019.10.31 |
| Test Personnel | Richard Chen |

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| Test Case ID | LDD.1 |
| Description | Use LDDTool to create local data dictionaries |
| Requirements | PASS. No specific functional requirement. |
| Success Criteria | Validate uses the created local data dictionary to validate a label. |
| Test Steps | 1. cd *testDir*/testLDD 2. validate -x ../PDS4\_PDS\_1D00.xsd -S ../PDS4\_PDS\_1D00.sch -t ccb235a.xml 3. lddtool -plM ccb235lddtoolinput.xml 4. validate -x ../PDS4\_PDS\_1D00.xsd PDS4\_INSIGHT\_1D00\_1D00.xsd -S ../PDS4\_PDS\_1D00.sch PDS4\_INSIGHT\_1D00\_1D00.sch -t ccb235a.xml 5. rm PDS4\_INSIGHT\_1D00\_1D00.\* 6. lddtool –version #ldd74 |
| Test Results | Step 2:  PDS Validate Tool Report  Configuration:  Version 1.17.5  Date 2019-10-26T00:37:35Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testLDD/ccb235a.xml]  User Specified Schemas [file:/Users/rchen/Desktop/test/PDS4\_PDS\_1D00.xsd]  User Specified Schematrons [file:/Users/rchen/Desktop/test/PDS4\_PDS\_1D00.sch]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testLDD/ccb235a.xml  ERROR [error.label.schema] line 60, 46: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'insight:Observation\_Information'.  Validation complete.  Summary:  1 error(s)  0 warning(s)  Message Types:  1 error.label.schema  End of Report  Step 3:  >>info - Found input file: ccb235lddtoolinput.xml  >>info - Configured NameSpaceIds:[alt, atm, cart, darts, disp, geo, geom, img, img\_surface, isda, msn, msn\_surface, naif, particle, pds, ppi, proc, psa, rings, rs, rssa, sbn, sp, speclib, wave]  >>info - LDDTOOL Version: 0.2.2.8  >>info - IM Version Id: 1.13.0.0  >>info - IM Namespace Id: pds  >>info - IM Label Version Id: 1.19  >>info - Date: Fri Oct 25 17:39:19 PDT 2019  >>info - JAVAHOME: /Library/Java/JavaVirtualMachines/jdk-12.0.1.jdk/Contents/Home  >>info - PARENT\_DIR: /PDS4tools/lddtool  >>info - SCRIPT\_DIR: /PDS4tools/lddtool/bin  >>info - LIB\_DIR: /PDS4tools/lddtool/lib  >>info - Disposition File Steward/NameSpaceId:  >>info - cart - pds  >>info - img - disp  >>info - img - pds  >>info - msn - msn  >>info - ops - pds  >>info - pds - pds  >>info - Found required file: /PDS4tools/lddtool/Data/dd11179.pins  >>info - Found required file: /PDS4tools/lddtool/Data/DMDocument.pins  >>info - Found required file: /PDS4tools/lddtool/Data/Glossary.pins  >>info - Found required file: /PDS4tools/lddtool/Data/UpperModel.pont  >>warning - Class omitted from build - Class Identifier:0001\_NASA\_PDS\_1.pds.Schematron\_Rule  >>warning - Class omitted from build - Class Identifier:0001\_NASA\_PDS\_1.pds.Schematron\_Assert  >>info - getMasterObjectDict - Found LDDToolSingletonClass - DMDocument.LDDToolSingletonDOMClass.title:Mission\_Area  >>info - Found required file: /PDS4tools/lddtool/Data/UpperModel.pins  WARNING Init: - Config.Properties Namespace Id Not Found:insight  INFO Init: - Config.Properties Namespace Id Using:pds  WARNING Header: - New steward has been specified:geo  WARNING Header: - New namespace id has been specified:insight  >>info - Active Namespace Ids:  >>info - namespace\_id:insight  >>info - namespace\_id:pds  >>info - Master DOM Structures Initiated  >>info - Master Class Map Sizes - DOMInfoModel.masterDOMClassMap.size():346  >>info - DOMInfoModel.masterDOMClassIdMap.size():346  >>info - DOMInfoModel.masterDOMClassArr.size():346  >>info - Master Property Map Sizes - DOMInfoModel.masterDOMPropMap.size():1326  >>info - DOMInfoModel.masterDOMPropIdMap.size():1326  >>info - DOMInfoModel.masterDOMPropArr.size():1326  >>info - Master Attribute Map Sizes - DOMInfoModel.masterDOMAttrMap.size():956  >>info - DOMInfoModel.masterDOMAttrIdMap.size():956  >>info - DOMInfoModel.masterDOMAttrArr.size():956  >>info - Master Rule Map Sizes - DOMInfoModel.masterDOMRuleMap.size():283  >>info - DOMInfoModel.masterDOMRuleIdMap.size():280  >>info - DOMInfoModel.masterDOMRuleArr.size():283  >>info - Master Data Type Sizes - DOMInfoModel.masterDOMDataTypeMap.size():64  >>info - DOMInfoModel.masterDOMDataTypeTitleMap.size():64  >>info - DOMInfoModel.masterDOMDataTypeArr.size():64  >>info - Master Unit Sizes - DOMInfoModel.masterDOMUnitMap.size():36  >>info - DOMInfoModel.masterDOMUnitTitleMap.size():36  >>info - DOMInfoModel.masterDOMUnitArr.size():36  >>info - LDDTOOL Exit  >>info - Exit  Step 4:  PDS Validate Tool Report  Configuration:  Version 1.17.5  Date 2019-10-26T00:39:50Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testLDD/ccb235a.xml]  User Specified Schemas [file:/Users/rchen/Desktop/test/PDS4\_PDS\_1D00.xsd, file:/Users/rchen/Desktop/test/testLDD/PDS4\_INSIGHT\_1D00\_1D00.xsd]  User Specified Schematrons [file:/Users/rchen/Desktop/test/PDS4\_PDS\_1D00.sch, file:/Users/rchen/Desktop/test/testLDD/PDS4\_INSIGHT\_1D00\_1D00.sch]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/testLDD/ccb235a.xml  Validation complete.  Summary:  0 error(s)  0 warning(s)  End of Report  Step 6: show software version & IM version  LDDTOOL Version: 0.2.2.8 - Built with IM Version:1.13.0.0 |
| Comments | Results met success criteria. |
| Date of Testing | 2019.10.27 |
| Test Personnel | Richard Chen |

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| Test Case ID | REQ.1 |
| Description | Verify changes made to the Information Model schema and schemaron. |
| 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 | 2019.09.16 |
| Test Personnel | Richard Chen |

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| Test Case ID | REQ.2 |
| 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 | 2019.09.16 |
| Test Personnel |  |

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| Test Case ID | REQ.3 |
| 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 1.9.0, Appendix D. |
| Test Results | Creation of a label-template (xml) from the master-schema (xsd). |
| Comments | Results met success criteria |
| Date of Testing | 2019.06.09 |
| Test Personnel | Richard Chen |

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| Test Case ID | REQ.4 |
| 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 similar to VAL.1 but with a URL instead of a local file   1. validate -t http://pds-geosciences.wustl.edu/messenger/urn-nasa-pds-izenberg\_pdart14\_meap/data\_eetable/ele\_evt\_8hr\_orbit\_2014-2015.xml |
| Test Results | Step 1: Output is similar to VAL.1’s  ......................PDS Validate Tool Report  Configuration:  Version 1.17.5  Date 2019-10-27T07:25:39Z  Parameters:  Targets [http://pds-geosciences.wustl.edu/messenger/urn-nasa-pds-izenberg\_pdart14\_meap/data\_eetable/ele\_evt\_8hr\_orbit\_2014-2015.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: http://pds-geosciences.wustl.edu/messenger/urn-nasa-pds-izenberg\_pdart14\_meap/data\_eetable/ele\_evt\_8hr\_orbit\_2014-2015.xml  Validation complete.  Summary:  0 error(s)  0 warning(s))  End of Report |
| Comments | Results met success criteria. |
| Date of Testing | 2019.10.27 |
| Test Personnel | Richard Chen |

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| Test Case ID | REQ.5 \*not run for build 10a |
| 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 |  |
| Date of Testing |  |
| Test Personnel |  |

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| Test Case ID | REQ.6 \*not ready for build 10a. 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 | REQ.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/pds4/10.0.0/release/rdd.html |
| Test Results | Documents were available and examined. |
| Comments | Results met success criteria. |
| Date of Testing | 2019.04.12 |
| 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 | The commercial application Sawmill provides the functionality required. Verification of installation suffice to verify the reporting requirements.  The following gathers nodes’ log files that feed Sawmill:   1. mkdir -p \ /report\_service/logs/backup/rings/rings-apache-metrics /report\_service/logs/final/rings/rings-apache-metrics /report\_service/logs/staging/rings/rings-apache-metrics 2. report-mgr -p -P -f 11/01/2019 -t 11/30/2019 -u -n rings 3. date; ls -lR /report\_service/logs/\*/rings |
| Test Results | Step 2:  Nov 08, 2019 7:46:02 PM gov.nasa.pds.report.ReportManagerLauncher main  INFO: Now running Report Manager  Nov 08, 2019 7:46:02 PM gov.nasa.pds.report.ReportServiceManager readProfiles  INFO: Found 39 profiles  Nov 08, 2019 7:46:02 PM gov.nasa.pds.report.ReportServiceManager readProfiles  INFO: Found 1 profiles that match filters  Nov 08, 2019 7:46:02 PM gov.nasa.pds.report.ReportServiceManager createStagingDirTree  INFO: Creating staging directory tree  Nov 08, 2019 7:46:02 PM gov.nasa.pds.report.logs.PDSLogsManager pullLogFiles  INFO: Now pulling logs using the profile rings-apache-metrics  Nov 08, 2019 7:46:02 PM gov.nasa.pds.report.logs.PDSLogsManager connect  INFO: Connecting to anonymous@https://pds-rings.seti.org/ using gov.nasa.pds.report.logs.pushpull.HttpPull  Nov 08, 2019 7:46:11 PM gov.nasa.pds.report.logs.pushpull.HttpPull pull  WARNING: An error occurred while downloading the file at https://pds-rings.seti.org/met-mhNQwdRPkhJ2-rics/pds-rings-apache2.2017-02.tar.gz: An error occurred while parsing log name pds-rings-apache2.2017-02.tar.gz for date filtering: The date of log file pds-rings-apache2.2017-02.tar.gz is not in a recognized format  Nov 08, 2019 7:46:11 PM gov.nasa.pds.report.logs.pushpull.HttpPull pull  WARNING: An error occurred while downloading the file at https://pds-rings.seti.org/met-mhNQwdRPkhJ2-rics/pds-rings-apache2.2017-03.tar.gz: An error occurred while parsing log name pds-rings-apache2.2017-03.tar.gz for date filtering: The date of log file pds-rings-apache2.2017-03.tar.gz is not in a recognized format  Nov 08, 2019 7:46:11 PM gov.nasa.pds.report.logs.pushpull.HttpPull downloadFileAtURL  INFO: Transferring: https://pds-rings.seti.org/met-mhNQwdRPkhJ2-rics/server2-pds-rings-apache2.2019-11-01.tar.gz to /report\_service/logs/staging/rings/rings-apache-metrics  Nov 08, 2019 7:46:17 PM gov.nasa.pds.report.logs.pushpull.HttpPull downloadFileAtURL  INFO: Transferring: https://pds-rings.seti.org/met-mhNQwdRPkhJ2-rics/server2-pds-rings-apache2.2019-11-02.tar.gz to /report\_service/logs/staging/rings/rings-apache-metrics  Nov 08, 2019 7:46:24 PM gov.nasa.pds.report.logs.pushpull.HttpPull downloadFileAtURL  INFO: Transferring: https://pds-rings.seti.org/met-mhNQwdRPkhJ2-rics/server2-pds-rings-apache2.2019-11-03.tar.gz to /report\_service/logs/staging/rings/rings-apache-metrics  Nov 08, 2019 7:46:31 PM gov.nasa.pds.report.logs.pushpull.HttpPull downloadFileAtURL  INFO: Transferring: https://pds-rings.seti.org/met-mhNQwdRPkhJ2-rics/server2-pds-rings-apache2.2019-11-04.tar.gz to /report\_service/logs/staging/rings/rings-apache-metrics  Nov 08, 2019 7:46:41 PM gov.nasa.pds.report.logs.pushpull.HttpPull downloadFileAtURL  INFO: Transferring: https://pds-rings.seti.org/met-mhNQwdRPkhJ2-rics/server2-pds-rings-apache2.2019-11-05.tar.gz to /report\_service/logs/staging/rings/rings-apache-metrics  Nov 08, 2019 7:46:48 PM gov.nasa.pds.report.logs.pushpull.HttpPull downloadFileAtURL  INFO: Transferring: https://pds-rings.seti.org/met-mhNQwdRPkhJ2-rics/server2-pds-rings-apache2.2019-11-06.tar.gz to /report\_service/logs/staging/rings/rings-apache-metrics  Nov 08, 2019 7:47:23 PM gov.nasa.pds.report.logs.pushpull.HttpPull downloadFileAtURL  INFO: Transferring: https://pds-rings.seti.org/met-mhNQwdRPkhJ2-rics/server2-pds-rings-apache2.2019-11-07.tar.gz to /report\_service/logs/staging/rings/rings-apache-metrics  Nov 08, 2019 7:47:32 PM gov.nasa.pds.report.ReportServiceManager backupStaging  INFO: Backing up logs in the staging directory  Nov 08, 2019 7:47:32 PM gov.nasa.pds.report.ReportServiceManager processLogs  INFO: Processing logs  Nov 08, 2019 7:47:32 PM gov.nasa.pds.report.processing.ProcessingManager processLogs  INFO: Processing logs from profile rings-apache-metrics  Nov 08, 2019 7:47:32 PM gov.nasa.pds.report.processing.SimpleCommandProcessor processFileList  INFO: Running simple command: dd if="/report\_service/logs/staging/rings/rings-apache-metrics/server2-pds-rings-apache2.2019-11-02.tar.gz" | openssl des3 -d -k FeeFieFoeRings | tar xzvf - -C "/report\_service/logs/processing/rings/rings-apache-metrics/rings\_decrypt" (1/7)  Nov 08, 2019 7:47:32 PM gov.nasa.pds.report.processing.SimpleCommandProcessor processFileList  INFO: Running simple command: dd if="/report\_service/logs/staging/rings/rings-apache-metrics/server2-pds-rings-apache2.2019-11-04.tar.gz" | openssl des3 -d -k FeeFieFoeRings | tar xzvf - -C "/report\_service/logs/processing/rings/rings-apache-metrics/rings\_decrypt" (2/7)  Nov 08, 2019 7:47:32 PM gov.nasa.pds.report.processing.SimpleCommandProcessor processFileList  INFO: Running simple command: dd if="/report\_service/logs/staging/rings/rings-apache-metrics/server2-pds-rings-apache2.2019-11-06.tar.gz" | openssl des3 -d -k FeeFieFoeRings | tar xzvf - -C "/report\_service/logs/processing/rings/rings-apache-metrics/rings\_decrypt" (3/7)  Nov 08, 2019 7:47:32 PM gov.nasa.pds.report.processing.SimpleCommandProcessor processFileList  INFO: Running simple command: dd if="/report\_service/logs/staging/rings/rings-apache-metrics/server2-pds-rings-apache2.2019-11-03.tar.gz" | openssl des3 -d -k FeeFieFoeRings | tar xzvf - -C "/report\_service/logs/processing/rings/rings-apache-metrics/rings\_decrypt" (4/7)  Nov 08, 2019 7:47:32 PM gov.nasa.pds.report.processing.SimpleCommandProcessor processFileList  INFO: Running simple command: dd if="/report\_service/logs/staging/rings/rings-apache-metrics/server2-pds-rings-apache2.2019-11-01.tar.gz" | openssl des3 -d -k FeeFieFoeRings | tar xzvf - -C "/report\_service/logs/processing/rings/rings-apache-metrics/rings\_decrypt" (5/7)  Nov 08, 2019 7:47:32 PM gov.nasa.pds.report.processing.SimpleCommandProcessor processFileList  INFO: Running simple command: dd if="/report\_service/logs/staging/rings/rings-apache-metrics/server2-pds-rings-apache2.2019-11-05.tar.gz" | openssl des3 -d -k FeeFieFoeRings | tar xzvf - -C "/report\_service/logs/processing/rings/rings-apache-metrics/rings\_decrypt" (6/7)  Nov 08, 2019 7:47:32 PM gov.nasa.pds.report.processing.SimpleCommandProcessor processFileList  INFO: Running simple command: dd if="/report\_service/logs/staging/rings/rings-apache-metrics/server2-pds-rings-apache2.2019-11-07.tar.gz" | openssl des3 -d -k FeeFieFoeRings | tar xzvf - -C "/report\_service/logs/processing/rings/rings-apache-metrics/rings\_decrypt" (7/7)  Nov 08, 2019 7:47:32 PM gov.nasa.pds.report.ReportServiceManager buildSawmillDB  INFO: Updating Sawmill databases  Nov 08, 2019 7:47:32 PM gov.nasa.pds.report.sawmill.PDSSawmillManager updateDatabase  INFO: Updating the rings\_web Sawmill profile  Nov 08, 2019 7:47:32 PM gov.nasa.pds.report.ReportServiceManager buildSawmillDB  WARNING: An error occurred while building the Sawmill database for Sawmill profile rings\_web: The given Sawmill home directory does not exist  Nov 08, 2019 7:47:32 PM gov.nasa.pds.report.sawmill.PDSSawmillManager outputCommands  INFO: There are no commands in the queue to output  Step 3:  Fri Nov 8 19:57:08 PST 2019  /report\_service/logs/backup/rings:  total 0  drwxrwxr-x 9 rchen wheel 288 Nov 8 19:47 rings-apache-metrics/  /report\_service/logs/backup/rings/rings-apache-metrics:  total 9744  -rw-rw-r-- 1 rchen wheel 471064 Nov 8 19:46 server2-pds-rings-apache2.2019-11-01.tar.gz  -rw-rw-r-- 1 rchen wheel 440344 Nov 8 19:46 server2-pds-rings-apache2.2019-11-02.tar.gz  -rw-rw-r-- 1 rchen wheel 307224 Nov 8 19:46 server2-pds-rings-apache2.2019-11-03.tar.gz  -rw-rw-r-- 1 rchen wheel 614424 Nov 8 19:46 server2-pds-rings-apache2.2019-11-04.tar.gz  -rw-rw-r-- 1 rchen wheel 522264 Nov 8 19:46 server2-pds-rings-apache2.2019-11-05.tar.gz  -rw-rw-r-- 1 rchen wheel 2170904 Nov 8 19:47 server2-pds-rings-apache2.2019-11-06.tar.gz  -rw-rw-r-- 1 rchen wheel 440344 Nov 8 19:47 server2-pds-rings-apache2.2019-11-07.tar.gz  /report\_service/logs/final/rings:  total 0  drwxrwxr-x 9 rchen wheel 288 Nov 8 19:47 rings-apache-metrics/  /report\_service/logs/final/rings/rings-apache-metrics:  total 220328  -rw-rw-r-- 1 rchen wheel 8312910 Nov 1 23:59 server2-pds-rings-apache2.2019-11-01.log  -rw-rw-r-- 1 rchen wheel 8147127 Nov 3 00:00 server2-pds-rings-apache2.2019-11-02.log  -rw-rw-r-- 1 rchen wheel 4354940 Nov 3 23:59 server2-pds-rings-apache2.2019-11-03.log  -rw-rw-r-- 1 rchen wheel 12220377 Nov 5 00:00 server2-pds-rings-apache2.2019-11-04.log  -rw-rw-r-- 1 rchen wheel 9971487 Nov 5 23:59 server2-pds-rings-apache2.2019-11-05.log  -rw-rw-r-- 1 rchen wheel 62565130 Nov 7 00:00 server2-pds-rings-apache2.2019-11-06.log  -rw-rw-r-- 1 rchen wheel 7218231 Nov 7 23:59 server2-pds-rings-apache2.2019-11-07.log  /report\_service/logs/staging/rings:  total 0  drwxr-xr-x 9 rchen wheel 288 Nov 8 19:47 rings-apache-metrics/  /report\_service/logs/staging/rings/rings-apache-metrics:  total 11936  -rw-rw-r-- 1 rchen wheel 471064 Nov 8 19:46 server2-pds-rings-apache2.2019-11-01.tar.gz  -rw-rw-r-- 1 rchen wheel 440344 Nov 8 19:46 server2-pds-rings-apache2.2019-11-02.tar.gz  -rw-rw-r-- 1 rchen wheel 307224 Nov 8 19:46 server2-pds-rings-apache2.2019-11-03.tar.gz  -rw-rw-r-- 1 rchen wheel 614424 Nov 8 19:46 server2-pds-rings-apache2.2019-11-04.tar.gz  -rw-rw-r-- 1 rchen wheel 522264 Nov 8 19:46 server2-pds-rings-apache2.2019-11-05.tar.gz  -rw-rw-r-- 1 rchen wheel 2170904 Nov 8 19:47 server2-pds-rings-apache2.2019-11-06.tar.gz  -rw-rw-r-- 1 rchen wheel 440344 Nov 8 19:47 server2-pds-rings-apache2.2019-11-07.tar.gz |
| Comments | Results met success criteria. |
| Date of Testing | 2019.11.08 |
| Test Personnel |  |

