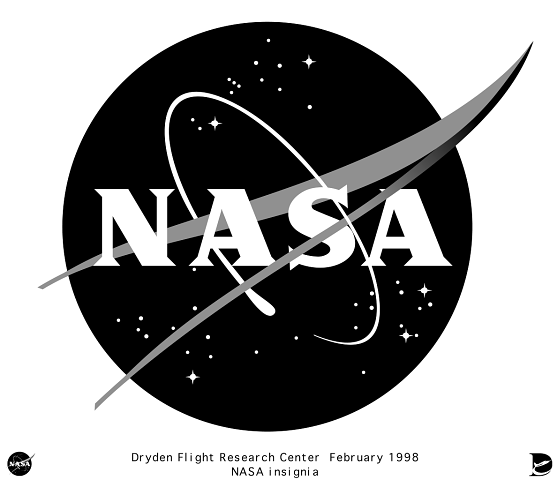
Plan Document

NASA Planetary Data System

PDS4 System

Build 11.0 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 recommendations 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.1, SEC.1 to REQ.2 | Richard Chen |
| 10b | May 6, 2020 | Replaced Section 4’s anomaly tracking with RDD referencing. Restored deleted tests. Added DEEP.1. Renamed PRP.1 to VIEW.2, SRCH.8 to SRCH.4, PRS.1 to XFRM.4, REQ.1 to SCMA.1, LDD.1 to SCHMA.2, REQ.7 to REQ.1, POR.1 to SRCH.8, HVT.\* to HVTOLD.\*, REG.\* to REGOLD.\* | Richard Chen |
| 11.0 | Dec 4, 2020 | Added DOI.\*. Rewrote HVT.\* for new harvest/registry. Added 1 test per issue for DEEP, SCMA, VAL. Dumped Section 5, Requirements Traceability, as those appear in Section 4. Removed Section 3.4, unchanged software. | Richard Chen  Gary 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 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 PDS4 standards comply with requirements and meet customers’ needs, and 2) reports results of the tests to verify and validate that the PDS4 system deployed for Build 11.0 is free of critical defects. This document describes the integration and test activities and contains test cases that demonstrate compliance to requirements. The test scenarios verify and validate the system components and data products in an integrated manner. A test traceability matrix in section 5 below traces these scenarios to the new PDS4 system design requirements, which in turn can be traced to high-level PDS requirements.

### Scope

Testing for build 11.0 is based upon the “Release Description – Build 11.0.0” (RDD), available at

<https://pds-engineering.jpl.nasa.gov/development/pds4/11.0.0/release/rdd-11.0.0.html>

The modules tested in build 11.0:

* Harvest 3.3.0 (installed with pds-app-registry 0.2.1)
* LDDTool 12.1.0
* Registry-manager 4.0.2 (installed with pds-app-registry 0.2.1)
* Validate 1.24.0
* pds-deep-archive 0.1.0
* pds-doi-service 1.0.0

These modules have not changed for this build and are not being tested:  
- Catalog  
- Data Dictionary Search   
- Data Search  
- Data Set View  
- Design  
- Filter  
- Generate  
- Harvest 2.5.2 (EN version)  
- Harvest PDAP  
- JParser  
- Model/Model DM, Model/Model Ontology  
- PDS-View  
- Phone Book Search   
- Product Service  
- Registry 1.15.0 (EN version)  
- Report Manager  
- Search User Interface  
- Storage Service  
- Security  
- Tool Registry  
- Tracking Service  
- Transform  
- Transport

### 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 11.0 Integration testing is the execution and management of tests by the Engineering Node to ensure that the release of Build 11.0 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.

[8] https://github.com/NASA-PDS/pds-deep-archive/issues?q=label%3Arequirement

## Executive Summary

**The testing documented herein substantiates that all tested tools and services meet Build 11.0 requirements as specified in their Software Requirements and Design documents.**

|  |  |  |  |
| --- | --- | --- | --- |
| **# of tests performed** | **# of tests passed** | **# of tests failed** | **# of high priority anomalies** |
| 64 | 62 | 2 | 0 |

[Section 3.2](#_Testing_of_New/Modified) tests all new or modified software modules. Its test sequences cover level 4 and 5 requirements for completeness. The sequences:

* [DEEP.\*](#DEEP_1) : Generate Deep Archive metadata, i.e. AIPs and SIPs
* [DOI.\*](#doi_1): reserve, draft, and release DOIs for bundles, collections, documents
* [HVT.\*](#HVT_1): the Data Nodes’ harvest ingests labels into a DN registry
* [SCMA.\*](#SCMA_1): Schema 1.F.0.0 is validated externally, and LDDtool creates local data dictionaries.
* [VAL.\*](#VAL_1): Validate PDS4 labels and data.

[Section 3.3](#_Testing_of_New/Modified_1) repeats section 3.2’s tests, but run on a different platform, linux vs. macOS.

Two minor issues failed

VAL.8, errors or warnings when data file has too few or too many records

VAL.9, too many error messages

[Section 4](#_RDD_Traceability) lists the status of all issues described in the [Build 11.0 RDD](https://pds-engineering.jpl.nasa.gov/development/pds4/11.0.0/release/rdd-11.0.0.html). Briefly,

111 issues were verified as passed,

3 issues were marked as failed (1 in VAL.8, 2 in VAL.9)

48 issues were skipped, of which 19 were internal to the software, 17 were not implemented yet, 7 were checks of documentation, and 5 required effort too greatly exceeding the benefit, e.g. finding a Windows machine for testing

## Test Cases, Procedures and Results

The following section defines the test cases and lists their results. These cover all level 5 requirements for PDS. Testing for build 11.0 covers changed functionality since build 10a.

### Setup

The tests are organized upon the Release Description for build 11.0:

<https://pds-engineering.jpl.nasa.gov/development/pds4/11.0.0/release/rdd-11.0.0.html>

The tests for build 11.0 in sections 3.2 and 3.3 require the installation of the following PDS4 software, all accessible from the RDD URL above.

* **Harvest**
* **Registry**
* **LDDtool**
* **Validate**
* **pds-deep-archive**
* **pds-doi-cmd**

Other needed software:

* **python3**, for pds-deep-archive
* 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.

From <https://pds-engineering.jpl.nasa.gov/content/build_11.0_deliverables>, also download PDS4test.build11.0.tgz, the test input files. In the tests below, replace with appropriate values:

|  |  |
| --- | --- |
| /Users/rchen/Desktop/test | directory where input files are extracted |
| /Users/rchen/PDS4tools | installation directory of the PDS4 software |
| http://localhost:9200 | URL of the elasticsearch server |

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 rest of this document, the Test Case IDs are all caps followed by a dot and a number, while the IDs of the issues in the RDD are also all caps but followed by a # and a number.

### Testing of New/Modified Modules on macOS

These tests ensure complete verification and validation of Build 11.0 level 5 requirements of the new or modified modules. In each test case, # indicates a comment, usually linked to an RDD issue.

|  |  |
| --- | --- |
| Test Case ID | DEEP.1 |
| Description | Generate an Archive Information Package (AIP) and a Submission Information Package (SIP)  For 10b, DEEP.1 tests AIP#9, AIP#25, DEE#1, DEE#2, DEE#3, DEE#18, DEE#22. Ideally, one more test step would be to send the AIP and SIP to NSSDC (DEE#10), but that would require much effort for a module both straightforward and secondary |
| Requirements | From https://github.com/NASA-PDS/pds-deep-archive/issues?q=label%3Arequirement  PASS pds-deep-archive#45: The tool shall be capable of generating a valid Archive Information Package...  PASS pds-deep-archive#46: The tool shall be capable of generating a valid AIP and SIP products and ...  NOTYET pds-deep-archive#47: The tool shall be capable of generating product manifests from an online Registry...  PASS pds-deep-archive#48: The tool shall be capable of generating product manifests by crawling a file system ...  PASS pds-deep-archive#49: The tool shall generate a product manifest based upon the specification of a bundle ...  PASS pds-deep-archive#50: The tool shall include products in the manifests based upon the relationships...  NOTYET pds-deep-archive#51: The tool shall be capable of accepting a checksum manifest...  PASS pds-deep-archive#52: The tool shall generate a PDS4 label for the SIP and AIP …  PASS pds-deep-archive#53: The tool shall require AIP and SIP products contain only products with valid LIDs...  PASS pds-deep-archive#54: The Submission Information Package manifest shall be a tab-delimited table with ... |
| Success Criteria | Tool creates a viable AIP and SIP reflecting the traversed directory |
| Test Steps | If user’s shell is bash not csh, remove “.csh” from step 2   1. cd /Users/rchen/Desktop/test/testDeep 2. source $HOME/.virtualenvs/pds-deep-archive/bin/activate.csh 3. pds-deep-archive -s PDS\_RNG -b https://rings.anything/xxxx uranus\_occ\_support/bundle.xml 4. validate -t uranus\_occ\_support\_v1.0\_aip\_v1.0.xml 5. validate -t uranus\_occ\_support\_v1.0\_sip\_v1.0.xml   You could check that the generated .tab files list the files in the directory. I’m too lazy.   1. find uranus\_occ\_support -type f | wc 2. wc \*tab 3. grep records \*xml   rm uranus\_occ\_support\_\* |
| Test Results | Step 2: prompt changes to  [pds-deep-archive] /Users/rchen/Desktop/test/testDeep>  Step 3:  INFO 👟 PDS Deep Archive, version 0.1.0  INFO 🏃‍♀️ Starting AIP generation for uranus\_occ\_support/bundle.xml  INFO 🎉 Success! AIP done, files generated:  INFO • Checksum manifest: uranus\_occ\_support\_v1.0\_checksum\_manifest\_v1.0.tab  INFO • Transfer manifest: uranus\_occ\_support\_v1.0\_transfer\_manifest\_v1.0.tab  INFO • XML label for them both: uranus\_occ\_support\_v1.0\_aip\_v1.0.xml  WARNING 🤚 Notice! --include-all-collections isn't yet supported; will assume it's enabled for now  INFO 🏃‍♀️ Starting SIP generation for uranus\_occ\_support/bundle.xml  INFO 🎉 Success! From /Users/rchen/Desktop/test/testDeep/uranus\_occ\_support/bundle.xml, generated these output files:  INFO • SIP Manifest: uranus\_occ\_support\_v1.0\_sip\_v1.0.tab  INFO • XML label for the SIP: uranus\_occ\_support\_v1.0\_sip\_v1.0.xml  INFO 👋 That's it! Thanks for making an AIP and SIP with us today. Bye!  Step 4:  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-05-04T22:49:11Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testDeep/uranus\_occ\_support\_v1.0\_aip\_v1.0.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/testDeep/uranus\_occ\_support\_v1.0\_aip\_v1.0.xml  1 product validation(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  1 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  End of Report  Completed execution in 3986 ms  Step 5: standard good message, like step 4  Step 6: This and the next two steps show 28 files should be in the manifest  28 28 1798  Step 7:  28 56 2218 uranus\_occ\_support\_v1.0\_checksum\_manifest\_v1.0.tab  28 112 5630 uranus\_occ\_support\_v1.0\_sip\_v1.0.tab  28 56 14336 uranus\_occ\_support\_v1.0\_transfer\_manifest\_v1.0.tab  84 224 22184 total  Step 8:  uranus\_occ\_support\_v1.0\_aip\_v1.0.xml: <records>28</records>  uranus\_occ\_support\_v1.0\_aip\_v1.0.xml: <records>28</records>  uranus\_occ\_support\_v1.0\_aip\_v1.0.xml: <records>28</records>  uranus\_occ\_support\_v1.0\_sip\_v1.0.xml: <records>28</records>  uranus\_occ\_support\_v1.0\_sip\_v1.0.xml: <records>28</records> |
| Comments | Results met success criteria. |
| Date of Testing | 2020.05.04 |
| Test Personnel | Richard Chen |