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| Test Case ID | SRCH.1 \*not run for build 10a. |
| Description |  |
| Requirements | PASS L5.SCH.1: The service shall provide a user interface for entering of queries and display of search results…  SKIP L5.SCH.2: The service shall degrade gracefully on browsers that lack modern features…  PASS L5.SCH.3: The service's browser-based user interface shall be Section 508 compliant and adhere to WCAG …  PASS L5.SCH.4: The service shall provide a programmatic interface for entering of queries and return …  PASS L5.SCH.5: The service shall provide the capability to retrieve metadata associated with registered artifacts …  PASS L5.SCH.6: The service shall support searching by accepting criteria as a sequence of open text keywords.  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. PASS L5.SCH.12: The service shall support configuration on the kinds of indexes maintained on indexed data  SKIP L5.SCH.13: The service shall capture metrics pertaining to its search indexes usage and contents.  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.  PASS L5.GEN.9: Applications shall meet Section 508 compliance guidelines. |
| Success Criteria | . |
| Test Steps |  |
| Test Results |  |
| Comments |  |
| Date of Testing |  |
| Test Personnel |  |

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| Test Case ID | TPRT.1 \*not run for build 10a |
| 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 | For builds 9a and earlier, HVT.3 ran first with absolute paths as inputs. In 9b, harvest does not use the registry, but catalog -mingest does, but that has no mechanism for specifying paths. This test uses, from CTLG.3   * urn:nasa:pds:context\_pds3:investigation:mission.cassini-huygens * urn:nasa:pds:context\_pds3:volume:volume.corpws\_0180\_\_usa\_nasa\_pds\_corpws\_0xxx:ref.cat   Ensure CATALINA\_HOME/webapps/transport-registry/WEB-INF/config.xml has transport.RegistryProductHandler.registryUrl = http://localhost: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:volume:volume.corpws\_0180\_\_usa\_nasa\_pds\_corpws\_0xxx:ref.cat" 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:volume:volume.corpws\_0180\_\_usa\_nasa\_pds\_corpws\_0xxx:ref.cat+AND+package+EQ+TGZ" 3. curl -X GET -o x3.zip "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:volume:volume.corpws\_0180\_\_usa\_nasa\_pds\_corpws\_0xxx:ref.cat" 4. Same thing but in a browser, 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:volume:volume.corpws\_0180\_\_usa\_nasa\_pds\_corpws\_0xxx:ref.cat&package=TGZ which somehow creates file products\_pds-package-20190417114526.zip.zip 5. Extract the four into their own directories. 6. diff -r x1 x2 7. diff -r x1 x3 8. diff -r x1 products\_pds-package-<yyyymmddhhmmss> 9. diff x1/MISSION.CAT *testDir/*testCatalog/CORPWS\_0180/MISSION.CAT 10. Does x1/md5\_checksum.txt have correct checksums for both files? On a mac: openssl md5 x1/\*.CAT; cat x1/md5\_checksums.txt |
| Test Results | Step 1 (Steps 2 and 3 are similar):  Note: Unnecessary use of -X or --request, GET is already inferred.  \* 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 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:volume:volume.corpws\_0180\_\_usa\_nasa\_pds\_corpws\_0xxx:ref.cat HTTP/1.1  > Host: localhost:8080  > User-Agent: curl/7.48.0  > Accept: \*/\*  >  < HTTP/1.1 200  < Content-disposition: attachment; filename="products\_pds-package-20190417114033.zip.zip"  < Content-Type: application/zip  < Content-Length: 42106  < Date: Wed, 17 Apr 2019 18:40:33 GMT  <  { [7995 bytes data]  100 42106 100 42106 0 0 94082 0 --:--:-- --:--:-- --:--:-- 94833  \* Connection #0 to host localhost left intact  Step 4: in 9b, the file gets created, but the browser shows nothing  Steps 6-9 show no differences  Step 10: Visually check that the values from the first two lines match the last two  MD5(x1/MISSION.CAT)= 26c45a1436ae9dfa14ac4fbd3366baad  MD5(x1/REF.CAT)= 85454be035f2545377f8e4e12e6e83a2  85454be035f2545377f8e4e12e6e83a2 REF.CAT  26c45a1436ae9dfa14ac4fbd3366baad MISSION.CAT |
| Comments | Results met success criteria. |
| Date of Testing | 2019.04.17 |
| Test Personnel | Richard Chen |

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| --- | --- |
| Test Case ID | TPRT.2 |
| Description | Request data from transport-ofsn by specifying a path. Transport-ofsn can also transform the requested product. |
| Requirements | PASS L5.TRS.2: The service shall accept requests for download of an individual file.  PASS L5.TRS.3: The service shall transform the requested product(s) or file into the specified format. PASS L5.TRS.4: The service shall package the requested product(s) or file into the specified format.  PASS L5.TRS.6: The service shall transfer the result of a request via HTTP to the calling application. |
| 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  oodt:ofsn/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/pds4/7.1.0/transport/transport-ofsn/operate>. 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 *testdir*/testTprt/ladee\_ldex.tab   Some image transformations (get and transform)   1. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/i943630r.xml&RT=PDS\_TO\_JPG" > x.jpg 2. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/i943630r.xml&RT=PDS\_TO\_JP2" > x.jp2 3. nothing; PDS\_TO\_BMP is no longer supported. 4. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/i943630r.xml&RT=PDS\_TO\_GIF" > x.gif 5. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/i943630r.xml&RT=PDS\_TO\_PNG" > x.png 6. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/i943630r.xml&RT=PDS\_TO\_TIFF" > x.tiff 7. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/i943630r.xml&RT=PDS\_TO\_TIF" > x.tif 8. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/i943630r.xml&RT=PDS\_TO\_PNM" > x.pnm   Some label transformations   1. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/ladee\_ldex.xml&RT=PDS4\_TO\_PVL" > x.pvl 2. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/ladee\_ldex.xml&RT=PDS4\_TO\_HTML" > x.html 3. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/ladee\_ldex.xml&RT=PDS4\_TO\_HTML\_STRUCTURE\_ONLY" > xSO.html 4. Using editor or browser, visually compare x.\* with *testDir*/testTprt/ladee\_ldex.xml   Data transformation   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/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: FITS file, CDF file   1. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/mvn\_lpw.xml&RT=PDS\_TO\_JPG" 2. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/mvn\_iuv.xml&RT=PDS\_TO\_JPG"   Check proper handling of inaccessible directories   1. chmod 000 *testDir*/testTprt/dirLevel1a/dirLevel2 2. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/dirLevel1a/&RT=DIRFILELIST" 3. cp *testDir*/testTprt/dirLevel1a/fileLevel2b.txt *testDir*/testTprt/dirLevel1a/.ignoreME 4. chmod 777 *testDir*/testTprt/dirLevel1a/dirLevel2 5. repeat step 37 6. rm *testDir*/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>7031</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/msl\_chemcam.lbl</OFSN>  <fileSize>28086</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_lpw.cdf</OFSN>  <fileSize>230296</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_iuv.xml</OFSN>  <fileSize>75445</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_lpw.xml</OFSN>  <fileSize>8423</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/msl\_chemcam.csv</OFSN>  <fileSize>2241087</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/a0013.xml</OFSN>  <fileSize>22618</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/a0013.qub</OFSN>  <fileSize>50339840</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_iuv.fits</OFSN>  <fileSize>449280</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1b/tcshrc</OFSN>  <fileSize>29</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a/fileLevel2b.txt</OFSN>  <fileSize>307</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a/fileLevel2a.txt</OFSN>  <fileSize>72</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a/dirLevel2/fileLevel3.txt</OFSN>  <fileSize>1550</fileSize>  </dirEntry>  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>7031</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/msl\_chemcam.lbl</OFSN>  <fileSize>28086</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_lpw.cdf</OFSN>  <fileSize>230296</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_iuv.xml</OFSN>  <fileSize>75445</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_lpw.xml</OFSN>  <fileSize>8423</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/msl\_chemcam.csv</OFSN>  <fileSize>2241087</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/a0013.xml</OFSN>  <fileSize>22618</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/a0013.qub</OFSN>  <fileSize>50339840</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_iuv.fits</OFSN>  <fileSize>449280</fileSize>  </dirEntry>  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>1929</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 2894 0 --:--:-- --:--:-- --:--:-- 2906  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  -rwxr-xr-x 1 rchen 500 Oct 25 2014 *testDir*/testTprt/ladee\_ldex.tab  Step 11:  1c95600a27bf27ddaddaa9bdedaff44d  Step 12: Result from this step matches previous step  MD5(/Users/rchen/Desktop/test/testTprt/ladee\_ldex.tab)= 1c95600a27bf27ddaddaa9bdedaff44d  Steps 13-20: the file sizes differ, but the images are always:  Macintosh HD:Users:rchen:Desktop:x.jpg  Step 21:  % Total % Received % Xferd Average Speed Time Time Time Current  Dload Upload Total Spent Left Speed  100 6019 100 6019 0 0 10450 0 --:--:-- --:--:-- --:--:-- 10486  Step 22:  % Total % Received % Xferd Average Speed Time Time Time Current  Dload Upload Total Spent Left Speed  100 29172 100 29172 0 0 404k 0 --:--:-- --:--:-- --:--:-- 418k  Step 23:  % Total % Received % Xferd Average Speed Time Time Time Current  Dload Upload Total Spent Left Speed  100 10799 100 10799 0 0 280k 0 --:--:-- --:--:-- --:--:-- 301k  Step 24:../../../../../../Desktop/Screen%20Shot%202017-04-21%20at%2  Step 25-33: as expected  Steps 34,35:  <!doctype html><html lang="en"><head><title>HTTP Status 500 – Internal Server Error</title><style type="text/css">h1 {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;font-size:22px;} h2 {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;font-size:16px;} h3 {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;font-size:14px;} body {font-family:Tahoma,Arial,sans-serif;color:black;background-color:white;} b {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;} p {font-family:Tahoma,Arial,sans-serif;background:white;color:black;font-size:12px;} a {color:black;} a.name {color:black;} .line {height:1px;background-color:#525D76;border:none;}</style></head><body><h1>HTTP Status 500 – Internal Server Error</h1><hr class="line" /><p><b>Type</b> Exception Report</p><p><b>Description</b> The server encountered an unexpected condition that prevented it from fulfilling the request.</p><p><b>Exception</b></p><pre>java.lang.NullPointerException  gov.nasa.pds.transport.AbstractPdsGetHandler.sizeOf(AbstractPdsGetHandler.java:101)  gov.nasa.pds.transport.OFSNFileHandler.query(OFSNFileHandler.java:195)  org.apache.oodt.grid.ProductQueryServlet.handleQuery(ProductQueryServlet.java:63)  org.apache.oodt.grid.QueryServlet.doPost(QueryServlet.java:102)  org.apache.oodt.grid.QueryServlet.doGet(QueryServlet.java:75)  javax.servlet.http.HttpServlet.service(HttpServlet.java:634)  javax.servlet.http.HttpServlet.service(HttpServlet.java:741)  org.apache.tomcat.websocket.server.WsFilter.doFilter(WsFilter.java:52)  </pre><p><b>Note</b> The full stack trace of the root cause is available in the server logs.</p><hr class="line" /><h3>Apache Tomcat/8.5.47</h3></body></html>  Step 37: inaccessible directory ignored  <?xml version="1.0" encoding="UTF-8" standalone="no"?>  <dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0">  <dirEntry>  <OFSN>/testTprt/dirLevel1a/fileLevel2b.txt</OFSN>  <fileSize>307</fileSize>  </dirEntry>  <dirEntry>  <OFSN>/testTprt/dirLevel1a/fileLevel2a.txt</OFSN>  <fileSize>72</fileSize>  </dirEntry>  </dirResult>  Step 40:  <?xml version="1.0" encoding="UTF-8" standalone="no"?>  <dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0">  <dirEntry>  <OFSN>/testTprt/dirLevel1a/fileLevel2b.txt</OFSN>  <fileSize>307</fileSize>  </dirEntry>  <dirEntry>  <OFSN>/testTprt/dirLevel1a/fileLevel2a.txt</OFSN>  <fileSize>72</fileSize>  </dirEntry>  <dirEntry>  <OFSN>/testTprt/dirLevel1a/dirLevel2/fileLevel3.txt</OFSN>  <fileSize>1550</fileSize>  </dirEntry>  </dirResult> |
| Comments | Results met test criteria  Build 10a drops [PDS-322](https://oodt.jpl.nasa.gov/jira/browse/PDS-322), which has been addressed elsewhere |
| Date of Testing | 2019.11.03 |
| Test Personnel | Richard Chen |

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| Test Case ID | TPRT.3 |
| 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 line:  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  Note: Unnecessary use of -X or --request, GET is already inferred.  \* Trying ::1...  \* Connected to localhost (::1) port 8080 (#0)  > GET /prod/?object=PDS.testme&keywordQuery=OFSN+EQ+/testTprt+AND+RT+EQ+DIRFILELIST HTTP/1.1  > Host: localhost:8080  > User-Agent: curl/7.54.0  > Accept: \*/\*  >  < HTTP/1.1 200  < Content-Type: text/xml  < Content-Length: 1756  < Date: Mon, 04 Nov 2019 07:52:03 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>7031</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/msl\_chemcam.lbl</OFSN>  <fileSize>28086</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_lpw.cdf</OFSN>  <fileSize>230296</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_iuv.xml</OFSN>  <fileSize>75445</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_lpw.xml</OFSN>  <fileSize>8423</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/msl\_chemcam.csv</OFSN>  <fileSize>2241087</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/a0013.xml</OFSN>  <fileSize>22618</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/a0013.qub</OFSN>  <fileSize>50339840</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/mvn\_iuv.fits</OFSN>  <fileSize>449280</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1b/tcshrc</OFSN>  <fileSize>29</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a/fileLevel2b.txt</OFSN>  <fileSize>307</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a/fileLevel2a.txt</OFSN>  <fileSize>72</fileSize>  </dirEntry>  <dirEntry xmlns="">  <OFSN>/testTprt/dirLevel1a/dirLevel2/fileLevel3.txt</OFSN>  <fileSize>1550</fileSize>  </dirEntry>  \* Connection #0 to host localhost left intact |
| Comments | Results met test criteria |
| Date of Testing | 2019.11.03 |
| Test Personnel | Richard Chen |