|  |  |
| --- | --- |
| Test Case ID | DEEP.2 |
| Description | Improvement: Develop one script to run both AIP and SIP generator |
| Requirements | PASS pds-deep-archive#21: Develop one script to run both AIP and SIP generator |
| Success Criteria | Run Python script “pds-deep-archive”, “aipgen”, and “sipgen”, need a data file? |
| Test Steps | 1. cd /Users/rchen/Desktop/test/testDeep 2. source $HOME/.virtualenvs/pds-deep-archive/bin/activate.csh 3. pds-deep-archive -s PDS\_RNG -b <https://rings.anything/xxxx> uranus\_occ\_support/bundle.xml 4. validate -t uranus\_occ\_support\_v1.0\_aip\_v1.0.xml 5. validate -t uranus\_occ\_support\_v1.0\_sip\_v1.0.xml 6. find uranus\_occ\_support -type f | wc 7. wc \*tab 8. grep records \*xml 9. rm uranus\_occ\_support\_\* |
| Test Results | 3.  INFO 👟 PDS Deep Archive, version 0.2.2  INFO 🏃‍♀️ Starting AIP generation for uranus\_occ\_support/bundle.xml  INFO 🎉 Success! AIP done, files generated:  INFO 📄 Checksum manifest: uranus\_occ\_support\_v1.0\_20201114\_checksum\_manifest\_v1.0.tab  INFO 📄 Transfer manifest: uranus\_occ\_support\_v1.0\_20201114\_transfer\_manifest\_v1.0.tab  INFO 📄 XML label for them both: uranus\_occ\_support\_v1.0\_20201114\_aip\_v1.0.xml  INFO 🏃‍♀️ Starting SIP generation for uranus\_occ\_support/bundle.xml  INFO 🎉 Success! From /home/gxchen/pds-test/PDS4test.build10b/testDeep/uranus\_occ\_support/bundle.xml, generated these output files:  INFO 📄 SIP Manifest: uranus\_occ\_support\_v1.0\_20201114\_sip\_v1.0.tab  INFO 📄 XML label for the SIP: uranus\_occ\_support\_v1.0\_20201114\_sip\_v1.0.xml  INFO 👋 That's it! Thanks for making an AIP and SIP with us today. Bye!  4.  (pds-deep-archive) [gxchen@pds-int testDeep]$ validate -t uranus\_occ\_support\_v1.0\_20201114\_aip\_v1.0.xml  PDS Validate Tool Report  Configuration:  Version 1.24.0  Date 2020-11-14T02:49:24Z  Parameters:  Targets [file:/home/gxchen/pds-test/PDS4test.build10b/testDeep/uranus\_occ\_support\_v1.0\_20201114\_aip\_v1.0.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 /home/gxchen/pds-test/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/home/gxchen/pds-test/PDS4test.build10b/testDeep/uranus\_occ\_support\_v1.0\_20201114\_aip\_v1.0.xml  1 product validation(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  1 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  5.  (pds-deep-archive) [gxchen@pds-int testDeep]$ validate -t uranus\_occ\_support\_v1.0\_20201114\_sip\_v1.0.xml  PDS Validate Tool Report  Configuration:  Version 1.24.0  Date 2020-11-14T02:50:16Z  Parameters:  Targets [file:/home/gxchen/pds-test/PDS4test.build10b/testDeep/uranus\_occ\_support\_v1.0\_20201114\_sip\_v1.0.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 /home/gxchen/pds-test/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/home/gxchen/pds-test/PDS4test.build10b/testDeep/uranus\_occ\_support\_v1.0\_20201114\_sip\_v1.0.xml  1 product validation(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  1 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  End of Report  Completed execution in 10865 ms  6. (pds-deep-archive) [gxchen@pds-int testDeep]$ find uranus\_occ\_support -type f | wc  35 35 2020  7. (pds-deep-archive) [gxchen@pds-int testDeep]$ find uranus\_occ\_support -type f | wc  35 35 2020  (pds-deep-archive) [gxchen@pds-int testDeep]$ wc \*tab  28 56 2218 uranus\_occ\_support\_v1.0\_20201114\_checksum\_manifest\_v1.0.tab  28 112 5630 uranus\_occ\_support\_v1.0\_20201114\_sip\_v1.0.tab  28 56 14336 uranus\_occ\_support\_v1.0\_20201114\_transfer\_manifest\_v1.0.tab  84 224 22184 total  8. (pds-deep-archive) [gxchen@pds-int testDeep]$ grep records \*xml  uranus\_occ\_support\_v1.0\_20201114\_aip\_v1.0.xml: <**records**>28</**records**>  uranus\_occ\_support\_v1.0\_20201114\_aip\_v1.0.xml: <**records**>28</**records**>  uranus\_occ\_support\_v1.0\_20201114\_aip\_v1.0.xml: <**records**>28</**records**>  uranus\_occ\_support\_v1.0\_20201114\_sip\_v1.0.xml: <**records**>28</**records**>  uranus\_occ\_support\_v1.0\_20201114\_sip\_v1.0.xml: <**records**>28</**records**> |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.14 |
| Test Personnel | Gary Chen |

|  |  |
| --- | --- |
| Test Case ID | DEEP.3 |
| Description | Improvements: Update software to only include latest collection in when bundle references LIDs |
| Requirements | PASS pds-deep-archive#24: Update software to only include latest collection in when bundle references LIDs |
| Success Criteria | Run pds-deep-archive with the “—include-latest-collections-only” flag.  (pds-deep-archive) $ pds-deep-archive -s PDS\_ATM \  -b https://atmos.nmsu.edu/PDS/data/PDS4/LADEE/ \  test/data/ladee\_test/mission\_bundle/LADEE\_Bundle\_1101.xml  --include-latest-collection-only |
| Test Steps | (pds-deep-archive) [gxchen@pds-int testDeep]$ pds-deep-archive -s PDS\_RNG -b <https://rings.anything/xxxx> uranus\_occ\_support/bundle.xml --include-latest-collection-only |
| Test Results | Text  Description automatically generated |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.14 |
| Test Personnel | Gary Chen |

|  |  |
| --- | --- |
| Test Case ID | DEEP.4 |
| Description | Improvement: Add READMEs to AIPs and SIPs |
| Requirements | PASS pds-deep-archive#55: Add READMEs to AIPs and SIPs |
| Success Criteria | Look for the README file in the bundle. |
| Test Steps |  |
| Test Results | (pds-deep-archive) [gxchen@pds-int urn-nasa-pds-insight\_documents]$ ll  total 40  -rw-r--r-- 1 gxchen pds 15192 Jan 15 2020 bundle\_insight\_documents.xml  drwxr-xr-x 2 gxchen pds 4096 Nov 12 21:43 document\_hp3rad  drwxr-xr-x 2 gxchen pds 4096 Nov 12 21:43 document\_ida  drwxr-xr-x 2 gxchen pds 4096 Nov 12 21:43 document\_mission  drwxr-xr-x 4 gxchen pds 4096 Nov 12 21:43 document\_rise  drwxr-xr-x 2 gxchen pds 4096 Nov 12 21:43 document\_seis  -rw-r--r-- 1 gxchen pds 1494 Sep 12 2019 readme.txt |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.12 |
| Test Personnel | Gary Chen |

|  |  |
| --- | --- |
| Test Case ID | DEEP.5 |
| Description | Improvement Add timestamp to SIP / AIP product LIDs and filenames |
| Requirements | PASS pds-deep-archive#63: Add timestamp to SIP / AIP product LIDs and filenames |
| Success Criteria | Generate product with aipgen and sipgen, and verify the filename has the timestamp in it, eg: insight\_cameras\_v1.0\_20200601\_aip\_v1.0.xml  And with a LID of : urn:nasa:pds:system\_bundle:product\_aip:insight\_cameras\_v1.0\_20200601 |
| Test Steps | Same as pds-deep-archive#21 |
| Test Results | -rw-r--r-- 1 gxchen pds 4223 Nov 13 18:47 uranus\_occ\_support\_v1.0\_20201114\_aip\_v1.0.xml  -rw-r--r-- 1 gxchen pds 2218 Nov 13 18:47 uranus\_occ\_support\_v1.0\_20201114\_checksum\_manifest\_v1.0.tab  -rw-r--r-- 1 gxchen pds 5630 Nov 13 18:47 uranus\_occ\_support\_v1.0\_20201114\_sip\_v1.0.tab  -rw-r--r-- 1 gxchen pds 4625 Nov 13 18:47 uranus\_occ\_support\_v1.0\_20201114\_sip\_v1.0.xml  -rw-r--r-- 1 gxchen pds 14336 Nov 13 18:47 uranus\_occ\_support\_v1.0\_20201114\_transfer\_manifest\_v1.0.tab  In uranus\_occ\_support\_v1.0\_20201114\_sip\_v1.0.xml  <aip\_lidvid>urn:nasa:pds:system\_bundle:product\_aip:uranus\_occ\_support\_v1.0\_20201114::1.0</…> |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.13 |
| Test Personnel | Gary Chen |

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| Test Case ID | DEEP.6 |
| Description | Improvement: Update software to handle Document\_File.directory\_path\_name |
| Requirements | PASS pds-deep-archive#65: Update software to handle Document\_File.directory\_path\_name |
| Success Criteria | Run against urn-nasa-pds-insight\_documents bundle. |
| Test Steps | 1. pds-deep-archive -s PDS\_ENG -b [https://atmos.nmsu.edu/PDS/ENG urn-nasa-pds-insight\_documents/bundle\_insight\_documents.xml](https://atmos.nmsu.edu/PDS/ENG%20urn-nasa-pds-insight_documents/bundle_insight_documents.xml) 2. check sip\_v1.0.tab file to verify it includes the following:   urn-nasa-pds-insight\_documents/document\_rise/InSight\_EastWestMGA\_files/image007.png |
| Test Results | aa3d0c148552fd13cf6ec56f45009c00 MD5 https://atmos.nmsu.edu/PDS/ENG/urn-nasa-pds-insight\_documents/document\_rise/InSight\_EastWestMGA.xml urn:nasa  :pds:insight\_documents:document\_rise:east\_west\_mga::1.0  40d626b5426bcba351319641fe58b1d0 MD5 https://atmos.nmsu.edu/PDS/ENG/urn-nasa-pds-insight\_documents/document\_rise/InSight\_EastWestMGA\_files/image001.p  ng urn:nasa:pds:insight\_documents:document\_rise:east\_west\_mga::1.0  d159c1501b3b0fe510f40b9fafd1abf7 MD5 https://atmos.nmsu.edu/PDS/ENG/urn-nasa-pds-insight\_documents/document\_rise/InSight\_EastWestMGA\_files/image002.p  ng urn:nasa:pds:insight\_documents:document\_rise:east\_west\_mga::1.0  0fe2dfa5a1952c827cc86eed39de506e MD5 https://atmos.nmsu.edu/PDS/ENG/urn-nasa-pds-insight\_documents/document\_rise/InSight\_EastWestMGA\_files/image003.p  ng urn:nasa:pds:insight\_documents:document\_rise:east\_west\_mga::1.0  fa054993bf87402f4e1673735098544e MD5 https://atmos.nmsu.edu/PDS/ENG/urn-nasa-pds-insight\_documents/document\_rise/InSight\_EastWestMGA\_files/image004.p  ng urn:nasa:pds:insight\_documents:document\_rise:east\_west\_mga::1.0  f23f47ff27dbc505ce96d06d8df7b315 MD5 https://atmos.nmsu.edu/PDS/ENG/urn-nasa-pds-insight\_documents/document\_rise/InSight\_EastWestMGA\_files/image005.p  ng urn:nasa:pds:insight\_documents:document\_rise:east\_west\_mga::1.0  276bac3e91f54a8b04bf67745eef591a MD5 https://atmos.nmsu.edu/PDS/ENG/urn-nasa-pds-insight\_documents/document\_rise/InSight\_EastWestMGA\_files/image006.p  ng urn:nasa:pds:insight\_documents:document\_rise:east\_west\_mga::1.0  733f01eb432ac2d9c178ad2d85faaab8 MD5 https://atmos.nmsu.edu/PDS/ENG/urn-nasa-pds-insight\_documents/document\_rise/InSight\_EastWestMGA\_files/image007.p  ng urn:nasa:pds:insight\_documents:document\_rise:east\_west\_mga::1.0 |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.13 |
| Test Personnel | Gary Chen |

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| Test Case ID | DEEP.7 |
| Description | Improvement: Improve SIP Gen performance for very large data sets |
| Requirements | PASS pds-deep-archive#13: Improve SIP Gen performance for very large data sets |
| Success Criteria | Run test against the insight\_cameras bundle |
| Test Steps |  |
| Test Results | (pds-deep-archive) [gxchen@pds-int test]$ ps -F  UID PID PPID C SZ RSS PSR STIME TTY TIME CMD  gxchen 3599 18771 20 2214901 6698480 0 13:21 pts/0 00:40:04 /home/gxchen/.virtualenvs/pds-deep-archive/bin/python /home/gxchen/.virtualenvs/pds-deep-archive/bin/pds-deep-archive -s PDS\_IMG -b https://pds-imaging.jpl.nasa.gov/data/nsyt/insight\_cameras/ insight\_camera  gxchen 6919 18771 0 38868 1820 0 17:06 pts/0 00:00:00 ps -F  gxchen 18771 18770 0 31863 920 0 12:25 pts/0 00:00:00 -bash  [1]+ Done pds-deep-archive -s PDS\_IMG -b https://pds-imaging.jpl.nasa.gov/data/nsyt/insight\_cameras/ insight\_cameras/bundle.xml  Total Runtime: 3:45 |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.13 |
| Test Personnel | Gary Chen |

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| Test Case ID | DEEP.8 |
| Description | Defect: SIP and Transfer Manifest duplicate files and LIDVIDs |
| Requirements | PASS pds-deep-archive#29: SIP and Transfer Manifest duplicate files and LIDVIDs |
| Success Criteria | Run against ladee test bundle and verifies what is output from the software produces what we have in test/data/ladee\_test/valid/ |
| Test Steps | 1. get ladee\_test bundle from github. 2. pds-deep-archive -s PDS\_ATM -b https://atmos.nmsu.edu/PDS/data/PDS4/LADEE/ mission\_bundle/LADEE\_Bundle\_1101.xml 3. verifies out put against test/data/ladee\_test/valid/ #13 entries.   wc \*.tab |
| Test Results | INFO 👟 PDS Deep Archive, version 0.2.2  INFO 🏃‍♀️ Starting AIP generation for mission\_bundle/LADEE\_Bundle\_1101.xml  INFO 🎉 Success! AIP done, files generated:  INFO 📄 Checksum manifest: ladee\_mission\_bundle\_v1.0\_20201118\_checksum\_manifest\_v1.0.tab  INFO 📄 Transfer manifest: ladee\_mission\_bundle\_v1.0\_20201118\_transfer\_manifest\_v1.0.tab  INFO 📄 XML label for them both: ladee\_mission\_bundle\_v1.0\_20201118\_aip\_v1.0.xml  INFO 🏃‍♀️ Starting SIP generation for mission\_bundle/LADEE\_Bundle\_1101.xml  INFO 🎉 Success! From /home/gxchen/pds-test/pds-deep-archive/test/data/ladee\_test/mission\_bundle/LADEE\_Bundle\_1101.xml, g enerated these output files:  INFO 📄 SIP Manifest: ladee\_mission\_bundle\_v1.0\_20201118\_sip\_v1.0.tab  INFO 📄 XML label for the SIP: ladee\_mission\_bundle\_v1.0\_20201118\_sip\_v1.0.xml  INFO 👋 That's it! Thanks for making an AIP and SIP with us today. Bye!  4> (pds-deep-archive) [gxchen@pds-int ladee\_test]$ wc \*.tab  13 26 938 ladee\_mission\_bundle\_v1.0\_20201118\_checksum\_manifest\_v1.0.tab  13 52 2431 ladee\_mission\_bundle\_v1.0\_20201118\_sip\_v1.0.tab  13 26 6656 ladee\_mission\_bundle\_v1.0\_20201118\_transfer\_manifest\_v1.0.tab  39 104 10025 total |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.18 |
| Test Personnel | Gary Chen |

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| Test Case ID | DEEP.9 |
| Description | Defect: SIP Generator not outputting correctly for spice example bundle  Defect: AIP Generator not outputting correctly for spice example bundle |
| Requirements | PASS pds-deep-archive#39: SIP Generator not outputting correctly for spice example bundle  PASS pds-deep-archive#41: AIP Generator not outputting correctly for spice example bundle |
| Success Criteria |  |
| Test Steps | 1. download pds-deep-archive bundle to test\test\bundle 2. run pds-deep-archive -b <https://naif.jpl.nasa.gov/pub/naif/pds/pds4/insight/> -s PDS\_NAI insight\_spice/bundle\_insight\_spice\_v001.xml -d 3. validate -t insight.spice\_v1.0\_20201113\_aip\_v1.0.xml 4. validate -t insight.spice\_v1.0\_20201113\_sip\_v1.0.xml 5. find insight\_spice -type f |wc   wc \*tab 7.grep records \*.xml |
| Test Results | 2. (pds-deep-archive) [gxchen@pds-int test-bundles]$ validate -t insight.spice\_v1.0\_20201113\_aip\_v1.0.xml  PDS Validate Tool Report  Configuration: Version 1.24.0 Date 2020-11-13T20:28:31Z  Parameters: Targets [[file:/home/gxchen/pds-test/PDS4test.build10b/test-bundles/insight.spice\_v1.0\_20201113\_aip\_v1.0.xml]](file:///home/gxchen/pds-test/PDS4test.build10b/test-bundles/insight.spice_v1.0_20201113_aip_v1.0.xml%5d) 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 /home/gxchen/pds-test/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: [file:/home/gxchen/pds-test/PDS4test.build10b/test-bundles/insight.spice\_v1.0\_20201113\_aip\_v1.0.xml](file:///home/gxchen/pds-test/PDS4test.build10b/test-bundles/insight.spice_v1.0_20201113_aip_v1.0.xml) 1 product validation(s) completed  Summary:  0 error(s) 0 warning(s)  Product Validation Summary: 1 product(s) passed 0 product(s) failed 0 product(s) skipped  Referential Integrity Check Summary: 0 check(s) passed 0 check(s) failed 0 check(s) skipped  End of Report Completed execution in 15858 ms  3.(pds-deep-archive) [gxchen@pds-int test-bundles]$ validate -t insight.spice\_v1.0\_20201113\_sip\_v1.0.xml  PDS Validate Tool Report  Configuration: Version 1.24.0 Date 2020-11-13T20:29:59Z  Parameters: Targets [[file:/home/gxchen/pds-test/PDS4test.build10b/test-bundles/insight.spice\_v1.0\_20201113\_sip\_v1.0.xml]](file:///home/gxchen/pds-test/PDS4test.build10b/test-bundles/insight.spice_v1.0_20201113_sip_v1.0.xml%5d) 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 /home/gxchen/pds-test/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: [file:/home/gxchen/pds-test/PDS4test.build10b/test-bundles/insight.spice\_v1.0\_20201113\_sip\_v1.0.xml](file:///home/gxchen/pds-test/PDS4test.build10b/test-bundles/insight.spice_v1.0_20201113_sip_v1.0.xml) 1 product validation(s) completed  Summary:  0 error(s) 0 warning(s)  Product Validation Summary: 1 product(s) passed 0 product(s) failed 0 product(s) skipped  Referential Integrity Check Summary: 0 check(s) passed 0 check(s) failed 0 check(s) skipped  End of Report Completed execution in 11837 ms 4. (pds-deep-archive) [gxchen@pds-int test-bundles]$ find insight\_spice -type f |wc 111 111 6371 5. (pds-deep-archive) [gxchen@pds-int test-bundles]$ wc \*tab 74 148 5622 insight.spice\_v1.0\_20201113\_checksum\_manifest\_v1.0.tab 74 296 16038 insight.spice\_v1.0\_20201113\_sip\_v1.0.tab 74 148 37888 insight.spice\_v1.0\_20201113\_transfer\_manifest\_v1.0.tab 222 592 59548 total 6. (pds-deep-archive) [gxchen@pds-int test-bundles]$ grep records \*.xml insight.spice\_v1.0\_20201113\_aip\_v1.0.xml: <records>74</records> insight.spice\_v1.0\_20201113\_aip\_v1.0.xml: <records>74</records> insight.spice\_v1.0\_20201113\_aip\_v1.0.xml: <records>74</records> insight.spice\_v1.0\_20201113\_sip\_v1.0.xml: <records>74</records> insight.spice\_v1.0\_20201113\_sip\_v1.0.xml: <records>74</records> |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.13 |
| Test Personnel | Gary Chen |

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| Test Case ID | DEEP.10 |
| Description | Defect: SIP label contains invalid manifest URL using file path |
| Requirements | PASS pds-deep-archive#44: SIP label contains invalid manifest URL using file path |
| Success Criteria |  |
| Test Steps | 1. pds-deep-archive -b https://naif.jpl.nasa.gov/pub/naif/pds/pds4/insight/ -s PDS\_NAI insight\_spice/bundle\_insight\_spice\_v001.xml -d   review insight.spice\_v1.0\_20201113\_sip\_v1.0.tab |
| Test Results | <manifest\_checksum>66552710abdb0c232fc2d817815dac5b</manifest\_checksum>  <checksum\_type>MD5</checksum\_type>  <manifest\_url>https://pds.nasa.gov/data/pds4/manifests/insight.spice\_v1.0\_20201113\_sip\_v1.0.tab</... |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.13 |
| Test Personnel | Gary Chen |

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| Test Case ID | DEEP.11 |
| Description | Defect: Software does not exit after running against large data set |
| Requirements | PASS pds-deep-archive#64: Software does not exit after running against large data set |
| Success Criteria |  |
| Test Steps | 1. download insight\_cameras large bundle from dev server. 2. pds-deep-archive -s PDS\_IMG -b https://pds-imaging.jpl.nasa.gov/data/nsyt/insight\_cameras/ insight\_cameras/bundle.xml 3. verify the process exit after generating the files. |
| Test Results | (pds-deep-archive) [gxchen@pds-int test]$ INFO 🎉 Success! From /home/gxchen/pds-test/PDS4test.build10b/insight\_cameras/bundle.xml, generated these output files:  INFO 📄 SIP Manifest: insight\_cameras\_v1.0\_20201113\_sip\_v1.0.tab  INFO 📄 XML label for the SIP: insight\_cameras\_v1.0\_20201113\_sip\_v1.0.xml  INFO 👋 That's it! Thanks for making an AIP and SIP with us today. Bye!  ps -F  UID PID PPID C SZ RSS PSR STIME TTY TIME CMD  gxchen 6919 18771 0 38868 1820 0 17:06 pts/0 00:00:00 ps -F  gxchen 18771 18770 0 31863 920 0 12:25 pts/0 00:00:00 -bash  [1]+ Done pds-deep-archive -s PDS\_IMG -b https://pds-imaging.jpl.nasa.gov/data/nsyt/insight\_cameras/ insight\_cameras/bundle.xml |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.13 |
| Test Personnel | Gary Chen |

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| Test Case ID | DEEP.12 |
| Description | Defect: Software appears to be excluding all the products associated with the collections |
| Requirements | PASS pds-deep-archive#69: Software appears to exclude all products associated with collections |
| Success Criteria |  |
| Test Steps | 1. get the pds4-epoxi\_mri-v1.0 bundle 2. pds-deep-archive -s PDS\_SBN -b https://pdssbn.astro.umd.edu/holdings/ pds4-epoxi\_mri-v1.0/bundle.xml 3. Verify data under hartley2\_photometry/data/ were included. |
| Test Results | 2.  INFO 👟 PDS Deep Archive, version 0.2.2  INFO 🏃‍♀️ Starting AIP generation for pds4-epoxi\_mri-v1.0/bundle.xml  INFO 🎉 Success! AIP done, files generated:  INFO 📄 Checksum manifest: epoxi\_mri\_v1.0\_20201114\_checksum\_manifest\_v1.0.tab  INFO 📄 Transfer manifest: epoxi\_mri\_v1.0\_20201114\_transfer\_manifest\_v1.0.tab  INFO 📄 XML label for them both: epoxi\_mri\_v1.0\_20201114\_aip\_v1.0.xml  INFO 🏃‍♀️ Starting SIP generation for pds4-epoxi\_mri-v1.0/bundle.xml  INFO 🎉 Success! From /home/gxchen/pds-test/PDS4test.build10b/test-bundles/pds4-epoxi\_mri-v1.0/bundle.xml, generated these output files:  INFO 📄 SIP Manifest: epoxi\_mri\_v1.0\_20201114\_sip\_v1.0.tab  INFO 📄 XML label for the SIP: epoxi\_mri\_v1.0\_20201114\_sip\_v1.0.xml  INFO 👋 That's it! Thanks for making an AIP and SIP with us today. Bye!  3.  7f467a60f1f7805fdded0f13e5330574 MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/bundle.xml urn:nasa:pds:epoxi\_mri::1.0  46f99302305279e71cfc13484f75bb23 MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/hartley2\_photometry/collection.xml urn:nasa:pds:epoxi\_mri:hartley2\_photometry::1.0  07645c4f758125f66d35a3edb9616a99 MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/hartley2\_photometry/data/aper\_err.tab urn:nasa:pds:epoxi\_mri:hartley2\_photometry:aper\_err::1.0  4d5a5f58ca1b76d69106d2d183a7a09b MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/hartley2\_photometry/data/aper\_err.xml urn:nasa:pds:epoxi\_mri:hartley2\_photometry:aper\_err::1.0  552fb27462e5b3073b963142ef6d6149 MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/hartley2\_photometry/data/aper\_phot.tab urn:nasa:pds:epoxi\_mri:hartley2\_photometry:aper\_phot::1.0  afab0eb738b0bf2caea376813c892b21 MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/hartley2\_photometry/data/aper\_phot.xml urn:nasa:pds:epoxi\_mri:hartley2\_photometry:aper\_phot::1.0  9c97493f4646f0ac297df83a50365639 MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/hartley2\_photometry/data/azav\_err.tab urn:nasa:pds:epoxi\_mri:hartley2\_photometry:azav\_err::1.0  1f189b2127745d116305dc87b7229943 MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/hartley2\_photometry/data/azav\_err.xml urn:nasa:pds:epoxi\_mri:hartley2\_photometry:azav\_err::1.0  203e1800f33336fdca09ef7efa5c9ae3 MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/hartley2\_photometry/data/azav\_phot.tab urn:nasa:pds:epoxi\_mri:hartley2\_photometry:azav\_phot::1.0  cdfb4020161517f59c12d0e5f4502a32 MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/hartley2\_photometry/data/azav\_phot.xml urn:nasa:pds:epoxi\_mri:hartley2\_photometry:azav\_phot::1.0  ee8d4a885a579cead5237a399a4ae2c6 MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/hartley2\_photometry/data/prof\_err.tab urn:nasa:pds:epoxi\_mri:hartley2\_photometry:prof\_err::1.0  d3cab9dcb354286721e426f618236f3a MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/hartley2\_photometry/data/prof\_err.xml urn:nasa:pds:epoxi\_mri:hartley2\_photometry:prof\_err::1.0  52e902c36cce3e60d4500fbfb08bf41e MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/hartley2\_photometry/data/profile.tab urn:nasa:pds:epoxi\_mri:hartley2\_photometry:profile::1.0  36cdd16004ef1d5eca5d0897a6b51330 MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/hartley2\_photometry/data/profile.xml urn:nasa:pds:epoxi\_mri:hartley2\_photometry:profile::1.0  1129a1425769aa283101cccdf2ff1697 MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/hartley2\_photometry/document/hartley2\_mri\_anomaly.pdf urn:nasa:pds:epoxi\_mri:hartley2\_photometry:hartley2\_mri\_anomaly::1.0  022fb7dc573a7b48abfebe7ac08a208d MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/hartley2\_photometry/document/hartley2\_mri\_anomaly.xml urn:nasa:pds:epoxi\_mri:hartley2\_photometry:hartley2\_mri\_anomaly::1.0  3a774c57c29754b8a704409a44c735ad MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/hartley2\_photometry/inventory.csv urn:nasa:pds:epoxi\_mri:hartley2\_photometry::1.0  fcefb637f84f90ecdce7bc6537ce6136 MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/hartley2\_photometry/overview.txt urn:nasa:pds:epoxi\_mri:hartley2\_photometry:overview::1.0  8db6ec420050f393aba34839124c1f43 MD5 https://pdssbn.astro.umd.edu/holdings/pds4-epoxi\_mri-v1.0/hartley2\_photometry/overview.xml urn:nasa:pds:epoxi\_mri:hartley2\_photometry:overview::1.0  (pds-deep-archive) [gxchen@pds-int test-bundles]$ more epoxi\_mri\_v1.0\_20201114\_checksum\_manifest\_v1.0.tab  afab0eb738b0bf2caea376813c892b21 hartley2\_photometry/data/aper\_phot.xml  7f467a60f1f7805fdded0f13e5330574 bundle.xml  1f189b2127745d116305dc87b7229943 hartley2\_photometry/data/azav\_err.xml  4d5a5f58ca1b76d69106d2d183a7a09b hartley2\_photometry/data/aper\_err.xml  203e1800f33336fdca09ef7efa5c9ae3 hartley2\_photometry/data/azav\_phot.tab  46f99302305279e71cfc13484f75bb23 hartley2\_photometry/collection.xml  ee8d4a885a579cead5237a399a4ae2c6 hartley2\_photometry/data/prof\_err.tab  9c97493f4646f0ac297df83a50365639 hartley2\_photometry/data/azav\_err.tab  07645c4f758125f66d35a3edb9616a99 hartley2\_photometry/data/aper\_err.tab  8db6ec420050f393aba34839124c1f43 hartley2\_photometry/overview.xml  fcefb637f84f90ecdce7bc6537ce6136 hartley2\_photometry/overview.txt  52e902c36cce3e60d4500fbfb08bf41e hartley2\_photometry/data/profile.tab  1129a1425769aa283101cccdf2ff1697 hartley2\_photometry/document/hartley2\_mri\_anomaly.pdf  3a774c57c29754b8a704409a44c735ad hartley2\_photometry/inventory.csv  552fb27462e5b3073b963142ef6d6149 hartley2\_photometry/data/aper\_phot.tab  022fb7dc573a7b48abfebe7ac08a208d hartley2\_photometry/document/hartley2\_mri\_anomaly.xml  cdfb4020161517f59c12d0e5f4502a32 hartley2\_photometry/data/azav\_phot.xml  d3cab9dcb354286721e426f618236f3a hartley2\_photometry/data/prof\_err.xml  36cdd16004ef1d5eca5d0897a6b51330 hartley2\_photometry/data/profile.xml  (pds-deep-archive) [gxchen@pds-int test-bundles]$ more epoxi\_mri\_v1.0\_20201114\_transfer\_manifest\_v1.0.tab  urn:nasa:pds:epoxi\_mri:hartley2\_photometry:aper\_phot::1.0  /hartley2\_photometry/data/aper\_phot.xml    urn:nasa:pds:epoxi\_mri:hartley2\_photometry:aper\_phot::1.0  /hartley2\_photometry/data/aper\_phot.tab    urn:nasa:pds:epoxi\_mri::1.0  /bundle.xml    urn:nasa:pds:epoxi\_mri:hartley2\_photometry:azav\_err::1.0  /hartley2\_photometry/data/azav\_err.xml    urn:nasa:pds:epoxi\_mri:hartley2\_photometry:azav\_err::1.0  /hartley2\_photometry/data/azav\_err.tab    urn:nasa:pds:epoxi\_mri:hartley2\_photometry:aper\_err::1.0  /hartley2\_photometry/data/aper\_err.xml    urn:nasa:pds:epoxi\_mri:hartley2\_photometry:aper\_err::1.0  /hartley2\_photometry/data/aper\_err.tab    urn:nasa:pds:epoxi\_mri:hartley2\_photometry:azav\_phot::1.0  /hartley2\_photometry/data/azav\_phot.tab    urn:nasa:pds:epoxi\_mri:hartley2\_photometry:azav\_phot::1.0  /hartley2\_photometry/data/azav\_phot.xml    urn:nasa:pds:epoxi\_mri:hartley2\_photometry::1.0  /hartley2\_photometry/collection.xml    urn:nasa:pds:epoxi\_mri:hartley2\_photometry::1.0  /hartley2\_photometry/inventory.csv    urn:nasa:pds:epoxi\_mri:hartley2\_photometry:prof\_err::1.0  /hartley2\_photometry/data/prof\_err.tab    urn:nasa:pds:epoxi\_mri:hartley2\_photometry:prof\_err::1.0  /hartley2\_photometry/data/prof\_err.xml    urn:nasa:pds:epoxi\_mri:hartley2\_photometry:overview::1.0  /hartley2\_photometry/overview.xml    urn:nasa:pds:epoxi\_mri:hartley2\_photometry:overview::1.0  /hartley2\_photometry/overview.txt    urn:nasa:pds:epoxi\_mri:hartley2\_photometry:profile::1.0  /hartley2\_photometry/data/profile.tab    urn:nasa:pds:epoxi\_mri:hartley2\_photometry:profile::1.0  /hartley2\_photometry/data/profile.xml    urn:nasa:pds:epoxi\_mri:hartley2\_photometry:hartley2\_mri\_anomaly::1.0  /hartley2\_photometry/document/hartley2\_mri\_anomaly.pdf    urn:nasa:pds:epoxi\_mri:hartley2\_photometry:hartley2\_mri\_anomaly::1.0  /hartley2\_photometry/document/hartley2\_mri\_anomaly.xml |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.14 |
| Test Personnel | Gary Chen |