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| Test Case ID | TPRT.4 \*not tested in 10a: no search-service installed in $TOMCAT\_HOME/webapps |
| Description | Request multiple files from transport-registry by specifying multiple LIDs |
| 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 | Since this feature uses the search registry instead of the normal registry, first run AAFUNCTION.3, then from $CATALINA\_HOME/webapps/transport-registry/WEB-INF/config.xml, remove  <server className="gov.nasa.pds.transport.RegistryProductHandler" type="product"/>  <property key="gov.nasa.pds.transport.RegistryProductHandler.tmpDir">/tmp</property>  <property key="gov.nasa.pds.transport.RegistryProductHandler.registryUrl">http://localhost:8080/registry-pds3,http://localhost:8080/registry-pds4</property>  (and possibly shutdown.sh; startup.sh). Then run AAFUNCTION.4, then:   1. cd *testDir*; mkdir x; cd x 2. grep logical\_identifier ../bundle\_geo\_ra/data\_derived/\*xml | sed 's/.\*<.\*>\(.\*\)<\/.\*>/\1/' > lids.txt 3. cat lids.txt 4. curl -X GET -o derived.zip -v "http://localhost:8080/transport-registry/prod?identifier-list=file:///*testDir*/x/lids.txt" 5. unzip derived.zip; cd .. 6. diff -r x bundle\_geo\_ra/data\_derived 7. rm -r x |
| Test Results |  |
| Comments |  |
| Date of Testing |  |
| Test Personnel | Richard Chen |

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| --- | --- |
| Test Case ID | TPRT.5 |
| Description | Upload files to a staging area |
| Requirements | PASS. No specific functional requirement. |
| Success Criteria | The transport service returns the requested data. |
| Test Steps | 1. In a browser, <http://localhost:8080/transport-upload/> 2. Click “Browse”. Navigate to *testDir* and select testProcs.docx 3. diff /tmp/testProcs.docx *testDir*/testProcs.docx |
| Test Results | Step 2:  Step 3 shows no difference |
| Comments | Results met test criteria. |
| Date of Testing | 2019.11.04 |
| Test Personnel | Richard Chen |

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| Test Case ID | VAL.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 -x bundle\_psi/xml\_schema/\*xsd -S bundle\_psi/xml\_schema/\*sch -R pds4.bundle -t bundle\_psi   Some files need local data dictionary img.   1. validate -x bundle\_psi/xml\_schema/\*xsd bundle\_psi2/\*xsd -S bundle\_psi/xml\_schema/\*sch bundle\_psi2/\*sch -R pds4.bundle -t bundle\_psi |
| Test Results | Step 2:  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-19T18:14:59Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/bundle\_psi/]  Rule Type pds4.bundle  User Specified Schemas [file:/Users/rchen/Desktop/test/bundle\_psi/xml\_schema/PDS4\_PDS\_1600.xsd]  User Specified Schematrons [file:/Users/rchen/Desktop/test/bundle\_psi/xml\_schema/PDS4\_PDS\_1600.sch]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Allow Unlabeled Files false  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/bundle\_ast\_spectra\_reddy\_neos\_marscrossers.xml  Oct 19, 2019 11:15:01 AM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/document/collection\_ast\_spectra\_reddy\_neos\_marscrossers\_document.xml  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/document/allspectra.xml  [snip…]  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/data/science\_index.xml\  FAIL: file:/Users/rchen/Desktop/test/bundle\_psi/data/2008/39572\_1993dq1.xml  ERROR [error.label.schema] line 69, 42: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Imaging\_Instrument\_Parameters'.  [snip…]  FAIL: file:/Users/rchen/Desktop/test/bundle\_psi/data/2004/87684\_2000sy2.xml  ERROR [error.label.schema] line 69, 42: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Imaging\_Instrument\_Parameters'.  PDS4 Bundle Level Validation Results  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/document/collection\_ast\_spectra\_reddy\_neos\_marscrossers\_document.xml  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/xml\_schema/collection.xml  [snip…]  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/data/2006/85709\_1998sg36.xml  Validation complete.  Summary:  27 error(s)  0 warning(s)  Message Types:  27 error.label.schema  End of Report  Step 3: should be no errors.  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-19T18:20:46Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/bundle\_psi/]  Rule Type pds4.bundle  User Specified Schemas [file:/Users/rchen/Desktop/test/bundle\_psi/xml\_schema/PDS4\_PDS\_1600.xsd, file:/Users/rchen/Desktop/test/bundle\_psi2/PDS4\_IMG\_1100.xsd]  User Specified Schematrons [file:/Users/rchen/Desktop/test/bundle\_psi/xml\_schema/PDS4\_PDS\_1600.sch, file:/Users/rchen/Desktop/test/bundle\_psi2/PDS4\_IMG\_1100.sch]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Allow Unlabeled Files false  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/bundle\_ast\_spectra\_reddy\_neos\_marscrossers.xml  Oct 19, 2019 11:20:47 AM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/document/collection\_ast\_spectra\_reddy\_neos\_marscrossers\_document.xml  [snip…]  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/data/2004/87684\_2000sy2.xml  PDS4 Bundle Level Validation Results  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/document/collection\_ast\_spectra\_reddy\_neos\_marscrossers\_document.xml  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/xml\_schema/collection.xml  …  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/data/2006/85709\_1998sg36.xml  Validation complete.  Summary:  0 error(s)  0 warning(s)  End of Report |
| Comments | Results met success criteria.  Build 8a opened [PDS-520](https://oodt.jpl.nasa.gov/jira/browse/PDS-520), where validate does not catch a ‘+’ in a text field format.  Build 10a closed [PDS-835](https://osr.jpl.nasa.gov/jira/browse/PDS-835), (renumbered as [135](https://github.com/NASA-PDS-Incubator/validate/issues/135) then [136](https://github.com/NASA-PDS-Incubator/validate/issues/136)) incorrect flagging LIDs that actually exist, and [PDS-890](https://osr.jpl.nasa.gov/jira/browse/PDS-890), the odd java warning. |
| Date of Testing | 2019.10.19 |
| Test Personnel | Richard Chen |

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| Test Case ID | VAL.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\_psi/document/allspectra.pdf . 2. validate -t bundle\_psi/document 3. mv allspectra.pdf bundle\_psi/document/ 4. validate -R pds4.collection -t bundle\_psi/document   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  Oct 15, 2019 3:05:53 PM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-19T18:27:03Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/bundle\_psi/document/]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/document/collection\_ast\_spectra\_reddy\_neos\_marscrossers\_document.xml  FAIL: file:/Users/rchen/Desktop/test/bundle\_psi/document/allspectra.xml  ERROR [error.label.missing\_file] URI reference does not exist: file:/Users/rchen/Desktop/test/bundle\_psi/document/allspectra.pdf  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/document/AA\_Document\_Index.xml  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/document/bundle\_description.xml  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/document/ref.xml  Validation complete.  Summary:  1 error(s)  0 warning(s)  Message Types:  1 error.label.missing\_file  End of Report  Step 4: Standard good message; the referenced file was restored in step 3  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 1.17.3  Date 2019-10-19T22:41:58Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/product\_document/Product\_Doc\_bad.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testPrep/product\_document/Product\_Doc\_bad.xml  ERROR [error.label.missing\_file] URI reference does not exist: file:/replaceWithFullPath/image002.gif  Validation complete.  Summary:  1 error(s)  0 warning(s)  Message Types:  1 error.label.missing\_file  End of Report  Step 7: non-existent path has been replaced by a real path  PDS Validate Tool Report  Configuration:  Version 1.17.2  Date 2019-10-16T06:51:49Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/product\_document/Product\_Doc\_good.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/testPrep/product\_document/Product\_Doc\_good.xml  Validation complete.  Summary:  0 error(s)  0 warning(s)  End of Report |
| Comments | Results met success criteria. |
| Date of Testing | 2019.10.19 |
| Test Personnel | Richard Chen |

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| Test Case ID | VAL.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.  PASS L5.PRP.VA.7: The tool shall accept the following as input for specifying the associated schema file(s)… |
| Success Criteria | Find no bugs in bundle\_geo\_ra/. Find some bugs in bundleLID/. |
| Test Steps | 1. cd *testDir/* 2. validate -R pds4.bundle -t bundle\_geo\_ra #val137 3. validate -R pds4.bundle -t bundleLID #val139 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 (fine since members are secondary) and an incorrect count of records (not fine) 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. the document collection’s LID does not have the bundle’s LID as its basis. 11. validate -R pds4.bundle -t bundleLID --skip-product-validation #val30 |
| Test Results | Step 2:  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-17T20:46:57Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/bundle\_geo\_ra/]  Rule Type pds4.bundle  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Allow Unlabeled Files false  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/bundle\_1.xml  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/context/spacecraft.phx\_1.1.xml  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/context/phx.ra\_1.0.xml  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/context/planet.mars\_1.2.xml  Oct 17, 2019 1:47:01 PM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/context/context\_collection\_1.xml  [snip…]  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/xml\_schema/collection.xml  PDS4 Bundle Level Validation Results  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/context/context\_collection\_1.xml  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/data\_derived/data\_derived\_collection\_1.xml [snip…]  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/document/ra\_instrument.xml  Validation complete.  Summary:  0 error(s)  0 warning(s)  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.  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-16T21:55:45Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/bundleLID/]  Rule Type pds4.bundle  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Allow Unlabeled Files false  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/bundleLID/bundle\_1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/phx.ra\_1.0.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/planet.mars\_1.2.xml  Oct 16, 2019 2:55:50 PM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  FAIL: file:/Users/rchen/Desktop/test/bundleLID/context/context\_collection\_1.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/bundleLID/context/context\_collection\_inventory\_1.tab  ERROR [error.table.records\_mismatch] table 1: Number of records read is not equal to the defined number of records in the label (expected 4, got 3).  End Content Validation: file:/Users/rchen/Desktop/test/bundleLID/context/context\_collection\_inventory\_1.tab  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/mission.phoenix\_1.1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/sol149b.xml  .........  FAIL: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/sol149a.xml  ERROR [error.label.duplicate\_identifier] Identifier urn:nasa:pds:phx\_ra:data\_derived:sol149a::1.0 already defined (old location: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/sol149b.xml)  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/data\_derived\_collection\_1.xml  FAIL: file:/Users/rchen/Desktop/test/bundleLID/data\_test/data\_test\_collection\_1.xml  ERROR [error.label.duplicate\_identifier] Identifier urn:nasa:pds:phx\_ra:data\_derived::1.0 already defined (old location: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/data\_derived\_collection\_1.xml)  ............................  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic2.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust\_dig2\_pic13.xml  .................  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust\_dig1\_pic1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/document/collection\_1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/document/ra\_dataset.xml  PDS4 Bundle Level Validation Results  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/context\_collection\_1.xml  WARNING [warning.integrity.unreferenced\_member] Identifier 'urn:nasa:pds:phx\_ra:context\_typo::1.0' is not a member of any collection within the given target  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/data\_derived\_collection\_1.xml  WARNING [warning.integrity.member\_not\_found] 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:/Users/rchen/Desktop/test/bundleLID/data\_test/data\_test\_collection\_1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/document/collection\_1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/bundle\_1.xml  WARNING [warning.integrity.member\_not\_found] The member 'urn:nasa:pds:phx\_ra:data\_test' could not be found in any product within the given target.  WARNING [warning.integrity.member\_not\_found] The member 'urn:nasa:pds:phx\_ra:context' could not be found in any product within the given target.  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:phx\_ra\_605typo:document does not begin with required parent LID urn:nasa:pds:phx\_ra  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/sol149b.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/document/ra\_dataset.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust.x  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust\_dig1\_pic1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/phx.ra\_1.0.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/mission.phoenix\_1.1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust\_dig2\_pic13.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/planet.mars\_1.2.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic2.xml  Validation complete.  Summary:  4 error(s)  4 warning(s)  Message Types:  2 error.label.duplicate\_identifier  1 error.table.records\_mismatch  1 error.integrity.missing\_parent\_prefix  3 warning.integrity.member\_not\_found  1 warning.integrity.unreferenced\_member  End of Report  Step 4: same as step 3 except error.table.records\_mismatch is skipped  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-22T23:31:02Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/bundleLID/]  Rule Type pds4.bundle  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation off  Allow Unlabeled Files false  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/bundleLID/bundle\_1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/phx.ra\_1.0.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/planet.mars\_1.2.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/context\_collection\_1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/mission.phoenix\_1.1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/sol149b.xml  FAIL: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/sol149a.xml  ERROR [error.label.duplicate\_identifier] Identifier urn:nasa:pds:phx\_ra:data\_derived:sol149a::1.0 already defined (old location: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/sol149b.xml)  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/data\_derived\_collection\_1.xml  FAIL: file:/Users/rchen/Desktop/test/bundleLID/data\_test/data\_test\_collection\_1.xml  ERROR [error.label.duplicate\_identifier] Identifier urn:nasa:pds:phx\_ra:data\_derived::1.0 already defined (old location: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/data\_derived\_collection\_1.xml)  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic2.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust\_dig2\_pic13.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust\_dig1\_pic1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/document/collection\_1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/document/ra\_dataset.xml  PDS4 Bundle Level Validation Results  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/context\_collection\_1.xml  WARNING [warning.integrity.unreferenced\_member] Identifier 'urn:nasa:pds:phx\_ra:context\_typo::1.0' is not a member of any collection within the given target  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/data\_derived\_collection\_1.xml  WARNING [warning.integrity.member\_not\_found] 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:/Users/rchen/Desktop/test/bundleLID/data\_test/data\_test\_collection\_1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/document/collection\_1.xml  FAIL: file:/Users/rchen/Desktop/test/bundleLID/bundle\_1.xml  WARNING [warning.integrity.member\_not\_found] The member 'urn:nasa:pds:phx\_ra:data\_test' could not be found in any product within the given target.  WARNING [warning.integrity.member\_not\_found] The member 'urn:nasa:pds:phx\_ra:context' could not be found in any product within the given target.  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:phx\_ra\_605typo:document does not begin with required parent LID urn:nasa:pds:phx\_ra  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/sol149b.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/document/ra\_dataset.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust\_dig1\_pic1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/phx.ra\_1.0.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/mission.phoenix\_1.1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust\_dig2\_pic13.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/planet.mars\_1.2.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic1.xml  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic2.xml  Validation complete.  Summary:  3 error(s)  4 warning(s)  Message Types:  2 error.label.duplicate\_identifier  1 error.integrity.missing\_parent\_prefix  3 warning.integrity.member\_not\_found  1 warning.integrity.unreferenced\_member  End of Report |
| Comments | Results met success criteria.  In 10a, step 3 opened [139](https://github.com/NASA-PDS-Incubator/validate/issues/139), an update of [PDS-605](https://osr.jpl.nasa.gov/jira/browse/PDS-605). Already closed  In 10a, step 2 opened [137](https://github.com/NASA-PDS-Incubator/validate/issues/137), allowing blank values in Table\_Delimited. Already closed |
| Date of Testing | 2019.10.17 |
| Test Personnel | Richard Chen |

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| Test Case ID | VAL.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 | As of build 7b, this functionality (merging via xinculde) is gone, i.e. this should fail. The requirement above no longer applies, for [PDS-488](https://oodt.jpl.nasa.gov/jira/browse/PDS-488) removes support for xinclude. |
| Test Steps | 1. cd *testDir*/testPrep/product\_document 2. validate -x ../../PDS4\_PDS\_1C00.xsd -t Product\_Doc\_part1.xml |
| Test Results | Step 2:  PDS Validate Tool Report  Version 1.17.3  Date 2019-10-17T18:57:50Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/product\_document/Product\_Doc\_part1.xml]  User Specified Schemas [file:/Users/rchen/Desktop/test/PDS4\_PDS\_1D00.xsd]  User Specified Schematrons [file:/Users/rchen/Desktop/test/PDS4\_PDS\_1D00.sch]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testPrep/product\_document/Product\_Doc\_part1.xml  ERROR [error.label.schema] line 113, 1: XML document structures must start and end within the same entity.  Validation complete.  Summary:  1 error(s)  0 warning(s)  Message Types:  1 error.label.schema  End of Report |
| Comments | Results met success criteria. |
| Date of Testing | 2019.10.17 |
| Test Personnel | Richard Chen |

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| Test Case ID | VAL.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\_1D00.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\_1D00.xsd -S PDS4\_PDS\_1D00.sch 2. diff -w PDS4\_PDS\_1D00.xsd testPrep/PDS4\_PDS\_1D00.bad.xsd 3. validate bundle\_geo\_ra/bundle\_1.xml -x testPrep/PDS4\_PDS\_1D00.bad.xsd -S PDS4\_PDS\_1D00.sch   Give validate a non-existent schema   1. validate bundle\_geo\_ra/bundle\_1.xml -x xxx.xsd -S PDS4\_PDS\_1D00.sch |
| Test Results | Step 1: a normal validation with a schema specified on the command line  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-17T20:52:36Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/bundle\_geo\_ra/bundle\_1.xml]  User Specified Schemas [file:/Users/rchen/Desktop/test/PDS4\_PDS\_1C00.xsd]  User Specified Schematrons [file:/Users/rchen/Desktop/test/PDS4\_PDS\_1C00.sch]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/bundle\_1.xml  Summary:  0 error(s)  0 warning(s)  End of Report  Step 2: the first schema is good; the second has an important line commented out  15c15  < </xs:annotation>  ---  > <!--/xs:annotation-->  Step 3: validate fails because of the schema’s syntactic problems  Error while getting targetNamespace of schema 'file:/Users/rchen/Desktop/test/testPrep/PDS4\_PDS\_1D00.bad.xsd': org.xml.sax.SAXParseException; systemId: file:/Users/rchen/Desktop/test/testPrep/PDS4\_PDS\_1D00.bad.xsd; lineNumber: 8279; columnNumber: 3; The element type "xs:annotation" must be terminated by the matching end-tag "</xs:annotation>".  Step 4: validate throws a normal java exception, plus eventually:  FAIL: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/bundle\_1.xml  Begin Schema: file:/Users/rchen/Desktop/test/xxx.xsd  FATAL\_ERROR [error.label.unresolvable\_resource] /Users/rchen/Desktop/test/xxx.xsd (No such file or directory)  End Schema: file:/Users/rchen/Desktop/test/xxx.xsd |
| Comments | Results met success criteria. |
| Date of Testing | 2019.10.17 |
| Test Personnel | Richard Chen |

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| Test Case ID | VAL.6 |
| Description | Test various capabilities described in release documents: |
| Requirements | PASS L5.PRP.VA.3: The tool shall validate aggregate products and all products referenced by such products. |
| Success Criteria | Verify proper handling of identified issues |
| Test Steps | 1. cd *testDir*/testPrep   Validate multiple files via a checksum manifest   1. validate -t cara\_data -M cara\_data/checksum.tab 2. cp cara\_data/checksum.tab /tmp 3. validate -t cara\_data -M /tmp/checksum.tab 4. validate -t vld\_415   -R pds4.bundle and pds4.collection   1. validate -R pds4.collection -t orex 2. validate -R pds4.bundle -t orex/data\_hkl0   -D disable data check   1. validate -t twins\_raw\_0015\_01.xml 2. validate -D -t twins\_raw\_0015\_01.xml   Content validation on arrays. I can test size, but how to test statistics?   1. diff 7f90.xml 7f90b.xml 2. validate -t 7f90.xml 3. validate -t 7f90b.xml   Big validate of the largest test bundle, then a growing, active, remote bundle.   1. date ; validate -x PDS4\_PDS\_1800.xsd -S PDS4\_PDS\_1800.sch -t ../contextPDS3 > validate.big.out ; date 2. date; validate -f -D -t https://atmos.nmsu.edu/PDS/data/PDS4/MAVEN/iuvs\_calibrated\_bundle/> validate.big.out; date   Catalog   1. validate -t catalogValidate/ele\_mom\_tblChar.xml -C catalogValidate/catalog-dph.xml   Allow large integers and readme\_\*.txt   1. validate -t maven-rose-raw -R pds4.bundle   Build 9a:   1. tail -1 mlascirdr.tab; validate -t mlascirdr.xml 2. ls -o insightcameras/data/sol/0003/mipl/edr/icc | head -2; ls -o insightcameras | head -2 ; validate -R pds4.bundle -t insightcameras 3. validate -t ccb213.xml 4. validate -t ccb226.xml 5. Download <http://pds-geosciences.wustl.edu/messenger/urn-nasa-pds-izenberg_pdart14_meap/data_imagecube/virs/H15>/\*, whose data file has an item over 2GB. (don’t validate remotely; already 1+ hours to validate). Then, validate --spot-check-data 100 -t virs\_cube\_64ppd\_h15sp.xml (which cuts execution time from 42 minutes to 80 seconds) #val8 6. validate -t hd1386\_0109.xml 7. validate -t hblcpostperihelion.xml 8. validate -t 20160922T170122S099\_ncm\_L1S.xml 9. validate -D -t https://atmos.nmsu.edu/PDS/data/PDS4/MAVEN/iuvs\_calibrated\_bundle/calibration/centroid/2018/01 10. validate -t ccb226.xml 11. Ignore field\_format; use validation\_format: validate -t ccb214.xml |
| Test Results | Step 2: The one error is deliberate to demonstrate that the rest are working  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-17T22:23:20Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/cara\_data/]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Checksum Manifest File file:/Users/rchen/Desktop/test/testPrep/cara\_data/checksum.tab  Manifest File Base Path file:/Users/rchen/Desktop/test/testPrep/cara\_data/  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/bundle.xml  Oct 17, 2019 3:23:22 PM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/collection.xml  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/data/174P.xml  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/data/67P.xml  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/data/C2013A1.xml  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/data/29P.xml  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/data/C2004Q2.xml  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/data/116P.xml  FAIL: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_documents/cara\_observer\_code.xml  ERROR [error.label.checksum\_mismatch] Generated checksum '4cba3db065570c5c85fa0907574e6f04' does not match supplied checksum '00000000000000000000000000000000' in the manifest for 'file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_documents/cara\_observer\_code.xml'  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_documents/collection.xml  Validation complete.  Summary:  1 error(s)  0 warning(s)  Message Types:  1 error.label.checksum\_mismatch  End of Report  Step 4: This failed before 6b. Works now, i.e. same output as step 2.  Step 5: At one time, the 2nd warning would have 2 lines; the 3rd, three.  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-17T22:31:24Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/vld\_415/]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/testPrep/vld\_415/bundle.xml  Oct 17, 2019 3:31:26 PM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  PASS: file:/Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/collection.xml  PASS: file:/Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/data/174P.xml  WARNING [warning.label.file\_ref\_case\_mismatch] File reference'/Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/data/174p.tab' exists but the case doesn't match  PASS: file:/Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/data/C2004Q2.xml  WARNING [warning.label.file\_ref\_case\_mismatch] File reference'/Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/data/C2004q2.tab' exists but the case doesn't match  PASS: file:/Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/data/116P.xml  WARNING [warning.label.file\_ref\_case\_mismatch] File reference'/Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/data/116p.tab' exists but the case doesn't match  Validation complete.  Summary:  0 error(s)  3 warning(s)  Message Types:  3 warning.label.file\_ref\_case\_mismatch  End of Report  Step 6: weird to use -R pds4.collection on a bundle. Warnings are reasonable  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-17T22:33:57Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/orex/]  Rule Type pds4.collection  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Allow Unlabeled Files false  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/testPrep/orex/bundle\_tagcams.xml  Oct 17, 2019 3:33:59 PM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  PASS: file:/Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/collection\_tagcams\_hkl0.xml  ..  PASS: file:/Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/ega/20170922T204112S269\_ncm\_L0S.xml  PASS: file:/Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/cruise\_1/20170815T164303S694\_ncm\_L0S.xml  PDS4 Collection Level Validation Results  PASS: file:/Users/rchen/Desktop/test/testPrep/orex/checksums.txt  WARNING [warning.file.not\_referenced\_in\_label] File is not referenced by any label  PASS: file:/Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/collection\_tagcams\_hkl0.xml  PASS: file:/Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/ega/20170922T204112S269\_ncm\_L0S.xml  PASS: file:/Users/rchen/Desktop/test/testPrep/orex/bundle\_tagcams.xml  WARNING [warning.integrity.unreferenced\_member] Identifier 'urn:nasa:pds:orex.tagcams::1.0' is not a member of any collection within the given target  PASS: file:/Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/cruise\_1/20170815T164303S694\_ncm\_L0S.xml  Validation complete.  Summary:  0 error(s)  2 warning(s)  Message Types:  1 warning.integrity.unreferenced\_member  1 warning.file.not\_referenced\_in\_label  End of Report  Step 7: weird to use -R pds4. Bundle on a collection. Warnings are reasonable  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-17T22:51:51Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/orex/]  Rule Type pds4.bundle  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Allow Unlabeled Files false  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/testPrep/orex/bundle\_tagcams.xml  Oct 17, 2019 3:51:54 PM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  PASS: file:/Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/collection\_tagcams\_hkl0.xml  ..  PASS: file:/Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/ega/20170922T204112S269\_ncm\_L0S.xml  PASS: file:/Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/cruise\_1/20170815T164303S694\_ncm\_L0S.xml  PDS4 Bundle Level Validation Results  PASS: file:/Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/collection\_tagcams\_hkl0.xml  PASS: file:/Users/rchen/Desktop/test/testPrep/orex/checksums.txt  WARNING [warning.file.not\_referenced\_in\_label] File is not referenced by any label  PASS: file:/Users/rchen/Desktop/test/testPrep/orex/bundle\_tagcams.xml  PASS: file:/Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/ega/20170922T204112S269\_ncm\_L0S.xml  PASS: file:/Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/cruise\_1/20170815T164303S694\_ncm\_L0S.xml  Validation complete.  Summary:  0 error(s)  1 warning(s)  Message Types:  1 warning.file.not\_referenced\_in\_label  End of Report  Step 8:  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-17T22:58:04Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/twins\_raw\_0015\_01.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testPrep/twins\_raw\_0015\_01.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/twins\_raw\_0015\_01.csv  ERROR [error.table.field\_value\_data\_type\_mismatch] table 1, record 1, field 5: Value does not match its data type 'ASCII\_Date\_Time\_DOY\_UTC': Could not parse notadatebyanystandard using these patterns 'YYYYZ, YYYY-DOYThhZ, YYYY-DOYThh:mmZ, YYYY-DOYThh:mm:ss[.ffffff]Z'  ERROR [error.table.field\_value\_data\_type\_mismatch] table 1, record 1, field 6: Value does not match its data type 'ASCII\_Integer': '88.88' does not match the pattern '[+-]?\d+'  End Content Validation: file:/Users/rchen/Desktop/test/testPrep/twins\_raw\_0015\_01.csv  Validation complete.  Summary:  2 error(s)  0 warning(s)  Message Types:  2 error.table.field\_value\_data\_type\_mismatch  End of Report  Step 9: standard good message  Step 10:  64c64  < <local\_identifier\_reference>Image\_Cube\_Object</local\_identifier\_reference>  ---  > <local\_identifier\_reference>Image\_Cube\_Object\_TYPO</local\_identifier\_reference>  134c134  < <elements>945</elements>  ---  > <elements>9945</elements>  Step 11: standard good message  Step 12: This validates PDS-606  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-17T22:59:46Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/7f90b.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testPrep/7f90b.xml  ERROR [error.label.schema] line 12, 110: cvc-id.1: There is no ID/IDREF binding for IDREF 'Image\_Cube\_Object\_TYPO'.  ERROR [error.label.schematron] line 63, 43: Display Dictionary: In the pds:Local\_Internal\_Reference class, the value of the pds:local\_identifier\_reference must match the value of the pds:local\_identifer of an Array class or sub-class within the File\_Area.  ERROR [error.label.local\_identifier\_not\_found] line 64: Referenced Local Identifier 'Image\_Cube\_Object\_TYPO' does not exist in any of the local\_identifier attributes in the label.  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/7f90.img  FATAL\_ERROR [error.array.bad\_file\_read] array 1: Error occurred while reading data file: Error occurred while trying to read data at location (1, 335, 4771): null  End Content Validation: file:/Users/rchen/Desktop/test/testPrep/7f90.img  Validation complete.  Summary:  4 error(s)  0 warning(s)  Message Types:  1 error.label.schematron  1 error.array.bad\_file\_read  1 error.label.local\_identifier\_not\_found  1 error.label.schema  End of Report  Step 13: the output file actually shows validation errors (irrelevant to this test)  Sat Oct 19 16:42:19 PDT 2019  Oct 19, 2019 4:42:22 PM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  Sat Oct 19 16:50:37 PDT 2019  Step 14: Works, but user quit after 7 hours.  Step 15: standard good message  Step 16: standard good message  Step 17:  PDS557SAYSSKIPTHISPARTOFDATAFILE  [standard good validation message]  Step 18: Warn that collection.csv contains a dangling LID (nosuchfile.obj )  total 6184  -rw-rw-r-- 1 rchen 1 Apr 20 19:08 00ANOTHERDANGLER  total 24  -rw-rw-r-- 1 rchen 1 Apr 20 19:09 00DANGLINGFILE  PDS Validate Tool Report  [snip]  PDS4 Bundle Level Validation Results  PASS: file:/Users/rchen/Desktop/test/testPrep/insightcameras/data/collection\_data.xml  WARNING [warning.integrity.member\_not\_found] The member 'urn:nasa:pds:insight\_cameras:data:nosuchfile.obj::1.0' could not be found in any product within the given target.  [snip]  Step 19: Standard good message. Reals ok with no digits before ‘.’ in label and data  Step 20: Standard good message. 2016-12-31T23:59:60.555555Z ok in label and data  Step 21:  Oct 20, 2019 1:07:49 AM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  ..............................................................................................................................................................................................................................................................................................................................................................................................PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-20T08:07:25Z  Parameters:  Targets [file:/Users/rchen/Desktop/virs\_cube\_64ppd\_h15sp.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Data Spot Check 100  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/virs\_cube\_64ppd\_h15sp.xml  Validation complete.  Summary:  0 error(s)  0 warning(s)  End of Report  Step 22: Standard good message. Small negative IEEE754MSBSingle in data ok  Step 23: Standard good message. Datetime value of 1997-04-06T02:09:36 ok  Step 24: Standard good message. All floats are read ok.  Step 25: This test only works with bad labels. Older versions hung.  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-20T06:46:51Z  Parameters:  Targets [https://atmos.nmsu.edu/PDS/data/PDS4/MAVEN/iuvs\_calibrated\_bundle/calibration/centroid/2018/01]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation off  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: https://atmos.nmsu.edu/PDS/data/PDS4/MAVEN/iuvs\_calibrated\_bundle/calibration/centroid/2018/01/mvn\_iuv\_l1b\_centroid-orbit06470-fuv\_20180127T053800.xml  Begin Fragment: http://pds.nasa.gov/pds4/disp/v1  ERROR [error.label.schema] line 10, 5: The element type "meta" must be terminated by the matching end-tag "</meta>".  End Fragment: http://pds.nasa.gov/pds4/disp/v1  FAIL: https://atmos.nmsu.edu/PDS/data/PDS4/MAVEN/iuvs\_calibrated\_bundle/calibration/centroid/2018/01/mvn\_iuv\_l1b\_centroid-orbit06470-muv\_20180127T053800.xml  Begin Fragment: http://pds.nasa.gov/pds4/disp/v1  ERROR [error.label.schema] line 10, 5: The element type "meta" must be terminated by the matching end-tag "</meta>".  End Fragment: http://pds.nasa.gov/pds4/disp/v1  [snip…1  Validation complete.  Summary:  1806 error(s)  0 warning(s)  Message Types:  1806 error.label.schema  End of Report  Step 26: Standard good message.  Step 27: I think complaining about insufficient digit is correct  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-20T08:03:26Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/ccb214.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testPrep/ccb214.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/ccb214.tab  ERROR [error.table.field\_value\_format\_precision\_mismatch] table 1, record 9, field 2: The number of digits to the right of the decimal point in the value '2.409219' does not equal the precision set in the defined field format (expected 7, got 6).  End Content Validation: file:/Users/rchen/Desktop/test/testPrep/ccb214.tab  Summary:  1 error(s)  0 warning(s)  Message Types:  1 error.table.field\_value\_format\_precision\_mismatch  End of Report |
| Comments | Results met success criteria. |
| Date of Testing | 2019.10.20 |
| Test Personnel | Richard Chen |