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| Test Case ID | DEEP.13 |
| Description | Defect: AIP Generator outputs duplicate records in the checksum / transfer manifest |
| Requirements | PASS pds-deep-archive#71: AIP Generator outputs duplicate records in the manifest |
| Success Criteria | Run against urn-nasa-pds-insight\_documents bundle. It should only contain 75 files |
| Test Steps | 1. Get urn-nasa-pds-insight\_documents bundle. 2. pds-deep-archive -s PDS\_GEO -b https://pds.nasa.gov/data/pds4/test-bundles/ urn-nasa-pds-insight\_documents/bundle\_insight\_documents.xml 3. wc -l \*.tab |
| Test Results | INFO 👟 PDS Deep Archive, version 0.2.2  INFO 🏃‍♀️ Starting AIP generation for urn-nasa-pds-insight\_documents/bundle\_insight\_documents.xml  INFO 🎉 Success! AIP done, files generated:  INFO 📄 Checksum manifest: insight\_documents\_v2.0\_20201114\_checksum\_manifest\_v1.0.tab  INFO 📄 Transfer manifest: insight\_documents\_v2.0\_20201114\_transfer\_manifest\_v1.0.tab  INFO 📄 XML label for them both: insight\_documents\_v2.0\_20201114\_aip\_v1.0.xml  INFO 🏃‍♀️ Starting SIP generation for urn-nasa-pds-insight\_documents/bundle\_insight\_documents.xml  INFO 🎉 Success! From /home/gxchen/pds-test/PDS4test.build10b/test-bundles/urn-nasa-pds-insight\_documents/bundle\_insight\_documents.xml, generated these output files:  INFO 📄 SIP Manifest: insight\_documents\_v2.0\_20201114\_sip\_v1.0.tab  INFO 📄 XML label for the SIP: insight\_documents\_v2.0\_20201114\_sip\_v1.0.xml  INFO 👋 That's it! Thanks for making an AIP and SIP with us today. Bye!  (pds-deep-archive) [gxchen@pds-int test-bundles]$ ll  total 112  -rw-r--r-- 1 gxchen pds 4217 Nov 13 22:11 insight\_documents\_v2.0\_20201114\_aip\_v1.0.xml  -rw-r--r-- 1 gxchen pds 5874 Nov 13 22:11 insight\_documents\_v2.0\_20201114\_checksum\_manifest\_v1.0.tab  -rw-r--r-- 1 gxchen pds 16609 Nov 13 22:11 insight\_documents\_v2.0\_20201114\_sip\_v1.0.tab  -rw-r--r-- 1 gxchen pds 4628 Nov 13 22:11 insight\_documents\_v2.0\_20201114\_sip\_v1.0.xml  -rw-r--r-- 1 gxchen pds 38400 Nov 13 22:11 insight\_documents\_v2.0\_20201114\_transfer\_manifest\_v1.0.tab  drwxr-xr-x 4 gxchen pds 4096 Nov 12 22:14 insight\_spice  drwxr-xr-x 9 gxchen pds 4096 Nov 12 21:37 pds4-compil-comet-v1.0  drwxr-xr-x 3 gxchen pds 4096 Nov 12 21:42 pds4-epoxi\_mri-v1.0  drwxr-xr-x 4 gxchen pds 4096 Nov 12 21:41 pds4-epoxi\_mri-v1.0-secondary-collection-test  drwxr-xr-x 4 gxchen pds 4096 Nov 12 21:43 pds4-soho-v1.0  drwxr-xr-x 7 gxchen pds 4096 Nov 12 21:43 urn-nasa-pds-insight\_documents  (pds-deep-archive) [gxchen@pds-int test-bundles]$ wc -l \*.tab  75 insight\_documents\_v2.0\_20201114\_checksum\_manifest\_v1.0.tab  75 insight\_documents\_v2.0\_20201114\_sip\_v1.0.tab  75 insight\_documents\_v2.0\_20201114\_transfer\_manifest\_v1.0.tab  225 total |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.14 |
| Test Personnel | Gary Chen |

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| Test Case ID | DEEP.14 |
| Description | Defect: Output SIP uses backslash in output URLs on Windows |
| Requirements | NOTYET pds-deep-archive#82: Output SIP uses backslash in output URLs on Windows |
| Success Criteria |  |
| Test Steps |  |
| Test Results |  |
| Comments | Not tested – no Windows |
| Date of Testing |  |
| Test Personnel |  |

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| Test Case ID | DEEP.15 |
| Description | Defect: Invalid filenames to match SIP / AIP LIDs |
| Requirements | PASS pds-deep-archive#75: Invalid filenames to match SIP / AIP LIDs |
| Success Criteria | Verify the output filenames |
| Test Steps | 1. pds-deep-archive -s PDS\_GEO -b https://pds.nasa.gov/data/pds4/test-bundles/ urn-nasa-pds-insight\_documents/bundle\_insight\_documents.xml |
| Test Results | INFO 👟 PDS Deep Archive, version 0.2.2  INFO 🏃‍♀️ Starting AIP generation for urn-nasa-pds-insight\_documents/bundle\_insight\_documents.xml  INFO 🎉 Success! AIP done, files generated:  INFO 📄 Checksum manifest: insight\_documents\_v2.0\_20201114\_checksum\_manifest\_v1.0.tab  INFO 📄 Transfer manifest: insight\_documents\_v2.0\_20201114\_transfer\_manifest\_v1.0.tab  INFO 📄 XML label for them both: insight\_documents\_v2.0\_20201114\_aip\_v1.0.xml  INFO 🏃‍♀️ Starting SIP generation for urn-nasa-pds-insight\_documents/bundle\_insight\_documents.xml  INFO 🎉 Success! From /home/gxchen/pds-test/PDS4test.build10b/test-bundles/urn-nasa-pds-insight\_documents/bundle\_insight\_documents.xml, generated these output files:  INFO 📄 SIP Manifest: insight\_documents\_v2.0\_20201114\_sip\_v1.0.tab  INFO 📄 XML label for the SIP: insight\_documents\_v2.0\_20201114\_sip\_v1.0.xml  INFO 👋 That's it! Thanks for making an AIP and SIP with us today. Bye!  (pds-deep-archive) [gxchen@pds-int test-bundles]$ ll  total 112  -rw-r--r-- 1 gxchen pds 4217 Nov 13 22:11 insight\_documents\_v2.0\_20201114\_aip\_v1.0.xml  -rw-r--r-- 1 gxchen pds 5874 Nov 13 22:11 insight\_documents\_v2.0\_20201114\_checksum\_manifest\_v1.0.tab  -rw-r--r-- 1 gxchen pds 16609 Nov 13 22:11 insight\_documents\_v2.0\_20201114\_sip\_v1.0.tab  -rw-r--r-- 1 gxchen pds 4628 Nov 13 22:11 insight\_documents\_v2.0\_20201114\_sip\_v1.0.xml  -rw-r--r-- 1 gxchen pds 38400 Nov 13 22:11 insight\_documents\_v2.0\_20201114\_transfer\_manifest\_v1.0.tab |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.14 |
| Test Personnel | Gary Chen |

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| Test Case ID | DEEP.16 |
| Description | Defect: Deep Archive doesn't do Windows, Standalone AIP Generator Fails |
| Requirements | PASS pds-deep-archive#77: Deep Archive doesn't do Windows  PASS pds-deep-archive#78: Standalone AIP Generator Fails |
| Success Criteria |  |
| Test Steps | 1. install pds-deep-archive on windows 2. copy Uranus\_occ\_support bundle on window 3. C:\Users\gary\mypy>Scripts\pds-deep-archive -s PDS\_RNG -b https://rings.anything/xxxx C:\Pds-test\PDS4test.build10b\uranus\_occ\_support\bundle.xml   Verify output |
| Test Results | 1. INFO 👟 PDS Deep Archive, version 0.2.2 2. INFO 🏃‍♀️ Starting AIP generation for C:\Pds-test\PDS4test.build10b\uranus\_occ\_support\bundle.xml 3. INFO 🎉 Success! AIP done, files generated: 4. INFO 📄 Checksum manifest: uranus\_occ\_support\_v1.0\_20201117\_checksum\_manifest\_v1.0.tab 5. INFO 📄 Transfer manifest: uranus\_occ\_support\_v1.0\_20201117\_transfer\_manifest\_v1.0.tab 6. INFO 📄 XML label for them both: uranus\_occ\_support\_v1.0\_20201117\_aip\_v1.0.xml 7. INFO 🏃‍♀️ Starting SIP generation for C:\Pds-test\PDS4test.build10b\uranus\_occ\_support\bundle.xml 8. INFO 🎉 Success! From C:\Pds-test\PDS4test.build10b\uranus\_occ\_support\bundle.xml, generated these output files: 9. INFO 📄 SIP Manifest: uranus\_occ\_support\_v1.0\_20201117\_sip\_v1.0.tab 10. INFO 📄 XML label for the SIP: uranus\_occ\_support\_v1.0\_20201117\_sip\_v1.0.xml   INFO 👋 That's it! Thanks for making an AIP and SIP with us today. Bye! |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.17 |
| Test Personnel | Gary Chen |