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| Test Case ID | VAL.7 |
| Description | Test various capabilities described in release documents: |
| Requirements | PASS L5.PRP.VA.3: The tool shall validate aggregate products and all products referenced by such products. |
| Success Criteria | Verify build 10a issues |
| Test Steps | 1. cd *testDir*/testPrep 2. validate -t val15.xml #val15 3. validate -t val87.xml # edit val87.catalog to point to local files 4. validate -C val87.catalog -t val87.xml #val87 val71 5. validate -C val87.catalog val87.xml #val72 6. validate -c val84.cfg #val84 val74 7. validate -t val28.xml 8. validate --add-context-products val28.json -t val28.xml #val28 9. validate -t val28.xml --skip-context-validation #val47 10. date; validate -R pds4.bundle -t val30 >& v.out ; date #val29 val30 val39 11. validate -R pds4.bundle -t val30 -f #val23 12. validate -R pds4.bundle -t val30 -m1D00 #val23 13. validate -R pds4.bundle -t val30 --no-data-check #val133 14. validate -R pds4.bundle -t val30 --skip-content-validation #val133 val99 15. validate --target-manifest val50.list #val50. Edit val50.lst if paths changed 16. diff val15a.xml val62.xml 17. validate -t val62.xml #val62 val90 18. diff val9a.xml val9b.xml 19. validate -t val9a.xml 20. validate -t val9b.xml 21. validate -t val33/data/frd.xml -x val33/dicts/\*.xsd -S val33/dicts/\*sch 22. validate -t val33/data/frd.xml -C val33/dicts/catalog\_psa1101.xml 23. diff val28.json val107.json #val107 24. validate -v1 --add-context-products val28.json -t val28.xml 25. validate -v1 --add-context-products val107.json -t val28.xml 26. echo $JAVA\_HOME #val37. Add spaces appropriately 27. sudo mv /Library/Java/JavaVirtualMachines "/Library/Java/Java Virtual Machines" 28. validate -V #this should fail 29. setenv JAVA\_HOME "/Library/Java/Java Virtual Machines/jdk-12.0.1.jdk/Contents/Home" 30. validate -V #show validate handles spaces in path 31. sudo mv /Library/Java/Java\ Virtual\ Machines /Library/Java/JavaVirtualMachines; setenv JAVA\_HOME "/Library/Java/JavaVirtualMachines/jdk-12.0.1.jdk/Contents/Home" 32. validate -t val55.xml 33. Note: error message “WARNING: An illegal reflective access operation has occurred” never appears. #val95 34. Note: “Summary” section always correctly sums “Message Types” #val118 |
| Test Results | Step 2: in 10a, standard good message. Eventually, error for incorrect name  Step 3:  Oct 21, 2019 12:51:11 AM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-21T07:51:07Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val87.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testPrep/val87.xml  ERROR [error.label.schematron] line 76, 31: The attribute insight:product\_type must be equal to one of the following values 'ARK', 'ARM', 'ARO', 'BAY', 'CLM', 'CLR', 'DDD', 'DDL', 'DDS', 'DEM', 'DFF', 'DFL', 'DFS', 'DSE', 'DSG', 'DSL', 'DSP', 'DSR', 'DSS', 'Dataless-SEED', 'EDR', 'EJP', 'ERP', 'GUH', 'GUS', 'GeoCSV', 'IEF', 'IEP', 'ILC', 'ILM', 'ILP', 'ILT', 'IOF', 'IOI', 'ION', 'LANDER\_COORD', 'LIN', 'MAR', 'MDS', 'MSK', 'MXY', 'Mini-SEED', 'RAD', 'RAD-calibrated', 'RAD-derived', 'RAD-raw', 'RAF', 'RAS', 'RDM', 'RDR', 'RIE', 'RIF', 'RNE', 'RNF', 'RNG', 'RNM', 'RNO', 'RNR', 'ROTATION\_PARAMETERS', 'RSM', 'RUH', 'RUS', 'SHD', 'SHO', 'SLO', 'SLP', 'SMG', 'SMO', 'SNO', 'SNT', 'STATIL-calibrated', 'STATIL-raw', 'StationXML', 'TAU', 'TDS', 'TEM-A-calibrated', 'TEM-P-calibrated', 'TEM-calibrated', 'TEM-raw', 'TFH', 'TFS', 'TFW', 'TLM-raw', 'TNF', 'TRO', 'UIH', 'UIS', 'UIW', 'UUF', 'UUU', 'UVF', 'UVO', 'UVP', 'UVS', 'UVT', 'UVW', 'VVF', 'VVV', 'WEA', 'WSH', 'WSS', 'WWF', 'WWW', 'XXF', 'XXX', 'XYE', 'XYF', 'XYM', 'XYO', 'XYR', 'XYZ', 'YYF', 'YYY', 'ZIH', 'ZIS', 'ZIW', 'ZZF', 'ZZZ'.  Validation complete.  Summary:  1 error(s)  0 warning(s)  Message Types:  1 error.label.schematron  End of Report  Step 4: standard good message  Step 5: prevent -C from greediness  No files specified for validation. Check your paths and use -t flag to explicitly denote the set of target data.  Step 6: specify schema and schematron via config file, and verify -c works  Oct 23, 2019 1:57:53 PM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  PDS Validate Tool Report  Configuration:  Version 1.17.4  Date 2019-10-23T20:57:51Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val87.xml]  User Specified Schemas [file:/Users/rchen/Desktop/test/PDS4\_PDS\_1D00.xsd, file:/Users/rchen/Desktop/test/testPrep/val87.xsd]  User Specified Schematrons [file:/Users/rchen/Desktop/test/PDS4\_PDS\_1D00.sch, file:/Users/rchen/Desktop/test/testPrep/val87.sch]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/testPrep/val87.xml  Validation complete.  Summary:  0 error(s)  0 warning(s)  End of Report  Step 7: the .xml references a non-existent LID  Oct 21, 2019 11:53:44 AM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-21T18:53:38Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val28.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testPrep/val28.xml  ERROR [error.label.context\_ref\_not\_found] line 60: 'Context product not found: urn:nasa:pds:context:target:asteroid.testme  Validation complete.  Summary:  1 error(s)  0 warning(s)  Message Types:  1 error.label.context\_ref\_not\_found  End of Report  Step 8: the .json “defines” the non-existent LID. The WARNING is deliberate  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-21T18:58:51Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val28.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Non Registered Contexts File val28.json  Product Level Validation Results  PASS: gov.nasa.pds.validate.ValidateLauncher  WARNING [warning.product\_not\_registered] Non-registered context products should only be used during archive development. All context products must be registered for a valid, released archive bundle.  Oct 21, 2019 11:58:59 AM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  PASS: file:/Users/rchen/Desktop/test/testPrep/val28.xml  Validation complete.  Summary:  0 error(s)  1 warning(s)  Message Types:  1 warning.product\_not\_registered  End of Report  Step 9: Standard good message, i.e. no check for error.label.context\_ref\_not\_found  Step 10: validate needed 14 minutes for the 6.4GB bundle. v1.15.0 needed 51 minutes.  Steps 11-13: flags -f, -m --no-check-data deprecated (note: checksum warnings valid)  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-22T20:06:19Z  [snip…]  Summary:  98 error(s)  0 warning(s)  Message Types:  98 error.label.checksum\_mismatch  End of Report  NOTE: The following flags have been deprecated. These options will no longer be supported after December 20, 2021.  Update execution as soon as possible to avoid issues. Contact pds\_operator@jpl.nasa.gov if you have issues.  --force (-f)--model-version (-m) flags have been deprecated.  The default behavior of the Validate Tool validates against the schemas and  schematrons specified in a label.  Please use -x and/or -S flag(s) to validate with the core PDS or user-specified  schema and schematron.  --no-check-data flag has been deprecated and replaced by --skip-content-validation to avoid confusion in naming of other flags. Please change software execution to use the new flag to avoid any issues.  Step 14: --skip-content-validation works. No error.label.context\_ref\_mismatch (val99)  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-22T20:09:44Z  [snip…]Summary:  98 error(s)  0 warning(s)  Message Types:  98 error.label.checksum\_mismatch  End of Report  Step 15:  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-22T22:58:28Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val30/browse/ifg\_cal\_SOL0014\_20181211T021721\_20181211T155105\_pt2Hz\_v01.xml, file:/Users/rchen/Desktop/test/testPrep/val30/document/]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/testPrep/val30/browse/ifg\_cal\_SOL0014\_20181211T021721\_20181211T155105\_pt2Hz\_v01.xml  PASS: file:/Users/rchen/Desktop/test/testPrep/val30/document/PolymonialFits.xml  PASS: file:/Users/rchen/Desktop/test/testPrep/val30/document/InSight\_IFG\_Data\_Calibration\_Description.xml  PASS: file:/Users/rchen/Desktop/test/testPrep/val30/document/Insight\_IFG\_SIS.v1.1.xml  Oct 22, 2019 3:58:32 PM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  PASS: file:/Users/rchen/Desktop/test/testPrep/val30/document/collection\_document\_1.0.xml  Validation complete.  Summary:  0 error(s)  0 warning(s)  End of Report  Step 16:  35c35  < <lid\_reference>urn:nasa:pds:context:investigation:mission.insight</lid\_reference>  ---  > <lid\_reference>urn:nasa:pds:context:investigation:mission.fakefake</lid\_reference> <!--RChen: #val90-->  45c45  < <lid\_reference>urn:nasa:pds:context:instrument\_host:spacecraft.insight</lid\_reference>  ---  > <lid\_reference>urn:nasa:pds:context:instrument\_host:spacecraft.fake</lid\_reference>  /Users/rchen/Desktop/test/testPrep>  Step 17: The ERRORs are correct. v1.14.0 would not have caught them  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-23T06:04:15Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val62.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testPrep/val62.xml  ERROR [error.label.context\_ref\_not\_found] line 35: 'Context product not found: urn:nasa:pds:context:investigation:mission.fakefake  ERROR [error.label.context\_ref\_not\_found] line 45: 'Context product not found: urn:nasa:pds:context:instrument\_host:spacecraft.fake  Validation complete.  Summary:  1 error(s)  0 warning(s)  Message Types:  1 error.label.context\_ref\_not\_found  End of Report  Step 18:  98c98  < <field\_length unit="byte">13</field\_length>  ---  > <field\_length unit="byte">3</field\_length>  Step 19: standard good message  Step 20: field 2 of records 1 and 2 begin with 3+ blanks, so validate complains correctly  Oct 23, 2019 1:30:19 AM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  PDS Validate Tool Report  Configuration:  Version 1.17.3  Date 2019-10-23T08:30:16Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val9b.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testPrep/val9b.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/val9.tab  ERROR [error.table.field\_value\_data\_type\_mismatch] table 1, record 1, field 2: Value does not match its data type 'ASCII\_Integer': '' does not match the pattern '[+-]?\d+'  ERROR [error.table.field\_value\_data\_type\_mismatch] table 1, record 2, field 2: Value does not match its data type 'ASCII\_Integer': '' does not match the pattern '[+-]?\d+'  End Content Validation: file:/Users/rchen/Desktop/test/testPrep/val9.tab  Validation complete.  Summary:  2 error(s)  0 warning(s)  Message Types:  2 error.table.field\_value\_data\_type\_mismatch  End of Report  Step 21:  Oct 24, 2019 12:37:02 AM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  PDS Validate Tool Report  Configuration:  Version 1.17.4  Date 2019-10-24T07:37:00Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val33/data/frd.xml]  User Specified Schemas [file:/Users/rchen/Desktop/test/testPrep/val33/dicts/PDS4\_PDS\_1B00.xsd, file:/Users/rchen/Desktop/test/testPrep/val33/dicts/PDS4\_PSA\_1101.xsd, file:/Users/rchen/Desktop/test/testPrep/val33/dicts/PDS4\_PSA\_EM16\_FREND\_1100.xsd]  User Specified Schematrons [file:/Users/rchen/Desktop/test/testPrep/val33/dicts/PDS4\_PDS\_1B00.sch, file:/Users/rchen/Desktop/test/testPrep/val33/dicts/PDS4\_PSA\_1101.sch, file:/Users/rchen/Desktop/test/testPrep/val33/dicts/PDS4\_PSA\_EM16\_FREND\_1100.sch]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testPrep/val33/data/frd.xml  ERROR [error.label.schema] line 979, 27: cvc-complex-type.2.4.a: Invalid content was found starting with element '{"http://pds.nasa.gov/pds4/pds/v1":fField\_Character}'. One of '{"http://pds.nasa.gov/pds4/pds/v1":Field\_Character, "http://pds.nasa.gov/pds4/pds/v1":Group\_Field\_Character}' is expected.  ERROR [error.label.schematron] line 18, 24: The value of the attribute logical\_identifier must only contain lower-case letters  ERROR [error.label.schematron] line 931, 25: The number of Field\_Character elements (4) does not match the number found in the 'fields' attribute (5).  ERROR [error.label.context\_ref\_not\_found] line 57: 'Context product not found: urn:esa:psa:context:investigation:mission.em16  ERROR [error.label.context\_ref\_not\_found] line 70: 'Context product not found: urn:esa:psa:context:instrument\_host:spacecraft.tgo  ERROR [error.label.context\_ref\_not\_found] line 80: 'Context product not found: urn:esa:psa:context:instrument:frend.tgo  Validation complete.  Summary:  6 error(s)  0 warning(s)  Message Types:  3 error.label.context\_ref\_not\_found  2 error.label.schematron  1 error.label.schema  End of Report  Step 22: validate -C warns error.catalog.unresolvable\_resource instead of quitting  Oct 24, 2019 12:35:06 AM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  PDS Validate Tool Report  Configuration:  Version 1.17.4  Date 2019-10-24T07:35:04Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val33/data/frd.xml]  User Specified Catalogs [val33/dicts/catalog\_psa1101.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testPrep/val33/data/frd.xml  ERROR [error.label.schema] line 979, 27: cvc-complex-type.2.4.a: Invalid content was found starting with element '{"http://pds.nasa.gov/pds4/pds/v1":fField\_Character}'. One of '{"http://pds.nasa.gov/pds4/pds/v1":Field\_Character, "http://pds.nasa.gov/pds4/pds/v1":Group\_Field\_Character}' is expected.  WARNING [error.catalog.unresolvable\_resource] SystemId is not set in resource. Most likely related to other XML validation ERROR.  WARNING [error.catalog.unresolvable\_resource] SystemId is not set in resource. Most likely related to other XML validation ERROR.  ERROR [error.label.schematron] line 18, 24: The value of the attribute logical\_identifier must only contain lower-case letters  ERROR [error.label.schematron] line 931, 25: The number of Field\_Character elements (4) does not match the number found in the 'fields' attribute (5).  ERROR [error.label.context\_ref\_not\_found] line 57: 'Context product not found: urn:esa:psa:context:investigation:mission.em16  ERROR [error.label.context\_ref\_not\_found] line 70: 'Context product not found: urn:esa:psa:context:instrument\_host:spacecraft.tgo  ERROR [error.label.context\_ref\_not\_found] line 80: 'Context product not found: urn:esa:psa:context:instrument:frend.tgo  Validation complete.  Summary:  6 error(s)  2 warning(s)  Message Types:  3 error.label.context\_ref\_not\_found  2 error.label.schematron  2 error.catalog.unresolvable\_resource  1 error.label.schema  End of Report  Step 23: handle multiple values for type  8c8,9  < "ASTEROID"  ---  > "ASTEROID",  > "Planet"  Step 24: 10a disabled checking of <type> of references, but -v1 shows it  PDS Validate Tool Report  Configuration:  Version 1.17.4  Date 2019-10-24T23:03:22Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val28.xml]  Severity Level INFO  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Non Registered Contexts File val28.json  Product Level Validation Results  PASS: gov.nasa.pds.validate.ValidateLauncher  WARNING [warning.product\_not\_registered] Non-registered context products should only be used during archive development. All context products must be registered for a valid, released archive bundle.  Oct 24, 2019 4:03:26 PM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  PASS: file:/Users/rchen/Desktop/test/testPrep/val28.xml  INFO [info.label.missing\_checksum] No checksum to compare against in the product label for 'file:/Users/rchen/Desktop/test/testPrep/val28.csv'  INFO [info.label.context\_ref\_found] line 33: Context product found: 'urn:nasa:pds:context:investigation:mission.cassini-huygens'  INFO [info.label.context\_ref\_mismatch] line 33: Context reference name mismatch. Value: 'Cassini' Expected one of: '[CASSINI-HUYGENS]'  INFO [info.label.context\_ref\_found] line 43: Context product found: 'urn:nasa:pds:context:instrument:cirs.co'  INFO [info.label.context\_ref\_mismatch] line 43: Context reference name mismatch. Value: 'cocirs' Expected one of: '[COMPOSITE INFRARED SPECTROMETER]'  INFO [info.label.context\_ref\_found] line 51: Context product found: 'urn:nasa:pds:context:instrument\_host:spacecraft.co'  INFO [info.label.context\_ref\_case\_mismatch] line 51: Context reference name case mismatch. Value: 'Cassini Orbiter' Expected one of: '[CASSINI ORBITER]'  INFO [info.label.context\_ref\_found] line 60: Context product found: 'urn:nasa:pds:context:target:asteroid.testme'  INFO [info.label.context\_ref\_mismatch] line 60: Context reference name mismatch. Value: 'Saturn' Expected one of: '[not a real asteroid]'  INFO [info.label.context\_ref\_mismatch] line 60: Context reference type mismatch. Value: 'Planet' Expected one of: '[ASTEROID]'  Validation complete.  Summary:  0 error(s)  1 warning(s)  Message Types:  1 warning.product\_not\_registered  4 info.label.context\_ref\_mismatch  4 info.label.context\_ref\_found  1 info.label.missing\_checksum  1 info.label.context\_ref\_case\_mismatch  End of Report  Step 25: One fewer info.label.context\_ref\_mismatch than previous step  [snip….]  PASS: file:/Users/rchen/Desktop/test/testPrep/val28.xml  INFO [info.label.missing\_checksum] No checksum to compare against in the product label for 'file:/Users/rchen/Desktop/test/testPrep/val28.csv'  INFO [info.label.context\_ref\_found] line 33: Context product found: 'urn:nasa:pds:context:investigation:mission.cassini-huygens'  INFO [info.label.context\_ref\_mismatch] line 33: Context reference name mismatch. Value: 'Cassini' Expected one of: '[CASSINI-HUYGENS]'  INFO [info.label.context\_ref\_found] line 43: Context product found: 'urn:nasa:pds:context:instrument:cirs.co'  INFO [info.label.context\_ref\_mismatch] line 43: Context reference name mismatch. Value: 'cocirs' Expected one of: '[COMPOSITE INFRARED SPECTROMETER]'  INFO [info.label.context\_ref\_found] line 51: Context product found: 'urn:nasa:pds:context:instrument\_host:spacecraft.co'  INFO [info.label.context\_ref\_case\_mismatch] line 51: Context reference name case mismatch. Value: 'Cassini Orbiter' Expected one of: '[CASSINI ORBITER]'  INFO [info.label.context\_ref\_found] line 60: Context product found: 'urn:nasa:pds:context:target:asteroid.testme'  INFO [info.label.context\_ref\_mismatch] line 60: Context reference name mismatch. Value: 'Saturn' Expected one of: '[not a real asteroid]'  Validation complete.  Summary:  0 error(s)  1 warning(s)  Message Types:  1 warning.product\_not\_registered  4 info.label.context\_ref\_found  3 info.label.context\_ref\_mismatch  1 info.label.missing\_checksum  1 info.label.context\_ref\_case\_mismatch  End of Report  Step 28:  /PDS4tools/validate/bin/validate: line 66: /Library/Java/JavaVirtualMachines/jdk-12.0.1.jdk/Contents/Home/bin/java: No such file or directory  Step 30:  gov.nasa.pds:validate  Version 1.17.4  Release Date: 2019-10-22 13:54:19  Core Schema: PDS4\_PDS\_1D00.xsd  Core Schematron: PDS4\_PDS\_1D00.sch  Copyright 2019, by the California Institute of Technology ("Caltech").  All rights reserved.  Step 32: One iteration of validate was not catching these 4 errors.  Oct 24, 2019 5:12:03 PM com.sun.xml.bind.v2.runtime.reflect.opt.AccessorInjector <clinit>  INFO: The optimized code generation is disabled  PDS Validate Tool Report  Configuration:  Version 1.17.4  Date 2019-10-25T00:11:59Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val55.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Data Content Validation on  Product Level Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testPrep/val55.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/val55.tab  ERROR [error.table.record\_length\_mismatch] table 1, record 1: Record length exceeds the max defined record length (expected 59, got 156).  ERROR [error.table.record\_length\_mismatch] table 1, record 2: Record length exceeds the max defined record length (expected 59, got 185).  ERROR [error.table.record\_length\_mismatch] table 1, record 3: Record length exceeds the max defined record length (expected 59, got 190).  ERROR [error.table.record\_length\_mismatch] table 1, record 4: Record length exceeds the max defined record length (expected 59, got 175).  End Content Validation: file:/Users/rchen/Desktop/test/testPrep/val55.tab  Validation complete.  Summary:  4 error(s)  0 warning(s)  Message Types:  4 error.table.record\_length\_mismatch  End of Report  Step 2:  32c32 |
| Comments | Results met success criteria. |
| Date of Testing | 2019.10.20 |
| Test Personnel | Richard Chen |

|  |  |
| --- | --- |
| Test Case ID | VIEW.1 |
| Description | Inspect PDS4 data |
| Requirements | PASS L4?.???.? |
| Success Criteria | Visualize various structres of Product\_Observational data |
| Test Steps | Start PDS View (not via command line), then “File” > “Open in New Window”, each of these files in *testDir* #view10 #view21   1. bundle\_geo\_ra/data\_derived/sol007.xml (Table\_Delimited) 2. view.29.14/view29.xml (Array\_2D\_Image) #view14 #view29 3. testPrep/cara\_data/cara\_data/data/C2004Q2.xml (Table\_Character) 4. testView/view26.xml #view26 5. testView/view27.xml #view27 6. testView/view28.xml #view28 7. testView/view22.xml #view22 |
| Test Results | Step 1:  Step 2:  Step 3:  Steps 4-6: all freeze |
| Comments | In 10a step 2, [view29](https://github.com/NASA-PDS-Incubator/pds-view/issues/29) requests improved orientation of a qub 2D backplane  In 10a, every step confirms [view10](https://github.com/NASA-PDS-Incubator/pds-view/issues/10), immediately prompt user to choose a file, and [view21](https://github.com/NASA-PDS-Incubator/pds-view/issues/21), some library preventing the app from running  In 10a, steps 4,5,6 open [view26](https://github.com/NASA-PDS-Incubator/pds-view/issues/26), [view27](https://github.com/NASA-PDS-Incubator/pds-view/issues/27), [view28](https://github.com/NASA-PDS-Incubator/pds-view/issues/28)  In 10a, step 7 could not confirm [view22](https://github.com/NASA-PDS-Incubator/pds-view/issues/22) worked |
| Date of Testing | 2019.10.28 |
| Test Personnel | Richard Chen |