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| Test Case ID | DEEP.17 |
| Description | Defect: Update Usage instructions to more clearly define command-line arguments |
| Requirements | PASS pds-deep-archive#59: Update Usage instructions to more clearly define command-line arguments |
| Success Criteria |  |
| Test Steps |  |
| Test Results | (pds-deep-archive) [gxchen@pds-int test-bundles]$ pds-deep-archive -s PDS\_ATM -b https://atmos.nmsu.edu/PDS/data/PDS4/LADEE test/data/ladee\_test/mission\_bundle/LADEE\_Bundle\_1101.xml  usage: pds-deep-archive [-h] [--version] [--include-latest-collection-only] -s  {PDS\_ATM,PDS\_ENG,PDS\_GEO,PDS\_IMG,PDS\_JPL,PDS\_NAI,PDS\_PPI,PDS\_PSI,PDS\_RNG,PDS\_SBN}  [-n] -b BUNDLE\_BASE\_URL [-d | -q]  IN-BUNDLE.XML  pds-deep-archive: error: argument IN-BUNDLE.XML: can't open 'test/data/ladee\_test/mission\_bundle/LADEE\_Bundle\_1101.xml': [Errno 2] No such file or directory: 'test/data/ladee\_test/mission\_bundle/LADEE\_Bundle\_1101.xml' |
| Comments | Results met success criteria. Works, but no change to usage message: |
| Date of Testing | 2020.11.14 |
| Test Personnel | Gary Chen |

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| Test Case ID | DOI.1 |
| Description | Main functions of pds-doi-cmd: reserve, draft, release (deactivate not ready yet) |
| Requirements | PASS pds-doi-service#4: Develop Status / Query API and component for OSTI status of a DOI  PASS pds-doi-service#5: The software shall be capable of accepting a request to create a draft DOI  PASS pds-doi-service#6: The software shall be capable of accepting a request to reserve a DOI  PASS pds-doi-service#7: The software shall be capable of accepting a request to release a DOI.  NOTYET pds-doi-service#8: The software shall be capable of accepting a request to deactivate a DOI.  PASS pds-doi-service#9: The software shall be capable of accepting a request to update DOI metadata.  PASS pds-doi-service#14: The software shall maintain a database of PDS DOIs and their current state.  PASS pds-doi-service#15: The software shall maintain the ability to manage DOIs through OSTI  NOTYET pds-doi-service#19: Design REST API and JSON response  PASS pds-doi-service#21: Reserve a DOI capability  PASS pds-doi-service#22: Release DOI capability  PASS pds-doi-service#24: Update Released DOI capability  PASS pds-doi-service#26: Implement initial DOI database and management  PASS pds-doi-service#27: Develop DOI Status / Query component  PASS pds-doi-service#29: Develop ability to maintain a transaction log database  PASS pds-doi-service#30: The software shall provide a Status capability …  PASS pds-doi-service#31: Develop maintain internal database of DOI requests  PASS pds-doi-service#32: Develop Status / Query capability for querying database and return JSON  PASS pds-doi-service#33: Develop Pending DOI Handler component for iteratively querying OSTI …  NOTYET pds-doi-service#35: The software shall provide the capability of producing a DOI Status Report …  PASS pds-doi-service#46: Implement the command line and parser to release a doi  PASS pds-doi-service#55: Update default DOI metadata according to changes in requirements |
| Success Criteria | Get a LIDVID to status Pending on OSTI’s test site |
| Test Steps | 1. cd /Users/rchen/Desktop/test/testDoi; rm doi.db 2. To get a (necessary) new shell (with prompt [pds-doi-service]):   source ~/.virtualenvs/pds-doi-service/bin/activate.csh   1. Ensure we’re working out of $HOME/.virtualenvs/pds-poi-service:  python -c "import sys;print(sys.prefix)" 2. Ensure we’re modifying the test URL https://www.osti.gov/iad2test/... cat /*dirFromLastStep*/pds\_doi\_service.ini 3. pds-doi-cmd reserve -n eng -i doi5.csv -s "rchen@jpl.caltech.edu" #doi#6 doi#21 4. repeat previous step to see error about same LIDVID 5. pds-doi-cmd draft -n eng -i doi5.bundle.xml -s"rchen@jpl.caltech.edu" > doi5draft.xml #doi#5 6. pds-doi-cmd list #doi#29 doi#31 doi#32 doi#26 doi#14 7. In doi5draft.xml before <publisher>, insert <doi> line from step 5’s output 8. pds-doi-cmd release -neng -i doi5draft.xml -s "rchen@jpl.caltech.edu" > doi5release.xml #doi#7 doi#46 doi#22 doi#55 9. pds-doi-cmd list #doi#9 doi#24 10. pds-doi-cmd check #doi#4 doi#33 doi#27 doi#15 doi#30   rm doi5draft.xml doi5release.xml #if so desired |
| Test Results | Step 3:  /Users/rchen/.virtualenvs/pds-doi-service  Step 4:  [OSTI]  url = https://www.osti.gov/iad2test/api/records  user = NASA-PDS  password = xxxxxxxxxx  Step 5:  INFO pds\_doi\_core.cmd.pds\_doi\_cmd:main run\_dir /Users/rchen/Desktop/test/testDoi  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_core.actions.reserve:run run reserve  INFO pds\_doi\_core.actions.actions:parse\_arguments input = doi5.csv  INFO pds\_doi\_core.actions.actions:parse\_arguments node = eng  INFO pds\_doi\_core.actions.actions:parse\_arguments submitter = None  INFO pds\_doi\_core.actions.actions:parse\_arguments dry\_run = False  INFO pds\_doi\_core.actions.actions:parse\_arguments force = False  INFO pds\_doi\_core.input.input\_util:parse\_csv\_file i\_filepath doi5.csv  INFO pds\_doi\_core.input.input\_util:parse\_csv\_file num\_cols 7  INFO pds\_doi\_core.input.input\_util:parse\_csv\_file num\_rows 1  INFO pds\_doi\_core.input.input\_util:parse\_csv\_file FILE\_WRITE\_SUMMARY:num\_rows 1  INFO pds\_doi\_core.util.doi\_validator:validate\_against\_xsd xsd\_filename,is\_valid ('/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/iad\_schema.xsd', True)  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows ready to execute request SELECT \* from doi WHERE is\_latest=1 AND lid || '::' || vid IN (:lidvid\_0) ORDER BY update\_date  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows with parameters {'lidvid\_0': 'urn:nasa:pds:test20201202::1.0'}  INFO pds\_doi\_core.db\_util.doi\_database:create\_connection sqlite3.version 2.6.0  INFO pds\_doi\_core.util.doi\_validator:\_check\_field\_site\_url doi.site\_url None  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows ready to execute request SELECT \* from doi WHERE is\_latest=1 AND lower(title) IN (:title\_0) ORDER BY update\_date  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows with parameters {'title\_0': 'lunar crustal magnetic field map bundle'}  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows ready to execute request SELECT \* from doi WHERE is\_latest=1 AND lid || '::' || vid IN (:lidvid\_0) ORDER BY update\_date  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows with parameters {'lidvid\_0': 'urn:nasa:pds:test20201202::1.0'}  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_core.outputs.transaction\_logger:write transaction files saved in ./transaction\_history/eng/2020-12-03T14:19:21.658527  INFO pds\_doi\_core.db\_util.doi\_database:create\_connection sqlite3.version 2.6.0  <records total="1" errors="0">  <record status="Reserved" index="1">  <id>28842</id>  <site\_code>NASA-PDS</site\_code>  <title>Lunar Crustal Magnetic Field Map Bundle</title>  <sponsoring\_organization>National Aeronautics and Space Administration (NASA)</sponsoring\_organization>  <accession\_number>urn:nasa:pds:test20201202::1.0</accession\_number>  <doi>10.17189/28842</doi>  <publisher>NASA Planetary Data System</publisher>  <publication\_date>2020-01-01</publication\_date>  <site\_url>N/A</site\_url>  <product\_type>Collection</product\_type>  <product\_type\_specific>PDS4 Bundle</product\_type\_specific>  <date\_record\_added>2020-12-03</date\_record\_added>  <date\_record\_updated>2020-12-03</date\_record\_updated>  <keywords>PDS; PDS4;</keywords>  <authors>  <author>  <first\_name>Richard</first\_name>  <last\_name>Chen</last\_name>  <affiliations/>  </author>  </authors>  <contributors>  <contributor>  <full\_name>Planetary Data System: Engineering Node</full\_name>  <contributor\_type>DataCurator</contributor\_type>  <affiliations/>  </contributor>  </contributors>  <related\_identifiers/>  </record>  </records>  Step 6: note the “You cannot submit a new DOI for the same lidvid” at the end  INFO pds\_doi\_core.cmd.pds\_doi\_cmd:main run\_dir /Users/rchen/Desktop/test/testDoi  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_core.actions.reserve:run run reserve  INFO pds\_doi\_core.actions.actions:parse\_arguments input = doi5.csv  INFO pds\_doi\_core.actions.actions:parse\_arguments node = eng  INFO pds\_doi\_core.actions.actions:parse\_arguments submitter = None  INFO pds\_doi\_core.actions.actions:parse\_arguments dry\_run = False  INFO pds\_doi\_core.actions.actions:parse\_arguments force = False  INFO pds\_doi\_core.input.input\_util:parse\_csv\_file i\_filepath doi5.csv  INFO pds\_doi\_core.input.input\_util:parse\_csv\_file num\_cols 7  INFO pds\_doi\_core.input.input\_util:parse\_csv\_file num\_rows 1  INFO pds\_doi\_core.input.input\_util:parse\_csv\_file FILE\_WRITE\_SUMMARY:num\_rows 1  INFO pds\_doi\_core.util.doi\_validator:validate\_against\_xsd xsd\_filename,is\_valid ('/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/iad\_schema.xsd', True)  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows ready to execute request SELECT \* from doi WHERE is\_latest=1 AND lid || '::' || vid IN (:lidvid\_0) ORDER BY update\_date  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows with parameters {'lidvid\_0': 'urn:nasa:pds:test20201202::1.0'}  INFO pds\_doi\_core.db\_util.doi\_database:create\_connection sqlite3.version 2.6.0  Traceback (most recent call last):  File "/Users/rchen/.virtualenvs/pds-doi-service/bin/pds-doi-cmd", line 10, in <module>  sys.exit(main())  File "/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/cmd/pds\_doi\_cmd.py", line 32, in main  output = action.run()  File "/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/actions/reserve.py", line 236, in run  dois = self.complete\_and\_validate\_dois(dois,  File "/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/actions/reserve.py", line 180, in complete\_and\_validate\_dois  self.\_doi\_validator.validate\_osti\_submission(doi)  File "/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/doi\_validator.py", line 235, in validate\_osti\_submission  self.\_check\_field\_lidvid\_update(doi)  File "/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/doi\_validator.py", line 149, in \_check\_field\_lidvid\_update  raise IllegalDOIActionException(  pds\_doi\_service.core.input.exceptions.IllegalDOIActionException: There is already a DOI 10.17189/28842 submitted for this lidvid urn:nasa:pds:test20201202::1.0 (status=Reserved). You cannot submit a new DOI for the same lidvid..  Step 7:  INFO pds\_doi\_core.cmd.pds\_doi\_cmd:main run\_dir /Users/rchen/Desktop/test/testDoi  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_core.actions.actions:parse\_arguments input = doi5.bundle.xml  INFO pds\_doi\_core.actions.actions:parse\_arguments node = eng  INFO pds\_doi\_core.actions.actions:parse\_arguments submitter = rchen@jpl.caltech.edu  INFO pds\_doi\_core.actions.actions:parse\_arguments force = False  INFO pds\_doi\_core.actions.actions:parse\_arguments keyword = None  INFO pds\_doi\_core.actions.actions:\_run\_single\_file input\_file doi5.bundle.xml  INFO pds\_doi\_core.util.doi\_validator:validate\_against\_xsd xsd\_filename,is\_valid ('/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/iad\_schema.xsd', True)  INFO pds\_doi\_core.util.doi\_validator:\_check\_field\_site\_url doi.site\_url https://pds.nasa.gov/ds-view/pds/viewBundle.jsp?identifier=urn%3Anasa%3Apds%3Atest20201202&version=1.0  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows ready to execute request SELECT \* from doi WHERE is\_latest=1 AND lower(title) IN (:title\_0) ORDER BY update\_date  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows with parameters {'title\_0': 'lunar crustal magnetic field map bundle'}  INFO pds\_doi\_core.db\_util.doi\_database:create\_connection sqlite3.version 2.6.0  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows ready to execute request SELECT \* from doi WHERE is\_latest=1 AND lid || '::' || vid IN (:lidvid\_0) ORDER BY update\_date  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows with parameters {'lidvid\_0': 'urn:nasa:pds:test20201202::1.0'}  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_core.outputs.transaction\_logger:write transaction files saved in ./transaction\_history/eng/2020-12-03T14:21:29.577931  INFO pds\_doi\_core.db\_util.doi\_database:create\_connection sqlite3.version 2.6.0  Step 9:  INFO pds\_doi\_core.cmd.pds\_doi\_cmd:main run\_dir /Users/rchen/Desktop/test/testDoi  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows ready to execute request SELECT \* from doi WHERE is\_latest=1 ORDER BY update\_date  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows with parameters {}  INFO pds\_doi\_core.db\_util.doi\_database:create\_connection sqlite3.version 2.6.0  [{"status": "Reserved", "update\_date": 1607033961.658527, "submitter": null, "title": "Lunar Crustal Magnetic Field Map Bundle", "type": "Collection", "subtype": "PDS4 Bundle", "node\_id": "eng", "lid": "urn:nasa:pds:test20201202", "vid": "1.0", "doi": "10.17189/28842", "release\_date": null, "transaction\_key": "./transaction\_history/eng/2020-12-03T14:19:21.658527", "is\_latest": 1}, {"status": "Draft", "update\_date": 1607034089.577931, "submitter": "rchen@jpl.caltech.edu", "title": "Lunar Crustal Magnetic Field Map Bundle", "type": "Dataset", "subtype": "PDS4 Refereed Data Bundle", "node\_id": "eng", "lid": "urn:nasa:pds:test20201202", "vid": "1.0", "doi": null, "release\_date": null, "transaction\_key": "./transaction\_history/eng/2020-12-03T14:21:29.577931", "is\_latest": 1}]  Step 10:  INFO pds\_doi\_core.cmd.pds\_doi\_cmd:main run\_dir /Users/rchen/Desktop/test/testDoi  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_core.actions.actions:parse\_arguments input = doi5draft.xml  INFO pds\_doi\_core.actions.actions:parse\_arguments node = eng  INFO pds\_doi\_core.actions.actions:parse\_arguments submitter = rchen@jpl.caltech.edu  INFO pds\_doi\_core.actions.actions:parse\_arguments force = False  INFO pds\_doi\_core.util.doi\_validator:validate\_against\_xsd xsd\_filename,is\_valid ('/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/iad\_schema.xsd', True)  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows ready to execute request SELECT \* from doi WHERE is\_latest=1 AND lid || '::' || vid IN (:lidvid\_0) ORDER BY update\_date  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows with parameters {'lidvid\_0': 'urn:nasa:pds:test20201202::1.0'}  INFO pds\_doi\_core.db\_util.doi\_database:create\_connection sqlite3.version 2.6.0  INFO pds\_doi\_core.util.doi\_validator:\_check\_field\_site\_url doi.site\_url https://pds.nasa.gov/ds-view/pds/viewBundle.jsp?identifier=urn%3Anasa%3Apds%3Atest20201202&version=1.0  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows ready to execute request SELECT \* from doi WHERE is\_latest=1 AND lower(title) IN (:title\_0) ORDER BY update\_date  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows with parameters {'title\_0': 'lunar crustal magnetic field map bundle'}  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows ready to execute request SELECT \* from doi WHERE is\_latest=1 AND lid || '::' || vid IN (:lidvid\_0) ORDER BY update\_date  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows with parameters {'lidvid\_0': 'urn:nasa:pds:test20201202::1.0'}  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_core.outputs.transaction\_logger:write transaction files saved in ./transaction\_history/eng/2020-12-03T14:35:25.084481  INFO pds\_doi\_core.db\_util.doi\_database:create\_connection sqlite3.version 2.6.0  Step 11: the doi at the end has been updated with the value copied into doi5draft.xml  INFO pds\_doi\_core.cmd.pds\_doi\_cmd:main run\_dir /Users/rchen/Desktop/test/testDoi  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows ready to execute request SELECT \* from doi WHERE is\_latest=1 ORDER BY update\_date  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows with parameters {}  INFO pds\_doi\_core.db\_util.doi\_database:create\_connection sqlite3.version 2.6.0  [{"status": "Pending", "update\_date": 1607034925.084481, "submitter": "rchen@jpl.caltech.edu", "title": "Lunar Crustal Magnetic Field Map Bundle", "type": "Dataset", "subtype": "PDS4 Refereed Data Bundle", "node\_id": "eng", "lid": "urn:nasa:pds:test20201202", "vid": "1.0", "doi": "10.17189/28842", "release\_date": null, "transaction\_key": "./transaction\_history/eng/2020-12-03T14:35:25.084481", "is\_latest": 1}]  Step 12: The end has the lidvid of doi5.bundle.xml, urn:nasa:pds:test20201202  INFO pds\_doi\_core.cmd.pds\_doi\_cmd:main run\_dir /Users/rchen/Desktop/test/testDoi  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_core.actions.actions:parse\_arguments submitter = None  INFO pds\_doi\_core.actions.actions:parse\_arguments email = False  INFO pds\_doi\_core.actions.actions:parse\_arguments attachment = True  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows ready to execute request SELECT \* from doi WHERE is\_latest=1 AND lower(status) IN (:status\_0) ORDER BY update\_date  INFO pds\_doi\_core.db\_util.doi\_database:select\_latest\_rows with parameters {'status\_0': 'pending'}  INFO pds\_doi\_core.db\_util.doi\_database:create\_connection sqlite3.version 2.6.0  INFO pds\_doi\_service.core.util.config\_parser:get\_config search configuration files in ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini', '/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service.ini']  INFO pds\_doi\_service.core.util.config\_parser:get\_config used configuration following files ['/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/util/conf.ini.default', '/Users/rchen/.virtualenvs/pds-doi-service/pds\_doi\_service.ini']  INFO pds\_doi\_core.outputs.transaction\_logger:write transaction files saved in ./transaction\_history/eng/2020-12-03T14:46:24.449065  INFO pds\_doi\_core.db\_util.doi\_database:create\_connection sqlite3.version 2.6.0  [{'status': 'Registered', 'update\_date': 1607034925.084481, 'submitter': 'rchen@jpl.caltech.edu', 'title': 'Lunar Crustal Magnetic Field Map Bundle', 'type': 'Dataset', 'subtype': 'PDS4 Refereed Data Bundle', 'node\_id': 'eng', 'lid': 'urn:nasa:pds:test20201202', 'vid': '1.0', 'doi': '10.17189/28842', 'release\_date': None, 'transaction\_key': './transaction\_history/eng/2020-12-03T14:35:25.084481', 'is\_latest': 1, 'initial\_status': 'Pending', 'id': '28842', 'record\_index': 1}] |
| Comments | Results met success criteria. |
| Date of Testing | 2020.12.03 |
| Test Personnel | Richard Chen |

|  |  |
| --- | --- |
| Test Case ID | DOI.2 |
| Description | Test various build 11.0 issues |
| Requirements | PASS pds-doi-service#18: Develop DOI metadata automated validation component  PASS pds-doi-service#56: validate the submitted OSTI record against a schema  PASS pds-doi-service#10: The software shall be capable of batch processing >1 DOI requests.  PASS pds-doi-service#11: The software shall [generate] DOI metadata from PDS4 Collection, Bundle, Document  PASS pds-doi-service#12: The software shall validate a minimum set of metadata …  PASS pds-doi-service#13: The software shall validate the DOI metadata …  PASS pds-doi-service#25: DOI Batch Processing capability  PASS pds-doi-service#58: create full\_name when first/last name cannot be parsed  PASS pds-doi-service#70: add check to ensure landing page is online prior to DOI release  PASS pds-doi-service#72: node is not provided as contributor in the reserve records |
| Success Criteria |  |
| Test Steps | 1. cd /Users/rchen/Desktop/test/testDoi; rm doi.db   Catch syntactically bad values   1. diff doi18a.xml doi18b.xml 2. validate -x postdraft.xsd -S postdraft.sch -t doi18a.xml 3. validate -x postdraft.xsd -S postdraft.sch -t doi18b.xml #doi#18 doi#56   Generate draft from bundle, collection, document. First batch process in doi11.csv   1. To get a (necessary) new shell (with prompt [pds-doi-service]):   source ~/.virtualenvs/pds-doi-service/bin/activate.csh   1. pds-doi-cmd reserve -n eng -i doi11.csv -s "rchen@jpl.caltech.edu" |& grep -v INFO > doi11reserve.xml #doi#10 doi#11 doi#25 2. grep "<full\_name" doi11reserve.xml #doi#72   reserve produces <site\_url>N/A</site\_url>, which release should reject   1. pds-doi-cmd release -neng -i doi11reserve.xml -s "rchen@jpl.caltech.edu" |& grep -v INFO #doi#70 doi#12 doi#13   The next three cover doi#11. The first covers doi#58   1. pds-doi-cmd draft -n eng -i doi11bun.xml -s"rchen@jpl.caltech.edu" |& grep -v INFO #doi#11 doi#58 2. pds-doi-cmd draft -n eng -i doi11col.xml -s"rchen@jpl.caltech.edu" |& grep -v INFO #doi#11   pds-doi-cmd draft -n eng -i doi11doc.xml -s"rchen@jpl.caltech.edu" |& grep -v INFO #doi#11 |
| Test Results | Step 2:  32c32  < <first\_name>C. B.</first\_name>  ---  > <first\_name></first\_name> <!-- trigger .sch with blank value-->  50c50  < <contributor\_type>DataCurator</contributor\_type>  ---  > <!--contributor\_type>DataCurator</contributor\_type--> <!-- trigger .xsd -->  Step 3:  PDS Validate Tool Report  Configuration:  Version 1.25.0-SNAPSHOT  Date 2020-12-04T00:42:24Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testDoi/doi18a.xml]  User Specified Schemas [file:/Users/rchen/Desktop/test/testDoi/postdraft.xsd]  User Specified Schematrons [file:/Users/rchen/Desktop/test/testDoi/postdraft.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 /Users/rchen/PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/testDoi/doi18a.xml  1 product validation(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  1 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  End of Report  Completed execution in 1721 ms  Step 4:  PDS Validate Tool Report  Configuration:  Version 1.25.0-SNAPSHOT  Date 2020-12-04T00:43:30Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testDoi/doi18b.xml]  User Specified Schemas [file:/Users/rchen/Desktop/test/testDoi/postdraft.xsd]  User Specified Schematrons [file:/Users/rchen/Desktop/test/testDoi/postdraft.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 /Users/rchen/PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testDoi/doi18b.xml  ERROR [error.label.schema] line 48, 20: cvc-complex-type.2.4.b: The content of element 'contributor' is not complete. One of '{contributor\_type}' is expected.  ERROR [error.label.schematron] line 32, 21: If exist, authors field containing 'first\_name' must not be empty.  1 product validation(s) completed  Summary:  2 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.schematron  1 error.label.schema  End of Report  Completed execution in 1589 ms  Step 7:  <full\_name>Planetary Data System: Engineering Node</full\_name>  <full\_name>Planetary Data System: Engineering Node</full\_name>  <full\_name>Planetary Data System: Engineering Node</full\_name>  Step 8:  WARNING pds\_doi\_core.util.doi\_validator:\_check\_field\_site\_url site\_url N/A not reachable  WARNING pds\_doi\_core.util.doi\_validator:\_check\_field\_site\_url site\_url N/A not reachable  WARNING pds\_doi\_core.util.doi\_validator:\_check\_field\_site\_url site\_url N/A not reachable  Traceback (most recent call last):  File "/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/actions/release.py", line 148, in run  self.\_validate\_doi(o\_doi\_label)  File "/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/actions/release.py", line 130, in \_validate\_doi  self.\_raise\_warn\_exceptions(exception\_classes,exception\_messages)  File "/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/actions/release.py", line 95, in \_raise\_warn\_exceptions  raise WarningDOIException(message\_to\_raise)  pds\_doi\_service.core.input.exceptions.WarningDOIException: SiteURLNotExistException:site\_url N/A not reachable, SiteURLNotExistException:site\_url N/A not reachable, SiteURLNotExistException:site\_url N/A not reachable  During handling of the above exception, another exception occurred:  Traceback (most recent call last):  File "/Users/rchen/.virtualenvs/pds-doi-service/bin/pds-doi-cmd", line 10, in <module>  sys.exit(main())  File "/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/cmd/pds\_doi\_cmd.py", line 32, in main  output = action.run()  File "/Users/rchen/.virtualenvs/pds-doi-service/lib/python3.8/site-packages/pds\_doi\_service/core/actions/release.py", line 162, in run  raise WarningDOIException(str(e))  pds\_doi\_service.core.input.exceptions.WarningDOIException: SiteURLNotExistException:site\_url N/A not reachable, SiteURLNotExistException:site\_url N/A not reachable, SiteURLNotExistException:site\_url N/A not reachable  Step 9: Since input had a weird name, output had full\_name. doi#58  <records>  <record status="Pending">  <id/>  <title>Mars 2020 RIMFAX 20201202 Bundle</title>  <sponsoring\_organization>National Aeronautics and Space Administration (NASA)</sponsoring\_organization>  <accession\_number>urn:nasa:pds:testrimfax20201202::1.0</accession\_number>  <publisher>NASA Planetary Data System</publisher>  <availability>NASA Planetary Data System</availability>  <publication\_date>2020-10-29</publication\_date>  <country>USA</country>  <description>Mars 2020 Perseverance Rover RIMFAX Raw and Derived Data Products  </description>  <site\_url>https://pds.nasa.gov/ds-view/pds/viewBundle.jsp?identifier=urn%3Anasa%3Apds%3Atestrimfax20201202&amp;version=1.0</site\_url>  <product\_type>Dataset</product\_type>  <product\_type\_specific>PDS4 Refereed Data Bundle</product\_type\_specific>  <date\_record\_added>2020-12-04</date\_record\_added>  <keywords>PDS; PDS4; 2020; mar; experiment; science; Engineering; derived; perseverance; data; subsurface; raw; imager; radar; rover; rimfax; product</keywords>  <authors>  <author>  <full\_name>Svein Erik Notreally Justtesting Hamran</full\_name>  </author>  </authors>  <contributors>  <contributor>  <full\_name>Planetary Data System: Engineering Node</full\_name>  <contributor\_type>DataCurator</contributor\_type>  </contributor>  </contributors>  <!--product\_nos>urn:nasa:pds:testrimfax20201202::1.0</product\_nos-->  <contact\_name>PDS Operator</contact\_name>  <contact\_org>PDS</contact\_org>  <contact\_email>pds-operator@jpl.nasa.gov</contact\_email>  <contact\_phone>818.393.7165</contact\_phone>  </record>  </records>  Step 10:  <records>  <record status="Pending">  <id/>  <title>Mars 2020 RIMFAX Raw Data 20201202 Collection</title>  <sponsoring\_organization>National Aeronautics and Space Administration (NASA)</sponsoring\_organization>  <accession\_number>urn:nasa:pds:testrimfax20201202:data\_raw::1.0</accession\_number>  <publisher>NASA Planetary Data System</publisher>  <availability>NASA Planetary Data System</availability>  <publication\_date>2020-10-30</publication\_date>  <country>USA</country>  <description>Mars 2020 RIMFAX Raw Data Collection  </description>  <site\_url>https://pds.nasa.gov/ds-view/pds/viewCollection.jsp?identifier=urn%3Anasa%3Apds%3Atestrimfax20201202%3Adata\_raw&amp;version=1.0</site\_url>  <product\_type>Dataset</product\_type>  <product\_type\_specific>PDS4 Refereed Data Collection</product\_type\_specific>  <date\_record\_added>2020-12-04</date\_record\_added>  <keywords>PDS; PDS4; Engineering; raw; perseverance; mar; 2020; data; subsurface; collection; imager; rimfax; radar; experiment</keywords>  <authors>  <author>  <last\_name>Paige</last\_name>  <first\_name>D.</first\_name>  </author>  </authors>  <contributors>  <contributor>  <full\_name>Planetary Data System: Engineering Node</full\_name>  <contributor\_type>DataCurator</contributor\_type>  </contributor>  </contributors>  <!--product\_nos>urn:nasa:pds:testrimfax20201202:data\_raw::1.0</product\_nos-->  <contact\_name>PDS Operator</contact\_name>  <contact\_org>PDS</contact\_org>  <contact\_email>pds-operator@jpl.nasa.gov</contact\_email>  <contact\_phone>818.393.7165</contact\_phone>  </record>  </records>  Step 11:  <records>  <record status="Pending">  <id/>  <title>RIMFAX PDS Archive Bundle Software Interface Specification (SIS) 20201202 Documentation</title>  <sponsoring\_organization>National Aeronautics and Space Administration (NASA)</sponsoring\_organization>  <accession\_number>urn:nasa:pds:testrimfax20201202:document:rimfax\_bundle\_sis::1.0</accession\_number>  <publisher>NASA Planetary Data System</publisher>  <availability>NASA Planetary Data System</availability>  <publication\_date>2020-09-29</publication\_date>  <country>USA</country>  <description>The RIMFAX Bundle SIS describes the format and content of the Mars 2020 RIMFAX  Planetary Data System archive bundle, in which data products, documentation, and  supporting material are stored.  </description>  <site\_url>https://pds.nasa.gov/ds-view/pds/viewDocument.jsp?identifier=urn%3Anasa%3Apds%3Atestrimfax20201202%3Adocument%3Arimfax\_bundle\_sis&amp;version=1.0</site\_url>  <product\_type>Text</product\_type>  <product\_type\_specific>technical documentation</product\_type\_specific>  <date\_record\_added>2020-12-04</date\_record\_added>  <keywords>PDS; 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| Comments | Results met success criteria. |
| Date of Testing | 2020.12.03 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.0 |
| Description | This is not a test. This wipes the DN database and the search indices clean. |
| Test Steps | Assumes elasticsearch, pds-app-registry, harvest installed, with executables in $PATH   1. rm -r /tmp/harvest/ /tmp/harvOut/ 2. elasticsearch # runs in its own window; <ctrl>c when done 3. registry-manager delete-registry 4. registry-manager create-registry 5. http://localhost:9200 # for verification   Or if you trust that the registry works well, run only steps 3 and 4 |
| Test Results | Step 2: the elasticsearch window puts out a ton of messages  Step 3:  Elasticsearch URL: http://localhost:9200  Deleting index registry  Deleting index registry-dd  Done  Step 4:  Elasticsearch URL: http://localhost:9200  Creating index...  Index: registry  Schema: /PDS4tools/registry-manager/elastic/registry.json  Shards: 1  Replicas: 0  Done  Creating index...  Index: registry-dd  Schema: /PDS4tools/registry-manager/elastic/data-dic.json  Shards: 1  Replicas: 0  Done  Loading file: /PDS4tools/registry-manager/elastic/data-dic-data.jar:dd.json  Loaded 2487 document(s)  Done  Step 5: |