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| Test Case ID | XFRM.1 \*not tested in 10a |
| 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/i943630r.xml -o ./ -f jpg 3. transform testPrep/tfm\_FF01.LBL -o ./ -f jp2 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 -w tfm\_ele\_mom.xml testPrep/tfm\_ELE\_MOM.xml 7. transform testPrep/tfm\_414.xml -f jpg 8. transform testPrep/TFM\_GRAND1A.LBL -f csv 9. transform tfm\_grand1a.xml -f pds3-label 10. ln -s testPrep/tfm\_grand1a.tab . 11. Run NASAView to show TFM\_GRAND1A.LBL == testPrep/tfmgrand1A.lbl   == tfm\_grand1a\_delimited\_csv.xml (through pds\_viewer)   1. Edit output file TFM\_GRAND1A.csv to replace all commas with spaces 2. diff -w TFM\_GRAND1A.csv testPrep/TFM\_GRAND1A.TAB 3. transform -f csv https://sbn.psi.edu/archive/bundles/ast\_lightcurve\_derived/data/lc\_binary.xml 4. Use pds4\_viewer to examine local file lc\_binary\_delimited\_csv.xml 5. transform testPrep/xrs\_map\_ca\_si\_20150424.xml -f fits 6. Use pds4\_viewer for testPrep/xrs\_map\_ca\_si\_20150424.xml and fv for xrs\_map\_ca\_si\_20150424.fits 7. rm xrs\_map\_ca\_si\_20150424.fits lc\_binary\_delimited\_csv.xml lc\_binary.csv TFM\_GRAND1a.csv tfm\_grand1a.tab TFM\_GRAND1A.LBL tfm\_grand1a\_delimited\_csv.xml tfm\_grand1a.xml velocity.log tfm\_414.jpg tfm\_ele\_mom.xml TFM\_FF01.jp2 i943630r.jpg |
| Test Results | Step 2:  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 10:40:10 AM  Target [file:/Users/rchen/Desktop/test/testPrep/i943630r.xml]  Output Directory .  Index 1  Format Type jpg  INFO: [/Users/rchen/Desktop/test/testPrep/i943630r.xml] Transforming image '1' of file 'i943630r.raw'  INFO: [TwoDImageExporter:setImageStatistics] No display settings found for identifier 'MPFL-M-IMP\_IMG\_GRAYSCALE'.  INFO: [/Users/rchen/Desktop/test/testPrep/i943630r.xml] Successfully transformed image '1' of file 'i943630r.raw' to the following output: ./i943630r.jpg  i943630r.jpg:  i943630r.jpg  Step 3: transform VICAR IO  Image write Done  JConvertIIO  0) INP = *testDir*/testPrep/tfm\_FF01.LBL  1) OUT = ../TFM\_FF01.jp2  2) FORMAT = jpeg2000  3) RI = true  4) OFORM = BYTE  outputs = [./TFM\_FF01.jp2]  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 10:40:27 AM  Target [file:/Users/rchen/Desktop/test/testPrep/tfm\_FF01.LBL]  Output Directory .  Index 1  Format Type jp2  INFO: [*testDir*/testPrep/tfm\_FF01.LBL] Transforming image file: *testDir*/testPrep/TFM\_FF01.IMG  INFO: [*testDir*/testPrep/tfm\_FF01.LBL] Successfully transformed image file '*testDir*/testPrep/TFM\_FF01.IMG' to the following output: ../TFM\_FF01.jp2  TFM\_FF01.jp2:  Step 4:  New PDS4 Label: /Users/rchen/Desktop/test/tfm\_ele\_mom.xml  outputs = [/Users/rchen/Desktop/test/tfm\_ele\_mom.xml]  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 10:40:39 AM  Target [file:/Users/rchen/Desktop/test/testPrep/tfm\_ELE\_MOM.LBL]  Output Directory /Users/rchen/Desktop/test  Index 1  Format Type pds4-label  INFO: [*testDir*/testPrep/tfm\_ELE\_MOM.LBL] Transforming label file: *testDir*/testPrep/tfm\_ELE\_MOM.LBL  INFO: [*testDir*/testPrep/tfm\_ELE\_MOM.LBL] Finished transforming PDS3 label '*testDir*/testPrep/tfm\_ELE\_MOM.LBL' to a PDS4 label ' *testDir*/tfm\_ele\_mom.xml'  Step 5 shows proper handling of commas in column name.  testPrep/tfm\_ELE\_MOM.LBL: NAME = "ELE\_TEMP,OK,COMMA"  testPrep/tfm\_ELE\_MOM.xml: <name>ele\_temp,ok,comma</name>  Step 6: Differences not related to spacing:  1,9c1,2  < <?xml version="1.0" encoding="UTF-8" standalone="no"?>  <  < <?xml-model href="https://pds.nasa.gov/pds4/pds/v1/PDS4\_PDS\_1A00.sch"  < schematypens="http://purl.oclc.org/dsdl/schematron"?>  <  < <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="http://pds.nasa.gov/pds4/pds/v1 https://pds.nasa.gov/pds4/pds/v1/PDS4\_PDS\_1A00.xsd">  ---  > <?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="">  14c7  < <information\_model\_version>1.12.0.0</information\_model\_version>  ---  > <information\_model\_version>1.2.0.1</information\_model\_version>  18c11  < <modification\_date>2019-04-20</modification\_date>  ---  > <modification\_date>2014-04-07</modification\_date>  Step 7:  testPrep/tfm_414.jpg  Step 8:  New PDS4 Label: /Users/rchen/Desktop/test/tfm\_grand1a.xml  outputs = [/Users/rchen/Desktop/test/tfm\_grand1A.csv, /Users/rchen/Desktop/test/tfm\_grand1a\_delimited\_csv.xml]  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 10:41:29 AM  Target [file:/Users/rchen/Desktop/test/testPrep/TFM\_GRAND1A.LBL]  Output Directory /Users/rchen/Desktop/test  Index 1  Format Type csv  INFO: [file:/Users/rchen/Desktop/test/testPrep/tfm\_grand1A.lbl] Transforming label file: file:/Users/rchen/Desktop/test/testPrep/tfm\_grand1A.lbl  INFO: [file:/Users/rchen/Desktop/test/testPrep/tfm\_grand1A.lbl] Finished transforming PDS3 label 'file:/Users/rchen/Desktop/test/testPrep/tfm\_grand1A.lbl' to a PDS4 label '/Users/rchen/Desktop/test/tfm\_grand1a.xml'  INFO: [file:/Users/rchen/Desktop/test/tfm\_grand1a.xml] Transforming table '1' of file: file:/Users/rchen/Desktop/test/testPrep/tfm\_grand1A.tab  INFO: [file:/Users/rchen/Desktop/test/tfm\_grand1a.xml] Successfully transformed table '1' to the following output: /Users/rchen/Desktop/test/tfm\_grand1A.csv  INFO: [file:/Users/rchen/Desktop/test/tfm\_grand1a.xml] Successfully created Table\_Delimited label: /Users/rchen/Desktop/test/tfm\_grand1a\_delimited\_csv.xml  Step 9:  outputs = [/Users/rchen/Desktop/test/TFM\_GRAND1A.LBL]  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 10:42:34 AM  Target [file:/Users/rchen/Desktop/test/tfm\_grand1a.xml]  Output Directory /Users/rchen/Desktop/test  Index 1  Format Type pds3-label  INFO: [file:/Users/rchen/Desktop/test/tfm\_grand1a.xml] Transforming label file: file:/Users/rchen/Desktop/test/tfm\_grand1a.xml  INFO: [/Users/rchen/Desktop/test/tfm\_grand1a.xml] Successfully transformed target label to a PDS3 label: /Users/rchen/Desktop/test/TFM\_GRAND1A.LBL  Step 13: no differences  Step 14: URL as input. Then inspect output file lc\_binary.csv  outputs outputs = [/Users/rchen/Desktop/test/lc\_binary.csv, /Users/rchen/Desktop/test/lc\_binary\_delimited\_csv.xml]  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 10:49:05 AM  Target [https://sbn.psi.edu/archive/bundles/ast\_lightcurve\_derived/data/lc\_binary.xml]  Output Directory /Users/rchen/Desktop/test  Index 1  Format Type csv  INFO: [https://sbn.psi.edu/archive/bundles/ast\_lightcurve\_derived/data/lc\_binary.xml] Transforming table '1' of file: https://sbn.psi.edu/archive/bundles/ast\_lightcurve\_derived/data/lc\_binary.tab  INFO: [https://sbn.psi.edu/archive/bundles/ast\_lightcurve\_derived/data/lc\_binary.xml] Successfully transformed table '1' to the following output: /Users/rchen/Desktop/test/lc\_binary.csv  INFO: [https://sbn.psi.edu/archive/bundles/ast\_lightcurve\_derived/data/lc\_binary.xml] Successfully created Table\_Delimited label: /Users/rchen/Desktop/test/lc\_binary\_delimited\_csv.xml  Step 15:  Step 16:  outputs = [/Users/rchen/Desktop/test/xrs\_map\_ca\_si\_20150424.fits]  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 10:50:11 AM  Target [file:/Users/rchen/Desktop/test/testPrep/xrs\_map\_ca\_si\_20150424.xml]  Output Directory /Users/rchen/Desktop/test  Index 1  Format Type fits  INFO: [/Users/rchen/Desktop/test/testPrep/xrs\_map\_ca\_si\_20150424.xml] Transforming image '1' of file 'xrs\_map\_ca\_si\_20150424.img'  INFO: [TwoDImageExporter:setImageStatistics] No display settings found for identifier 'RATIO\_OF\_CA\_TO\_SI'.  INFO: [/Users/rchen/Desktop/test/testPrep/xrs\_map\_ca\_si\_20150424.xml] Successfully transformed image '1' of file 'xrs\_map\_ca\_si\_20150424.img' to the following output: /Users/rchen/Desktop/test/xrs\_map\_ca\_si\_20150424.fits.  Step 17: |
| Comments | Results met success criteria.  <https://oodt.jpl.nasa.gov/jira/browse/PDS-343> (formerly PDS-349), created during testing of build 5b, requests friendlier warning messages |
| Date of Testing | 2019.04.20 |
| Test Personnel | Richard Chen |

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| Test Case ID | XFRM.2 \*not tested in 10a |
| Description | Transform PDS4 Array\_3D products into other formats. |
| 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 | If browse product exists, compare output against it. |
| Test Steps | 1. cd *testDir*/testPrep   Files tfm\_d00.\* were d000m5240t494053574edr\_f0000\_0501m1.\* from an Insight review   1. transform tfm\_d00.xml -f jpg 2. rm tfm\_d00.jpg   Transform an unsignedLSB2 and a signedLSB2.   1. transform tfm\_434u.xml -f png 2. transform tfm\_434s.xml -f gif 3. rm tfm\_434.png tfm\_434.gif   The input is actually an Array\_3D\_Image. PDS-602   1. transform -f fits 7f90.xml |
| Test Results | Step 2:  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 11:05:37 AM  Target [file:/Users/rchen/Desktop/test/testPrep/tfm\_d00.xml]  Output Directory /Users/rchen/Desktop/test/testPrep  Index 1  Format Type jpg  INFO: [/Users/rchen/Desktop/test/testPrep/tfm\_d00.xml] Transforming image '1' of file 'tfm\_d00.vic'  INFO: [ThreeDImageExporter:setImageStatistics] No display settings found for identifier 'IMAGE DATA'.  INFO: [/Users/rchen/Desktop/test/testPrep/tfm\_d00.xml] Successfully transformed image '1' of file 'tfm\_d00.vic' to the following output: /Users/rchen/Desktop/test/testPrep/tfm\_d00.jpg  Output looks good and matches browse product tfm\_d00.png../../Users/rchen/Desktop/d000m5240t494053574edr_f0000_0501m  Step 4:testPrep/tfm_434.png  Step 5:testPrep/tfm_434.gif  Step 7: This should work but doesn’t.  PDS Transform Tool Lo  outputs = []  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 10:59:52 PM  Target [file:/Users/rchen/Desktop/7f90.xml]  Output Directory /Users/rchen/Desktop  Index 1  Format Type fits  INFO: [/Users/rchen/Desktop/7f90.xml] Transforming image '1' of file '7f90.img'  ERROR: [file:/Users/rchen/Desktop/7f90.xml] Problem occurred during transformation: colorModel == null! |
| Comments | Results met success criteria.  In 9b, step 7 reopens [PDS-602](https://osr.jpl.nasa.gov/jira/browse/PDS-602) since it fails to transform the given Array\_3D\_Image |
| Date of Testing | 2019.04.20 |
| Test Personnel | Richard Chen |