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| Test Case ID | HVT.1 |
| Description | Harvest for a Data Node, i.e. convert metadata from labels to solr documents, then load the solr documents into the registry, which for now is viewed throught the SOLR web interface but will later be searchable.  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 pds-registry-app#55: The service shall allow for queries for registered artifacts  PASS pds-registry-app#56: The service shall assign a global unique identifier to a registered artifact  PASS pds-registry-app#57: The service shall accept artifact registrations.  PASS pds-registry-app#58: The service shall provide a means identifying relationships between artifact registrations  PASS pds-registry-app#59: The service shall maintain configuration regarding the classes of artifacts to be registered  PASS pds-registry-app#65: The service shall provide a staging capability for artifacts staged for release  PASS pds-registry-app#72: The service shall store metadata for a registered artifact in an underlying metadata store  PASS pds-registry-app#75: The service shall accept metadata for a registered artifact in a defined format |
| 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 | 1. Clean database as described in HVT.0 2. cd /Users/rchen/Desktop/test 3. harvest -c bundle\_geo\_ra.cfg -o /tmp/harvOut 4. registry-manager load-data -file /tmp/harvOut 5. In browser, http://localhost:9200/registry/\_search?q=\*   Show update of registered artifacts   1. In browser, http://localhost:9200/registry/\_search?q=lid:urn\:nasa\:pds\:phx\_ra 2. gunzip bundle\_geo\_ra/bundle\_weird.xml.gz 3. diff bundle\_geo\_ra/bundle.xml bundle\_geo\_ra/bundle\_weird.xml 4. gzip bundle\_geo\_ra/bundle.xml 5. Repeat step 3 6. Repeat step 4 7. Repeat step 6. Note new title matches diff’s result 8. gzip bundle\_geo\_ra/bundle\_weird.xml; gunzip bundle\_geo\_ra/bundle.xml.gz   Show deletion of registered artifacts   1. registry-manager delete-data -lid urn:nasa:pds:phx\_ra 2. Repeat step 6 3. registry-manager delete-data -all   Repeat step 5 |
| Test Results | Step 3:  [INFO] Output directory: /tmp/harvOut  [INFO] Output format: json  [INFO] Reading configuration from bundle\_geo\_ra.cfg  [INFO] Processing file /Users/rchen/Desktop/test/bundle\_geo\_ra/context/spacecraft.phx\_1.1.xml [snip…]  [INFO] Processing file /Users/rchen/Desktop/test/bundle\_geo\_ra/xml\_schema/collection.xml  [INFO] Summary:  [INFO] Skipped files: 0  [INFO] Processed files: 173  [INFO] File counts by type:  [INFO] Product\_Browse: 38  [INFO] Product\_Bundle: 1  [INFO] Product\_Collection: 5  [INFO] Product\_Context: 4  [INFO] Product\_Document: 4  [INFO] Product\_Observational: 120  [INFO] Product\_XML\_Schema: 1  [INFO] Package ID: ae5036b4-f631-49ce-aa40-9d02edd8099f  Step 4:  Elasticsearch URL: http://localhost:9200  Index: registry  Updating schema with fields from /tmp/harvOut/fields.txt  Updated 0 fields  Loading data...  Loading file: /tmp/harvOut/es-docs.json  Loaded 173 document(s)  Done  Step 5: Note hits/value: 173  Step 6:  Step 8:  12c12  < <title>Phoenix Robotic Arm Data Set</title>  ---  > <title>Phoenix Robotic Arm Data Set WEIRD</title>  Step 11: Output just like Step 3’s except a different last line  2020-04-23 23:29:33 [INFO] Package ID: 50ec1963-fc98-477d-8afe-ec9170e00e20  Step 12: Note the “WEIRD” in title  Step 14:  Elasticsearch URL: http://localhost:9200  Index: registry  LID: urn:nasa:pds:phx\_ra  Deleted 1 document(s)  Step 15:  Step 16:  Elasticsearch URL: http://localhost:9200  Index: registry  Delete all documents  Deleted 172 document(s)  Step 17: same as Step 15 |
| Comments | Results met success criteria |
| Date of Testing | 2020.11.01 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.2 |
| Description | Test various capabilities described in release 10b.  HVT.1, by functioning correctly, tested hvt#11, hvt#13, hvt#15, hvt#16, hvt#20, PAR#1, PAR#2, regAp#18, regAp#22, regAp#23, regAp#25, regAp#27, regAp#28, regAp#31. Tested here: hvt#22, regAp#27, regAp#37, regAp#42 |
| Requirements | same as in HVT.1 |
| Success Criteria |  |
| Test Steps | 1. Clean database as described in HVT.0 2. cd /Users/rchen/Desktop/test 3. harvest -c testHvt/hvt22a.cfg -o /tmp/harvOut # hvt#22 4. registry-manager load-data -file /tmp/harvOut 5. In browser, http://localhost:9200/registry/\_search?q=\* 6. harvest -c testHvt/hvt22b.cfg -o /tmp/harvOut 7. repeat Step 4 8. repeat Step5 9. registry-manager load-data -help #part 2 of regAp#27   run HVT.1 on a Windows machine #regAp#37 and regAp#42 NOTYET |
| Test Results | Step 3: hvt22a/hvt22.bad.xml has no VID so shouldn’t get harvested  [INFO] Output directory: /tmp/harvOut  [INFO] Output format: json  [INFO] Reading configuration from testHvt/hvt22a.cfg  [INFO] Processing file /Users/rchen/Desktop/test/testHvt/hvt22a/hvt22.xml  [INFO] Processing file /Users/rchen/Desktop/test/testHvt/hvt22a/hvt22.bad.xml  [ERROR] Missing version id: /Users/rchen/Desktop/test/testHvt/hvt22a/hvt22.bad.xml  Step 4: first label in the last step was good, so 1 document loaded. Why “document”?  Elasticsearch URL: http://localhost:9200  Index: registry  Updating schema with fields from /tmp/harvOut/fields.txt  Updated 0 fields  Loading data...  Loading file: /tmp/harvOut/es-docs.json  Loaded 1 document(s)  Done  Step 5: Only 1 record ingested  Step 6: hvt22b/hvt22.bad.xml has no LID so shouldn’t get harvested  [INFO] Output directory: /tmp/harvOut  [INFO] Output format: json  [INFO] Reading configuration from testHvt/hvt22b.cfg  [INFO] Processing file /Users/rchen/Desktop/test/testHvt/hvt22b/hvt22.xml  [INFO] Processing file /Users/rchen/Desktop/test/testHvt/hvt22b/hvt22.bad.xml  [ERROR] Missing logical identifier: /Users/rchen/Desktop/test/testHvt/hvt22b/hvt22.bad.xml  Step 7: first label in the last step was good, so 1 document loaded.  Elasticsearch URL: http://localhost:9200  Index: registry  Updating schema with fields from /tmp/harvOut/fields.txt  Updated 0 fields  Loading data...  Loading file: /tmp/harvOut/es-docs.json  Loaded 1 document(s)  Done  Step 8: same output as Step 5 except for \_package\_id value.  Step 9:  Usage: registry-manager load-data <options>  Load data into registry index  Required parameters:  -file <path> A JSON file (generated by Harvest) or a directory to load.  Optional parameters:  -auth <file> Authentication config file  -es <url> Elasticsearch URL. Default is http://localhost:9200  -index <name> Elasticsearch index name. Default is 'registry'  -updateSchema <y/n> Update registry schema. Default is 'yes'  Step 10: no PC available, so ran this on linux machine pds-gamma. The results of HVT.1’s steps 6, 13, and 15. |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.01 except for step 10 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.3 |
| Description | Update archive status (pds-registry-app#16) |
| Requirements | same as in HVT.1 |
| Success Criteria | Manipulate archive status of packages and individual products |
| Test Steps | 1. Clean database as described in HVT.0 2. cd /Users/rchen/Desktop/test 3. harvest -c testHvt/regapp16/regapp16.cfg -o /tmp/harvOut #regAp#16 4. registry-manager load-data -file /tmp/harvOut 5. curl "http://localhost:9200/registry/\_search?q=\*" | python -m json.tool | grep archive\_status 6. registry-manager set-archive-status -status ARCHIVED -lidvid urn:nasa:pds:mars2020.meda:data\_raw\_env:we\_\_c158\_\_\_\_\_\_\_\_\_\_\_eer\_reset\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_j::1.0 7. repeat Step 5 8. registry-manager set-archive-status -status STAGED -packageId <fromStep3above>   repeat Step5 |
| Test Results | Step 3:  [INFO] Output directory: /tmp/harvOut  [INFO] Output format: json  [INFO] Reading configuration from testHvt/regapp16/regapp16.cfg  [INFO] Processing file /Users/rchen/Desktop/test/testHvt/regapp16/regapp16a.xml  [INFO] Processing file /Users/rchen/Desktop/test/testHvt/regapp16/regapp16b.xml  [INFO] Summary:  [INFO] Skipped files: 0  [INFO] Processed files: 2  [INFO] File counts by type:  [INFO] Product\_Observational: 2  [INFO] Package ID: 9a739b41-b730-4544-b36c-9a2cfb3d8f2b  Step 4:  Elasticsearch URL: http://localhost:9200  Index: registry  Updating schema with fields from /tmp/harvOut/fields.txt  Updated 0 fields  Loading data...  Loading file: /tmp/harvOut/es-docs.json  Loaded 2 document(s)  Done  Step 5:  % Total % Received % Xferd Average Speed Time Time Time Current  Dload Upload Total Spent Left Speed  100 2206 100 2206 0 0 2984 0 --:--:-- --:--:-- --:--:-- 2985  Step 6:  Elasticsearch URL: http://localhost:9200  Index: registry  New status: ARCHIVED  LIDVID: urn:nasa:pds:mars2020.meda:data\_raw\_env:we\_\_c158\_\_\_\_\_\_\_\_\_\_\_eer\_reset\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_j::1.0  Step 7:  % Total % Received % Xferd Average Speed Time Time Time Current  Dload Upload Total Spent Left Speed  100 2232 100 2232 0 0 211k 0 --:--:-- --:--:-- --:--:-- 217k  "archive\_status": "ARCHIVED",  Step 8:  Elasticsearch URL: http://localhost:9200  Index: registry  New status: STAGED  Package ID: 9a739b41-b730-4544-b36c-9a2cfb3d8f2b  Updated 2 document(s)  Step 9:  % Total % Received % Xferd Average Speed Time Time Time Current  Dload Upload Total Spent Left Speed  100 2256 100 2256 0 0 236k 0 --:--:-- --:--:-- --:--:-- 244k  "archive\_status": "STAGED",  "archive\_status": "STAGED", |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.05 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.4 |