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| Test Case ID | XFRM.3 \*not tested in 10a |
| Description | Test various capabilities described in release documents:   * Transform PDS4 Array\_3D\_Spectrum into other formats. * Use scaling\_factor, value\_offset, and orientation values. * Transform label with multiple images * pds3 with groups to pds4 counted pds4 fields and groups incorrectly |
| Requirements | PASS L4.PRP.4: The system shall provide a tool for transforming PDS products as follows… |
| Success Criteria | Visually inspect output product |
| Test Steps | 1. cd *testDir*/testPrep   A. Transform PDS4 Array\_3D\_Spectrum into other formats. Note, tfm\_spec.xml is tfm\_d00.xml with “…\_Spectrum” replacing “…\_Image”   1. transform tfm\_spec.xml -f jpg   B. Use scaling\_factor, value\_offset, and orientation values. Note, the input files tfm\_433\*.xml, are all variations of tfm\_d00.xml   1. diff tfm\_433a.xml tfm\_433b.xml 2. diff tfm\_433a.xml tfm\_433c.xml 3. transform tfm\_433a.xml -f gif 4. transform tfm\_433b.xml -f jpg 5. transform tfm\_433c.xml -f png   C. File pancam.qub has many images and uses <disp:\*display\_direction>   1. mkdir xA ; transform pancamA.xml -f jpg -a -o xA 2. mkdir xB ; transform pancamB.xml -f jpg -a -o xB 3. ls -l xA 4. diff pancamA.xml pancamB.xml 5. diff -r xA xB 6. view the two first files (and any other so desired) 7. transform -O pancamA.xml   D. Prior to 8b, the -a on this caused an error   1. transform -a -f csv -t mvn\_rse\_l2.xml   E. Count pds3 groups correctly; no warning for missing .fmt files; avoid deprecateds   1. mkdir x ; mv APXS\_\*.FMT x ; transform -f pds4-label APXS.LBL 2. validate -f apxs.xml 3. mv x/\* .; rmdir x; transform -f pds4-label APXS.LBL 4. validate -f apxs.xml 5. grep "APXS.DAT" APXS.LBL; grep offset apxs.xml 6. Verify apxs.xml, e.g. pds4\_viewer shows 4 tables of 1, 13, 1, and 1 rows   F. Build 9a   1. transform ED\_1996\_10\_31\_V01.LBL -f pds4-label 2. transform JGDWN\_CER18D\_SHA.LBL -f csv 3. transform -f pds4-label RMI\_SRU\_CRT\_05\_2017085\_2017086\_V01.LBL 4. transform -a -f csv PSP\_001777\_1650\_RED0\_1.IMG 5. transform -a -f jpg PSP\_001777\_1650\_RED0\_1.IMG 6. transform -f pds4-label -t DAWNCEGR2015002.LBL 7. rm -r tfm\_d00.jpg tfm\_433.gif tfm\_433.jpg tfm\_433.png xA xB velocity\* ed\_1996\_10\_31\_v01.xml jg\* JG\*.csv rmi\_sru\_crt\_05\_2017085\_2017086\_v01.xml PSP\*csv psp\*xml PSP\*jpg |
| Test Results | Step 2:  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 11:10:56 AM  Target [file:/Users/rchen/Desktop/test/testPrep/tfm\_spec.xml]  Output Directory /Users/rchen/Desktop/test/testPrep  Index 1  Format Type jpg  INFO: [/Users/rchen/Desktop/test/testPrep/tfm\_spec.xml] Transforming image '1' of file 'tfm\_d00.vic'  INFO: [ThreeDSpectrumExporter:setImageStatistics] No display settings found for identifier 'IMAGE DATA'.  INFO: [/Users/rchen/Desktop/test/testPrep/tfm\_spec.xml] Successfully transformed image '1' of file 'tfm\_d00.vic' to the following output: /Users/rchen/Desktop/test/testPrep/tfm\_d00.jpg  ../../Users/rchen/Desktop/tfm_d0  Step 3:  118,119c118,119  < <line\_display\_direction>Down</line\_display\_direction>  < <sample\_display\_direction>Right</sample\_display\_direction>  ---  > <line\_display\_direction>Up</line\_display\_direction>  > <sample\_display\_direction>Left</sample\_display\_direction>  Step 4:  105c105  < <scaling\_factor>1</scaling\_factor>  ---  > <scaling\_factor>0</scaling\_factor>  Steps 5,6,7 (images have been shrunk to fit 3-wide on this page)  ../../Users/rchen/Desktop/../../Users/rchen/Desktop/../../Users/rchen/Desktop/  Step 8 (Step 9 is very similar):  outputs = [xA/pancam\_1.jpg, xA/pancam\_2.jpg, xA/pancam\_3.jpg, xA/pancam\_4.jpg, xA/pancam\_5.jpg, xA/pancam\_6.jpg, xA/pancam\_7.jpg, xA/pancam\_8.jpg, xA/pancam\_9.jpg, xA/pancam\_10.jpg, xA/pancam\_11.jpg, xA/pancam\_12.jpg, xA/pancam\_13.jpg, xA/pancam\_14.jpg, xA/pancam\_15.jpg, xA/pancam\_16.jpg, xA/pancam\_17.jpg, xA/pancam\_18.jpg, xA/pancam\_19.jpg, xA/pancam\_20.jpg]  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 11:16:14 AM  Target [file:/Users/rchen/Desktop/test/testPrep/pancamA.xml]  Output Directory xA  Transform All true  Format Type jpg  INFO: [/Users/rchen/Desktop/test/testPrep/pancamA.xml] Transforming image '1' of file 'pancam.qub'  INFO: [/Users/rchen/Desktop/test/testPrep/pancamA.xml] Successfully transformed image '1' of file 'pancam.qub' to the following output: xA/pancam\_1.jpg  INFO: [/Users/rchen/Desktop/test/testPrep/pancamA.xml] Transforming image '2' of file 'pancam.qub'  [snip...]  INFO: [/Users/rchen/Desktop/test/testPrep/pancamA.xml] Transforming image '20' of file 'pancam.qub'  INFO: [TwoDImageExporter:setImageStatistics] No display settings found. Missing local\_identifier element in the Array\_2D\_Image area.  INFO: [/Users/rchen/Desktop/test/testPrep/pancamA.xml] Successfully transformed image '20' of file 'pancam.qub' to the following output: xA/pancam\_20.jpg  Step 10:  total 2928  -rw-rw-r-- 1 rchen 703763885 96617 Apr 20 11:16 pancam\_1.jpg  -rw-rw-r-- 1 rchen 703763885 38511 Apr 20 11:16 pancam\_10.jpg  -rw-rw-r-- 1 rchen 703763885 51693 Apr 20 11:16 pancam\_11.jpg  -rw-rw-r-- 1 rchen 703763885 63297 Apr 20 11:16 pancam\_12.jpg  -rw-rw-r-- 1 rchen 703763885 72366 Apr 20 11:16 pancam\_13.jpg  -rw-rw-r-- 1 rchen 703763885 98680 Apr 20 11:16 pancam\_14.jpg  -rw-rw-r-- 1 rchen 703763885 73826 Apr 20 11:16 pancam\_15.jpg  -rw-rw-r-- 1 rchen 703763885 115606 Apr 20 11:16 pancam\_16.jpg  -rw-rw-r-- 1 rchen 703763885 113894 Apr 20 11:16 pancam\_17.jpg  -rw-rw-r-- 1 rchen 703763885 68505 Apr 20 11:16 pancam\_18.jpg  -rw-rw-r-- 1 rchen 703763885 80052 Apr 20 11:16 pancam\_19.jpg  -rw-rw-r-- 1 rchen 703763885 89209 Apr 20 11:16 pancam\_2.jpg  -rw-rw-r-- 1 rchen 703763885 64422 Apr 20 11:16 pancam\_20.jpg  -rw-rw-r-- 1 rchen 703763885 76261 Apr 20 11:16 pancam\_3.jpg  -rw-rw-r-- 1 rchen 703763885 71655 Apr 20 11:16 pancam\_4.jpg  -rw-rw-r-- 1 rchen 703763885 68849 Apr 20 11:16 pancam\_5.jpg  -rw-rw-r-- 1 rchen 703763885 71295 Apr 20 11:16 pancam\_6.jpg  -rw-rw-r-- 1 rchen 703763885 63583 Apr 20 11:16 pancam\_7.jpg  -rw-rw-r-- 1 rchen 703763885 29191 Apr 20 11:16 pancam\_8.jpg  -rw-rw-r-- 1 rchen 703763885 52468 Apr 20 11:16 pancam\_9.jpg  Step 11:  71c71  < <disp:horizontal\_display\_direction>Left to Right</disp:horizontal\_display\_direction>  ---  > <disp:horizontal\_display\_direction>Right to Left</disp:horizontal\_display\_direction>  73c73  < <disp:vertical\_display\_direction>Top to Bottom</disp:vertical\_display\_direction>  ---  > <disp:vertical\_display\_direction>Bottom to Top</disp:vertical\_display\_direction>  Step 12: no differences  Step 13: (images have been shrunk to fit 2-wide on this page)  ../../../../../../Desktop/pancam_ ../../../../../../Desktop/pancam_  Step 14:  Supported Images:  Data file: pancam.qub  index = 1  object type = Array\_3D\_Spectrum  name = null  local identifier = Spectral\_Qube\_Object  data type = SignedMSB2  lines = 1024  samples = 1024  index = 2  object type = Array\_2D\_Image  name = iof\_r2  local identifier = null  data type = SignedMSB2  lines = 1024  samples = 1024  [snip…]  index = 20  object type = Array\_2D\_Image  name = approx\_phase\_angle  local identifier = null  data type = SignedMSB2  lines = 1024  samples = 1024  Supported Tables:  None Found  Step 15:  outputs = [/Users/rchen/Desktop/test/testPrep/mvn\_rse\_l2\_1.csv, /Users/rchen/Desktop/test/testPrep/mvn\_rse\_l2\_2.csv, /Users/rchen/Desktop/test/testPrep/mvn\_rse\_l2\_delimited\_csv.xml]  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 11:17:31 AM  Target [file:/Users/rchen/Desktop/test/testPrep/mvn\_rse\_l2.xml]  Output Directory /Users/rchen/Desktop/test/testPrep  Transform All true  Format Type csv  INFO: [file:/Users/rchen/Desktop/test/testPrep/mvn\_rse\_l2.xml] Transforming table '1' of file: file:/Users/rchen/Desktop/test/testPrep/mvn\_rse\_l2.tab  INFO: [file:/Users/rchen/Desktop/test/testPrep/mvn\_rse\_l2.xml] Successfully transformed table '1' to the following output: /Users/rchen/Desktop/test/testPrep/mvn\_rse\_l2\_1.csv  INFO: [file:/Users/rchen/Desktop/test/testPrep/mvn\_rse\_l2.xml] Transforming table '2' of file: file:/Users/rchen/Desktop/test/testPrep/mvn\_rse\_l2.tab  INFO: [file:/Users/rchen/Desktop/test/testPrep/mvn\_rse\_l2.xml] Successfully transformed table '2' to the following output: /Users/rchen/Desktop/test/testPrep/mvn\_rse\_l2\_2.csv  INFO: [file:/Users/rchen/Desktop/test/testPrep/mvn\_rse\_l2.xml] Successfully created Table\_Delimited label: /Users/rchen/Desktop/test/testPrep/mvn\_rse\_l2\_delimited\_csv.xml  Step 16: This should warn that the APXS\_\*.FMT files are missing. PDS-548  New PDS4 Label: /Users/rchen/Desktop/test/testPrep/apxs.xml  outputs = [/Users/rchen/Desktop/test/testPrep/apxs.xml]  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 11:17:42 AM  Target [file:/Users/rchen/Desktop/test/testPrep/APXS.LBL]  Output Directory /Users/rchen/Desktop/test/testPrep  Index 1  Format Type pds4-label  INFO: [/Users/rchen/Desktop/test/testPrep/APXS.LBL] Transforming label file: /Users/rchen/Desktop/test/testPrep/APXS.LBL  INFO: [/Users/rchen/Desktop/test/testPrep/APXS.LBL] Finished transforming PDS3 label '/Users/rchen/Desktop/test/testPrep/APXS.LBL' to a PDS4 label '/Users/rchen/Desktop/test/testPrep/apxs.xml'  Step 17:  WARNING: An illegal reflective access operation has occurred  WARNING: Illegal reflective access by com.sun.xml.bind.v2.runtime.reflect.opt.Injector$1 (file:/PDS4.9b.tools/validate-1.15.0/lib/jaxb-impl-2.2.4.jar) to method java.lang.ClassLoader.defineClass(java.lang.String,byte[],int,int)  WARNING: Please consider reporting this to the maintainers of com.sun.xml.bind.v2.runtime.reflect.opt.Injector$1  WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations  WARNING: All illegal access operations will be denied in a future release  PDS Validate Tool Report  Configuration:  Version 1.15.0  Date 2019-06-14T07:00:07Z  Parameters:  Targets [file:/Users/rchen/Desktop/PDS4test.build9b/testPrep/apxs.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Force Mode on  Data Content Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/PDS4test.build9b/testPrep/apxs.xml  ERROR [error.label.schema] line 61, 22: cvc-complex-type.2.4.b: The content of element 'Record\_Binary' is not complete. One of '{"http://pds.nasa.gov/pds4/pds/v1":Field\_Binary, "http://pds.nasa.gov/pds4/pds/v1":Group\_Field\_Binary}' is expected.  ERROR [error.label.schema] line 71, 22: cvc-complex-type.2.4.b: The content of element 'Record\_Binary' is not complete. One of '{"http://pds.nasa.gov/pds4/pds/v1":Field\_Binary, "http://pds.nasa.gov/pds4/pds/v1":Group\_Field\_Binary}' is expected.  ERROR [error.label.schema] line 81, 22: cvc-complex-type.2.4.b: The content of element 'Record\_Binary' is not complete. One of '{"http://pds.nasa.gov/pds4/pds/v1":Field\_Binary, "http://pds.nasa.gov/pds4/pds/v1":Group\_Field\_Binary}' is expected.  ERROR [error.label.schematron] line 61, 22: The values for 'fields' and 'groups' must not both be '0'. The number of fields found: (0). The number of groups found: (0).  ERROR [error.label.schematron] line 71, 22: The values for 'fields' and 'groups' must not both be '0'. The number of fields found: (0). The number of groups found: (0).  ERROR [error.label.schematron] line 81, 22: The values for 'fields' and 'groups' must not both be '0'. The number of fields found: (0). The number of groups found: (0).  ERROR [error.label.context\_ref\_not\_found] line 33: 'urn:nasa:pds:investigation.mars.science.laboratory' could not be found in the supplied list of registered context products.  Summary:  7 error(s)  0 warning(s)  Message Types:  3 error.label.schematron  3 error.label.schema  1 error.label.context\_ref\_not\_found  End of Report  Step 18:  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 11:18:15 AM  Target [file:/Users/rchen/Desktop/test/testPrep/APXS.LBL]  Output Directory /Users/rchen/Desktop/test/testPrep  Index 1  Format Type pds4-label  INFO: [/Users/rchen/Desktop/test/testPrep/APXS.LBL] Transforming label file: /Users/rchen/Desktop/test/testPrep/APXS.LBL  INFO: [/Users/rchen/Desktop/test/testPrep/APXS.LBL] Finished transforming PDS3 label '/Users/rchen/Desktop/test/testPrep/APXS.LBL' to a PDS4 label '/Users/rchen/Desktop/test/testPrep/apxs.xml'  Step 19: [PDS-834](https://osr.jpl.nasa.gov/jira/browse/PDS-834): create a correct lid\_reference  Configuration:  Version 1.15.0  Date 2019-06-14T07:31:19Z  Parameters:  Targets [file:/Users/rchen/Desktop/PDS4test.build9b/testPrep/apxs.xml]  Severity Level WARNING  Recurse Directories true  File Filters Used [\*.xml, \*.XML]  Force Mode on  Data Content Validation on  Max Errors 100000  Registered Contexts File /PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/PDS4test.build9b/testPrep/apxs.xml  ERROR [error.label.context\_ref\_not\_found] line 33: 'urn:nasa:pds:investigation.mars.science.laboratory' could not be found in the supplied list of registered context products.  Summary:  1 error(s)  0 warning(s)  Message Types:  1 error.label.context\_ref\_not\_found  End of Report  Step 20:  ^SCI\_HEADER\_TABLE = ("APXS.DAT", 1)  ^SCIENCE\_TABLE = ("APXS.DAT", 43 <BYTES>)  ^ENGINEERING\_TABLE = ("APXS.DAT", 27317 <BYTES>)  ^ERROR\_CONTROL\_TABLE = ("APXS.DAT", 29815 <BYTES>)  <offset unit="byte">0</offset>  <offset unit="byte">42</offset>  <offset unit="byte">27316</offset>  <offset unit="byte">29814</offset>  Step 22:  New PDS4 Label: /Users/rchen/Desktop/test/testPrep/ed\_1996\_10\_31\_v01.xml  outputs = [/Users/rchen/Desktop/test/testPrep/ed\_1996\_10\_31\_v01.xml]  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 11:19:55 AM  Target [file:/Users/rchen/Desktop/test/testPrep/ED\_1996\_10\_31\_V01.LBL]  Output Directory /Users/rchen/Desktop/test/testPrep  Index 1  Format Type pds4-label  INFO: [/Users/rchen/Desktop/test/testPrep/ED\_1996\_10\_31\_V01.LBL] Transforming label file: /Users/rchen/Desktop/test/testPrep/ED\_1996\_10\_31\_V01.LBL  INFO: [/Users/rchen/Desktop/test/testPrep/ED\_1996\_10\_31\_V01.LBL] Finished transforming PDS3 label '/Users/rchen/Desktop/test/testPrep/ED\_1996\_10\_31\_V01.LBL' to a PDS4 label '/Users/rchen/Desktop/test/testPrep/ed\_1996\_10\_31\_v01.xml'  A visual comparison:  Step 23:  New PDS4 Label: /Users/rchen/Desktop/test/testPrep/jgdwn\_cer18d\_sha.xml  outputs = [/Users/rchen/Desktop/test/testPrep/JGDWN\_CER18D\_SHA.csv, /Users/rchen/Desktop/test/testPrep/jgdwn\_cer18d\_sha\_delimited\_csv.xml]  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 11:20:05 AM  Target [file:/Users/rchen/Desktop/test/testPrep/JGDWN\_CER18D\_SHA.LBL]  Output Directory /Users/rchen/Desktop/test/testPrep  Index 1  Format Type csv  INFO: [file:/Users/rchen/Desktop/test/testPrep/JGDWN\_CER18D\_SHA.LBL] Transforming label file: file:/Users/rchen/Desktop/test/testPrep/JGDWN\_CER18D\_SHA.LBL  ERROR: [UberspectImpl$VelMethodImpl:doInvoke] Could not find an object: [NONEXISTENT\_TABLE]  INFO: [file:/Users/rchen/Desktop/test/testPrep/JGDWN\_CER18D\_SHA.LBL] Finished transforming PDS3 label 'file:/Users/rchen/Desktop/test/testPrep/JGDWN\_CER18D\_SHA.LBL' to a PDS4 label '/Users/rchen/Desktop/test/testPrep/jgdwn\_cer18d\_sha.xml'  INFO: [file:/Users/rchen/Desktop/test/testPrep/jgdwn\_cer18d\_sha.xml] Transforming table '1' of file: file:/Users/rchen/Desktop/test/testPrep/JGDWN\_CER18D\_SHA.TAB  INFO: [file:/Users/rchen/Desktop/test/testPrep/jgdwn\_cer18d\_sha.xml] Successfully transformed table '1' to the following output: /Users/rchen/Desktop/test/testPrep/JGDWN\_CER18D\_SHA.csv  INFO: [file:/Users/rchen/Desktop/test/testPrep/jgdwn\_cer18d\_sha.xml] Successfully created Table\_Delimited label: /Users/rchen/Desktop/test/testPrep/jgdwn\_cer18d\_sha\_delimited\_csv.xml  Step 24:  New PDS4 Label: *testDir*/testPrep/rmi\_sru\_crt\_05\_2017085\_2017086\_v01.xml  outputs = [*testDir*/testPrep/rmi\_sru\_crt\_05\_2017085\_2017086\_v01.xml]  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 11:20:15 AM  Target [*testDir*/testPrep/RMI\_SRU\_CRT\_05\_2017085\_2017086\_V01.LBL]  Output Directory *testDir*/testPrep  Index 1  Format Type pds4-label  INFO: [*testDir*/testPrep/RMI\_SRU\_CRT\_05\_2017085\_2017086\_V01.LBL] Transforming label file: *testDir*/testPrep/RMI\_SRU\_CRT\_05\_2017085\_2017086\_V01.LBL  ERROR: [UberspectImpl$VelMethodImpl:doInvoke] Could not find RECORD\_BYTES in the label, which is needed to calculate the actual byte location for ^SPREADSHEET, which has a record offset value.  INFO: [*testDir*/testPrep/RMI\_SRU\_CRT\_05\_2017085\_2017086\_V01.LBL] Finished transforming PDS3 label ' *testDir*/testPrep/RMI\_SRU\_CRT\_05\_2017085\_2017086\_V01.LBL' to a PDS4 label ' *testDir*/testPrep/rmi\_sru\_crt\_05\_2017085\_2017086\_v01.xml'  Step 25: ERROR messages correctly note that input PDS3 file lacks RECORD\_BYTES  New PDS4 Label: /Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml  outputs = [/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_1.csv, /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_2.csv, /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_3.csv, /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_4.csv, /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_5.csv, /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_6.csv, /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_7.csv, /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_8.csv, /Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1\_delimited\_csv.xml]  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 11:20:43 AM  Target [file:/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG]  Output Directory /Users/rchen/Desktop/test/testPrep  Transform All true  Format Type csv  INFO: [file:/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG] Transforming label file: file:/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG  ERROR: [UberspectImpl$VelMethodImpl:doInvoke] Could not find RECORD\_BYTES in the label, which is needed to calculate the actual byte location for ^SCIENCE\_CHANNEL\_TABLE, which has a record offset value.  ERROR: [UberspectImpl$VelMethodImpl:doInvoke] Could not map a 3 byte, MSB\_UNSIGNED\_INTEGER type to its equivalent PDS4 type for column 'CPMM readout time in flight software ticks'. Setting 'data\_type' element to 'Unknown'.  ERROR: [UberspectImpl$VelMethodImpl:doInvoke] Could not find RECORD\_BYTES in the label, which is needed to calculate the actual byte location for ^LOOKUP\_TABLE, which has a record offset value.  ERROR: [UberspectImpl$VelMethodImpl:doInvoke] Could not find RECORD\_BYTES in the label, which is needed to calculate the actual byte location for ^CPMM\_ENGINEERING\_TABLE, which has a record offset value.  ERROR: [UberspectImpl$VelMethodImpl:doInvoke] Could not map a 3 byte, MSB\_UNSIGNED\_INTEGER type to its equivalent PDS4 type for column 'Delta Time Value'. Setting 'data\_type' element to 'Unknown'.  ERROR: [UberspectImpl$VelMethodImpl:doInvoke] Could not map a 3 byte, MSB\_UNSIGNED\_INTEGER type to its equivalent PDS4 type for column 'Post Binned Lines'. Setting 'data\_type' element to 'Unknown'.  ERROR: [UberspectImpl$VelMethodImpl:doInvoke] Could not find RECORD\_BYTES in the label, which is needed to calculate the actual byte location for ^CALIBRATION\_LINE\_PREFIX\_TABLE, which has a record offset value.  ERROR: [UberspectImpl$VelMethodImpl:doInvoke] Could not find RECORD\_BYTES in the label, which is needed to calculate the actual byte location for ^CALIBRATION\_LINE\_SUFFIX\_TABLE, which has a record offset value.  ERROR: [UberspectImpl$VelMethodImpl:doInvoke] Could not find RECORD\_BYTES in the label, which is needed to calculate the actual byte location for ^CALIBRATION\_IMAGE, which has a record offset value.  ERROR: [UberspectImpl$VelMethodImpl:doInvoke] Could not find RECORD\_BYTES in the label, which is needed to calculate the actual byte location for ^LINE\_PREFIX\_TABLE, which has a record offset value.  ERROR: [UberspectImpl$VelMethodImpl:doInvoke] Could not find RECORD\_BYTES in the label, which is needed to calculate the actual byte location for ^LINE\_SUFFIX\_TABLE, which has a record offset value.  ERROR: [UberspectImpl$VelMethodImpl:doInvoke] Could not find RECORD\_BYTES in the label, which is needed to calculate the actual byte location for ^IMAGE, which has a record offset value.  ERROR: [UberspectImpl$VelMethodImpl:doInvoke] Could not find RECORD\_BYTES in the label, which is needed to calculate the actual byte location for ^GAP\_TABLE, which has a record offset value.  INFO: [file:/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG] Finished transforming PDS3 label 'file:/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG' to a PDS4 label '/Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml'  INFO: [file:/Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml] Transforming table '1' of file: file:/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG  INFO: [file:/Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml] Successfully transformed table '1' to the following output: /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_1.csv  INFO: [file:/Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml] Transforming table '2' of file: file:/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG  INFO: [file:/Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml] Successfully transformed table '2' to the following output: /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_2.csv  INFO: [file:/Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml] Transforming table '3' of file: file:/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG  INFO: [file:/Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml] Successfully transformed table '3' to the following output: /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_3.csv  INFO: [file:/Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml] Transforming table '4' of file: file:/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG  INFO: [file:/Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml] Successfully transformed table '4' to the following output: /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_4.csv  INFO: [file:/Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml] Transforming table '5' of file: file:/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG  INFO: [file:/Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml] Successfully transformed table '5' to the following output: /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_5.csv  INFO: [file:/Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml] Transforming table '6' of file: file:/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG  INFO: [file:/Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml] Successfully transformed table '6' to the following output: /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_6.csv  INFO: [file:/Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml] Transforming table '7' of file: file:/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG  INFO: [file:/Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml] Successfully transformed table '7' to the following output: /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_7.csv  INFO: [file:/Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml] Transforming table '8' of file: file:/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG  INFO: [file:/Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml] Successfully transformed table '8' to the following output: /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_8.csv  INFO: [file:/Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1.xml] Successfully created Table\_Delimited label: /Users/rchen/Desktop/test/testPrep/psp\_001777\_1650\_red0\_1\_delimited\_csv.xml  Step 26:  NumberFormatException java.lang.NumberFormatException: For input string: ""  no value found for //item[@key='RECORD\_BYTES']  Image write Done  JConvertIIO  0) INP = /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG  1) OUT = /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_1.jpg  2) FORMAT = jpg  3) RI = true  4) OFORM = BYTE  NumberFormatException java.lang.NumberFormatException: For input string: ""  no value found for //item[@key='RECORD\_BYTES']  Image write Done  JConvertIIO  0) INP = /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG  1) OUT = /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_2.jpg  2) FORMAT = jpg  3) RI = true  4) OFORM = BYTE  outputs = [/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_1.jpg, /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_2.jpg]  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 11:20:58 AM  Target [file:/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG]  Output Directory /Users/rchen/Desktop/test/testPrep  Transform All true  Format Type jpg  INFO: [/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG] Transforming image file: /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG/PSP\_001777\_1650\_RED0\_1.IMG  INFO: [/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG] Successfully transformed image file '/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG/PSP\_001777\_1650\_RED0\_1.IMG' to the following output: /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_1.jpg  INFO: [/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG] Transforming image file: /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG/PSP\_001777\_1650\_RED0\_1.IMG  INFO: [/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG] Successfully transformed image file '/Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1.IMG/PSP\_001777\_1650\_RED0\_1.IMG' to the following output: /Users/rchen/Desktop/test/testPrep/PSP\_001777\_1650\_RED0\_1\_2.jpg  Step 27:  New PDS4 Label: /Users/rchen/Desktop/test/testPrep/dawncegr2015002.xml  outputs = [/Users/rchen/Desktop/test/testPrep/dawncegr2015002.xml]  PDS Transform Tool Log  Version Version 1.9.0  Time Sat, Apr 20 2019 at 11:21:13 AM  Target [file:/Users/rchen/Desktop/test/testPrep/DAWNCEGR2015002.LBL]  Output Directory /Users/rchen/Desktop/test/testPrep  Index 1  Format Type pds4-label  INFO: [/Users/rchen/Desktop/test/testPrep/DAWNCEGR2015002.LBL] Transforming label file: /Users/rchen/Desktop/test/testPrep/DAWNCEGR2015002.LBL  INFO: [/Users/rchen/Desktop/test/testPrep/DAWNCEGR2015002.LBL] Finished transforming PDS3 label '/Users/rchen/Desktop/test/testPrep/DAWNCEGR2015002.LBL' to a PDS4 label '/Users/rchen/Desktop/test/testPrep/dawncegr2015002.xml' |
| Comments | Results met success criteria.  In 8b, step 16 opens [PDS-548](https://oodt.jpl.nasa.gov/jira/browse/PDS-548), halt generate and notify when input files are missing.  In 9b, step 19 opens [PDS-834](https://osr.jpl.nasa.gov/jira/browse/PDS-834), create a correct lid\_reference for -f pds4-label |
| Date of Testing | 2019.04.20 |
| 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 | GEN.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.5 | 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 | VAL.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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| closed | [PDS-113](http://oodt.jpl.nasa.gov/jira/browse/PDS-113) | improve | GEN.1 | Generate: handle detached files in labels |
| closed | [PDS-114](http://oodt.jpl.nasa.gov/jira/browse/PDS-114) | improve | GEN.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 |
| closed | [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.4 | 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 | VAL.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 | VAL.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 | XFRM.1 | transform transforms only the first column of a table |
| closed | [PDS-314](https://oodt.jpl.nasa.gov/jira/browse/PDS-314) | minor | VAL.1 | validate dirX passes, but validate 1fileInDirX fails |
| closed | [PDS-315](https://oodt.jpl.nasa.gov/jira/browse/PDS-315) | minor | VAL.2 | validate misses invalid directory\_path\_name |
| closed | [PDS-316](https://oodt.jpl.nasa.gov/jira/browse/PDS-316) | improve | VAL.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.2 | transport with various RTs could handle some PDS3 features better |
| closed | [PDS-323](https://oodt.jpl.nasa.gov/jira/browse/PDS-323) | improve | TPRT.2 | 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.2 | 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.4 | Cannot delete two packages at one time. |
| open | [PDS-343](https://oodt.jpl.nasa.gov/jira/browse/PDS-343) | minor | XFRM.1 | Was PDS-349. Ugly warning message from transform |
| closed | [PDS-350](https://oodt.jpl.nasa.gov/jira/browse/PDS-350) | improve | POR.1 | Remove extra carriage-return in long output value |
| closed | [PDS-351](https://oodt.jpl.nasa.gov/jira/browse/PDS-351) | minor | VAL.1 | Validate with multiple schemas fails |
| closed | [PDS-352](https://oodt.jpl.nasa.gov/jira/browse/PDS-352) | improve | VAL.3 | Reduce ugliness of error message |
| closed | [PDS-353](https://oodt.jpl.nasa.gov/jira/browse/PDS-353) | minor | TPRT.2 | 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 |
| closed | [PDS-398](https://oodt.jpl.nasa.gov/jira/browse/PDS-398) | improve | GEN.1 | generate -o behaves unexpectedly |
| closed | [PDS-366](https://oodt.jpl.nasa.gov/jira/browse/PDS-366) | improve | XFRM.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 | VAL.3 | warn when bundle has LID references not in the bundle |
| closed | [PDS-402](https://oodt.jpl.nasa.gov/jira/browse/PDS-402) | minor | HVT.6 | associations persist after package deleted |

Testing of build 6b found 1 major anomaly, 1 minor, 2 improvements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| closed | [PDS-443](https://oodt.jpl.nasa.gov/jira/browse/PDS-443) | major | AAFUNCTION.3 | Harvest doesn’t handle collection.xml files conforming to schematron 1600 |
| closed | [PDS-444](https://oodt.jpl.nasa.gov/jira/browse/PDS-444) | improve | CTLG.3 | catalog –mingest has long warnings and incorrect documentation |
| closed | [PDS-446](https://oodt.jpl.nasa.gov/jira/browse/PDS-446) | improve | XFRM.2 | Ugly warning message when transforming an Array\_3D\_Image |
| closed | [PDS-447](https://oodt.jpl.nasa.gov/jira/browse/PDS-447) | minor | TPRT.4 | transport-registry/prod?identifier-list doesn’t work |

Testing of build 7a found 0 major anomalies, 1 minor, 1 improvement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| closed | [PDS-469](https://oodt.jpl.nasa.gov/jira/browse/PDS-469) | minor | HVT.5 | Harvest of non-data picks up hidden files |
| closed | [PDS-470](https://oodt.jpl.nasa.gov/jira/browse/PDS-470) | minor | GEN.1 | Generate filters instead of passing through elements with nil values |

Testing of build 7b found 0 major anomalies, 2 minor, 1 improvement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| closed | [PDS-486](https://oodt.jpl.nasa.gov/jira/browse/PDS-486) | minor | VAL.1 | Spurious errors possibly related to validate’s -e option |
| closed | [PDS-496](https://oodt.jpl.nasa.gov/jira/browse/PDS-469) | improve | VAL.3 | Validate picks up hidden files. Rejected. |
| open | [PDS-497](https://oodt.jpl.nasa.gov/jira/browse/PDS-497) | minor | HVT.7 | Handle filename beginning with / and checksum in all caps |

Testing of build 8a found 0 major anomalies, 3 minor, 3 improvements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| closed | [PDS-518](https://oodt.jpl.nasa.gov/jira/browse/PDS-518) | improve | LDD.1 | Unexpected error messages |
| closed | [PDS-519](https://oodt.jpl.nasa.gov/jira/browse/PDS-519) | improve | GEN.1 | Unexpected warning messages |
| open | [PDS-520](https://oodt.jpl.nasa.gov/jira/browse/PDS-520) | minor | VAL.1 | Handle “+” in format |
| closed | [PDS-521](https://oodt.jpl.nasa.gov/jira/browse/PDS-521) | minor | VAL.1 | Option -R pds4.bundle negates -e "\*.xml" |
| closed | [PDS-522](https://oodt.jpl.nasa.gov/jira/browse/PDS-522) | improve | VAL.2 | Less brutal error message for missing file |
| closed | [PDS-523](https://oodt.jpl.nasa.gov/jira/browse/PDS-523) | minor | XFRM.1 | Transform fails on table\_character to pds3-label |

Testing of build 8b found 2 major anomalies, 4 minor, 0 improvements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| closed | [PDS-501](https://oodt.jpl.nasa.gov/jira/browse/PDS-501) | minor | VAL.6 | Reopened. Changes to validate’s output make some errors look ok |
| closed | [PDS-533](https://oodt.jpl.nasa.gov/jira/browse/PDS-533) | minor | XFRM.3 | Output pds4 label does not validate |
| open | [PDS-548](https://oodt.jpl.nasa.gov/jira/browse/PDS-548) | minor | XFRM.3 | Stop generate if errors |
| closed | [PDS-558](https://oodt.jpl.nasa.gov/jira/browse/PDS-558) | major | LDD.1 | Produces unusable .xsd |
| closed | [PDS-559](https://oodt.jpl.nasa.gov/jira/browse/PDS-559) | major | PRS.1 | Do something, anything |
| closed | [PDS-560](https://oodt.jpl.nasa.gov/jira/browse/PDS-560) | minor | XFRM.3 | Update the outputted xml |

Testing of build 9a found 0 major anomalies, 4 minor, 1 improvement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| closed | [PDS-573](https://oodt.jpl.nasa.gov/jira/browse/PDS-573) | minor | XFRM.1 | Reopened. Support orientation better. |
| open | [PDS-615](https://oodt.jpl.nasa.gov/jira/browse/PDS-615) | improve | SRCH.8 | Indicate which classes are deprecated. |
| closed | PDS-618 | minor | VAL.6 | validate hangs when traversing remote site with bad labels |
| open | [PDS-620](https://oodt.jpl.nasa.gov/jira/browse/PDS-620) | minor | VAL.6 | validate -R pds4.bundle on a collection is off |
| closed | [PDS-621](https://oodt.jpl.nasa.gov/jira/browse/PDS-621) | minor | TPRT.4 | transport-registry choked on something |

Testing of build 9b found 1 major anomalies, 2 minor, 7 improvements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| open | [PDS-602](https://osr.jpl.nasa.gov/jira/browse/PDS-602) | improve | XFRM.2 | Reopened. Transform Array\_3D\_Image to FITS fails for >3 bands |
| closed | [PDS-605](https://osr.jpl.nasa.gov/jira/browse/PDS-605) | improve | VAL.3 | Reopened. LID of collection does not fit LID of bundle. |
| closed | [PDS-833](https://osr.jpl.nasa.gov/jira/browse/PDS-833) | major | PRI.1 | Inspect: unclear installation procedure |
| open | PDS-834 | improve | XFRM.3 | Transform -f pds4-label creates a .xml file with incurrect lid\_references |
| open | PDS-835 | improve | VAL.1 | Validate flags LIDs of context products available on starbase for months |
| open | PDS-837 | improve | VAL.6 | Add option to validate to flag dangling files |
| closed | [PDS-839](https://osr.jpl.nasa.gov/jira/browse/PDS-839) | improve | EML.1 | Clicking “Send” button fails |
| closed | [PDS-887](https://osr.jpl.nasa.gov/jira/browse/PDS-887) | improve | PRI.1 | Better vertically orient .qub files |
| open | [PDS-888](https://osr.jpl.nasa.gov/jira/browse/PDS-888) | minor | HVT.6 | registry-ui can’t change status on the Product tab |
| closed | [PDS-890](https://osr.jpl.nasa.gov/jira/browse/PDS-890) | minor | VAL.1 | Validate generates a weird java warning |

Testing of build 10a opened 10 issues

|  |  |  |  |
| --- | --- | --- | --- |
| open | [harv19](https://github.jpl.nasa.gov/PDSEN/harvest/issues/19) | HVT.2 | Harvest-ctrl fails |
| open | [harv22](https://github.jpl.nasa.gov/PDSEN/harvest/issues/22%20) | HVT.5 | Can’t harvest PDS3 files |
| open | [harv23](https://osr.jpl.nasa.gov/jira/browse/PDS-833) | HVT.5 | Odd message “Content is not allowed in prolog” |
| closed | val137 | VAL.3 | Allow empty fields in delimited tables |
| closed | [val139](https://github.com/NASA-PDS-Incubator/validate/issues/139) | VAL.3 | Update parent LID check to include ‘:’ |
| closed | [val146](https://osr.jpl.nasa.gov/jira/browse/PDS-839) | VAL.3 | Another update of parent LID checking |
| open | [view26](https://github.com/NASA-PDS-Incubator/pds-view267) | VIEW.1 | PDS-View hangs on a specific file |
| open | [view27](https://osr.jpl.nasa.gov/jira/browse/PDS-887) | VIEW.1 | PDS-View hangs on another file |
| open | [view28](https://osr.jpl.nasa.gov/jira/browse/PDS-888) | VIEW.1 | Handle Array\_3D\_Spectrum |
| open | [view29](https://osr.jpl.nasa.gov/jira/browse/PDS-890) | VIEW.1 | Fix vertical orientation of images. Replaces [PDS-887](https://osr.jpl.nasa.gov/jira/browse/PDS-887) |

## Requirements Traceability

This test traceability matrix lists the requirement ID, the system component of the requirement, the ID of the test case in Section 3 that tests the requirement, and the status of the test.

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

Test Status: “skip” signifies requirements not implemented nor tested in build 10a.

Of the 10a requirements listed above, 61 were tested during Build 10a integration and test.

## Miscellaneous

### Test Data

https://pds-engineering.jpl.nasa.gov/content/build\_10a\_deliverables has this document as well as test data PDS4test.build10a.tgz.

### Test Environment

Build 10a integration and test environment encompasses the following:

|  |  |  |  |
| --- | --- | --- | --- |
| **Hostname** | **OS** | **Memory** | **Software** |
| local host (mac) | Mac OS X 10.14.6 | 32GB | Catalog, Harvest, Model, Portal, Preparation (Generate, Extract, Transform, Validate), Registry, Search, Storage, Transport |
| pds-gamma | Linux | 24GB | Security |
| pdsops | Linux | 12GB | Report |

### Configuration Management

The PDS Configuration Management (CM) process will uniquely identify the build 10a 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