| Description | Extract Metadata by Data Dictionary Class (pds-registry-app#6) |
| Requirements | same as in HVT.1 |
| Success Criteria |  |
| Test Steps | 1. cd /Users/rchen/Desktop/test 2. Clean database as described in HVT.0 3. harvest -c testHvt/regapp6/regapp6a.cfg -o /tmp/harvOut #regAp#6 4. registry-manager load-data -file /tmp/harvOut 5. curl "http://localhost:9200/registry/\_search?q=\*" | python -m json.tool > xa   Painstakingly verify curl’s output of “pds/<element>/pds/<leafElement>” against every leaf element in the harvested file, regapp6/bundle\_supercam.xml. Or…   1. diff testHvt/regapp6/regapp6[ab].cfg #regAp#7 2. grep \_time xa #hvt#24 hvt#4 3. Clean database as described in HVT.0 4. harvest -c testHvt/regapp6/regapp6a.cfg -o /tmp/harvOut #regAp#6 5. registry-manager load-data -file /tmp/harvOut 6. curl "http://localhost:9200/registry/\_search?q=\*" | python -m json.tool > xb   diff xa xb; rm xa xb |
| Test Results | Step 3: the .cfg file extracts all fields  [INFO] Output directory: /tmp/harvOut  [INFO] Output format: json  [INFO] Reading configuration from testHvt/regapp6/regapp6.cfg  [INFO] Processing file /Users/rchen/Desktop/ [INFO] Processing file /Users/rchen/Desktop/test/testHvt/regapp6/bundle\_supercam.xml  [INFO] Summary:  [INFO] Skipped files: 0  [INFO] Processed files: 1  [INFO] File counts by type:  [INFO] Product\_Bundle: 1  [INFO] Package ID: 131612f7-1946-43dc-88a1-7037df62517d  Step 4:  Elasticsearch URL: http://localhost:9200  Index: registry  Updating schema with fields from /tmp/harvOut/fields.txt  Updated 36 fields  Loading data...  Loading file: /tmp/harvOut/es-docs.json  Loaded 1 document(s)  Done  Step 5: File xa, i.e. stdout  {  "took": 423,  "timed\_out": false,  "\_shards": {  "total": 1,  "successful": 1,  "skipped": 0,  "failed": 0  },  "hits": {  "total": {  "value": 1,  "relation": "eq"  },  "max\_score": 1.0,  "hits": [  {  "\_index": "registry",  "\_type": "\_doc",  "\_id": "urn:nasa:pds:mars2020\_supercam::1.0",  "\_score": 1.0,  "\_source": {  "lid": "urn:nasa:pds:mars2020\_supercam",  "vid": "1.0",  "lidvid": "urn:nasa:pds:mars2020\_supercam::1.0",  "title": "Mars 2020 SuperCam Bundle",  "product\_class": "Product\_Bundle",  "\_package\_id": "e16c95cf-3ca4-4c7b-a1af-e01f3f9788ec",  "ref\_lid\_document": [  "urn:nasa:pds:mars2020\_supercam:document:bundlesis",  "urn:nasa:pds:mars2020\_supercam:document:dpsis"  ],  "ref\_lid\_instrument": "urn:nasa:pds:context:instrument:mars2020.supercam",  "ref\_lid\_instrument\_host": "urn:nasa:pds:context:instrument\_host:spacecraft.mars2020",  "ref\_lid\_investigation": "urn:nasa:pds:context:investigation:mission.mars2020",  "ref\_lid\_target": "urn:nasa:pds:context:target:planet.mars",  "pds/Bundle/pds/bundle\_type": "Archive",  "pds/Bundle/pds/description": "This bundle contains Mars 2020 SuperCam raw, calibrated, and derived data.",  "pds/Bundle\_Member\_Entry/pds/lid\_reference": [  "urn:nasa:pds:mars2020\_supercam:data\_raw\_soh",  "urn:nasa:pds:mars2020\_supercam:document"  ],  "pds/Bundle\_Member\_Entry/pds/member\_status": [  "Primary",  "Primary"  ],  "pds/Bundle\_Member\_Entry/pds/reference\_type": [  "bundle\_has\_data\_collection",  "bundle\_has\_document\_collection"  ],  "pds/Citation\_Information/pds/author\_list": "Wiens, R.; Delapp, D.",  "pds/Citation\_Information/pds/description": "Mars 2020 Perseverance Rover SuperCam Raw, Calibrated, and Derived Data Products",  "pds/Citation\_Information/pds/publication\_year": "2021",  "pds/File/pds/file\_name": "readme.txt",  "pds/Identification\_Area/pds/information\_model\_version": "1.14.0.0",  "pds/Identification\_Area/pds/logical\_identifier": "urn:nasa:pds:mars2020\_supercam",  "pds/Identification\_Area/pds/product\_class": "Product\_Bundle",  "pds/Identification\_Area/pds/title": "Mars 2020 SuperCam Bundle",  "pds/Identification\_Area/pds/version\_id": "1.0",  "pds/Internal\_Reference/pds/comment": "Reference to the Planet - Mars target",  "pds/Internal\_Reference/pds/lid\_reference": [  "urn:nasa:pds:context:investigation:mission.mars2020",  "urn:nasa:pds:context:instrument\_host:spacecraft.mars2020",  "urn:nasa:pds:context:instrument:mars2020.supercam",  "urn:nasa:pds:context:target:planet.mars",  "urn:nasa:pds:mars2020\_supercam:document:dpsis",  "urn:nasa:pds:mars2020\_supercam:document:bundlesis"  ],  "pds/Internal\_Reference/pds/reference\_type": [  "bundle\_to\_investigation",  "is\_instrument\_host",  "is\_instrument",  "document\_to\_target",  "bundle\_to\_document",  "bundle\_to\_document"  ],  "pds/Investigation\_Area/pds/name": "Mars 2020",  "pds/Investigation\_Area/pds/type": "Mission",  "pds/Modification\_Detail/pds/description": "Pre-peer review version",  "pds/Modification\_Detail/pds/modification\_date": "2020-09-23T00:00:00Z",  "pds/Modification\_Detail/pds/version\_id": "1.0",  "pds/Observing\_System\_Component/pds/name": [  "Perseverance",  "Spectrometer and Micro-Imager Suite (SuperCam)"  ],  "pds/Observing\_System\_Component/pds/type": [  "Host",  "Instrument"  ],  "pds/Primary\_Result\_Summary/pds/processing\_level": [  "Raw",  "Calibrated",  "Derived"  ],  "pds/Primary\_Result\_Summary/pds/purpose": "Science",  "pds/Science\_Facets/pds/discipline\_name": "Geosciences",  "pds/Science\_Facets/pds/domain": "Surface",  "pds/Science\_Facets/pds/wavelength\_range": [  "Visible",  "Near Infrared",  "Far Infrared"  ],  "pds/Stream\_Text/pds/offset": "0",  "pds/Stream\_Text/pds/parsing\_standard\_id": "7-Bit ASCII Text",  "pds/Stream\_Text/pds/record\_delimiter": "Carriage-Return Line-Feed",  "pds/Target\_Identification/pds/name": "Mars",  "pds/Target\_Identification/pds/type": "Planet",  "pds/Time\_Coordinates/pds/start\_date\_time": "2020-07-31T11:50:00Z",  "pds/Time\_Coordinates/pds/stop\_date\_time": "3000-01-01T00:00:00.000Z"  }  }  ]  }  }  Step 6:  21c21,25  < <autogenFields/>  ---  > <autogenFields>  > <classFilter>  > <exclude>pds.Science\_Facets</exclude>  > </classFilter>  > </autogenFields>  Step 7: hvt#4: the stored time was 12 hours off. hvt#24: format looks right  "pds/Time\_Coordinates/pds/start\_date\_time": "2020-07-31T11:50:00Z",  "pds/Time\_Coordinates/pds/stop\_date\_time": "3000-01-01T00:00:00.000Z"  Step 12: The pds/Science\_Facets/\* lines from Step 5 are gone  2c2  < "took": 423,  ---  > "took": 1,  28c28  < "\_package\_id": "e16c95cf-3ca4-4c7b-a1af-e01f3f9788ec",  ---  > "\_package\_id": "6028ba12-a253-461f-9cbf-2decfc01096a",  96,102d95  < "pds/Science\_Facets/pds/discipline\_name": "Geosciences",  < "pds/Science\_Facets/pds/domain": "Surface",  < "pds/Science\_Facets/pds/wavelength\_range": [  < "Visible",  < "Near Infrared",  < "Far Infrared"  < ], |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.09 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.5 |
| Description | Handle multiple product versions (pds-registry-app#10) |
| Requirements | same as in HVT.1 |
| Success Criteria | Registry should list all versions |
| Test Steps | 1. cd /Users/rchen/Desktop/test 2. Clean database as described in HVT.0 3. harvest -c testHvt/regapp10/regapp10.cfg -o /tmp/harvOut #regAp#10 4. registry-manager load-data -file /tmp/harvOut 5. curl "http://localhost:9200/registry/\_search?q=\*" | python -m json.tool > xa 6. cp testHvt/regapp10/regapp10b.xml2 testHvt/regapp10/regapp10b.xml 7. diff testHvt/regapp10/\*.xml 8. repeat Step 3 9. repeat Step 4 10. curl "http://localhost:9200/registry/\_search?q=\*" | python -m json.tool > xb 11. diff xa xb   rm testHvt/regapp10/regapp10b.xml |
| Test Results | Step 3:  [INFO] Output directory: /tmp/harvOut  [INFO] Output format: json  [INFO] Reading configuration from testHvt/regapp10/regapp10.cfg  [INFO] Processing file /Users/rchen/Desktop/test/testHvt/regapp6/bundle\_supercam.xml  [INFO] Summary:  [INFO] Skipped files: 0  [INFO] Processed files: 1  [INFO] File counts by type:  [INFO] Product\_Bundle: 1  [INFO] Package ID: 44733ef8-4999-4aeb-96d6-46e077db4245  Step 4:  Elasticsearch URL: http://localhost:9200  Index: registry  Updating schema with fields from /tmp/harvOut/fields.txt  Updated 36 fields  Loading data...  Loading file: /tmp/harvOut/es-docs.json  Loaded 1 document(s)  Done  Step 7:  14c14  < <version\_id>1.0</version\_id>  ---  > <version\_id>1.1</version\_id>  19a20,24  > <modification\_date>2020-11-09</modification\_date>  > <version\_id>1.1</version\_id>  > <description>NOTHING SUBSTANTIAL JUST TESTING</description>  > </Modification\_Detail>  > <Modification\_Detail>  Step 8:  [INFO] Output directory: /tmp/harvOut  [INFO] Output format: json  [INFO] Reading configuration from testHvt/regapp10/regapp10.cfg  [INFO] Processing file /Users/rchen/Desktop/test/testHvt/regapp10/regapp10b.xml  [INFO] Processing file /Users/rchen/Desktop/test/testHvt/regapp10/regapp10a.xml  [INFO] Summary:  [INFO] Skipped files: 0  [INFO] Processed files: 2  [INFO] File counts by type:  [INFO] Product\_Ancillary: 2  [INFO] Package ID: 5e02532e-5670-4661-a86d-5ff6c3203b79  Step 9:  Elasticsearch URL: http://localhost:9200  Index: registry  Updating schema with fields from /tmp/harvOut/fields.txt  Updated 0 fields  Loading data...  Loading file: /tmp/harvOut/es-docs.json  Loaded 2 document(s)  Done  Step 11:  2c2  < "took": 1,  ---  > "took": 477,  12c12  < "value": 1,  ---  > "value": 2,  19a20,36  > "\_id": "urn:nasa:pds:orex.dsn:trk223\_ionosphere:orex\_beno\_2019\_244\_2019\_274\_ion::1.1",  > "\_score": 1.0,  > "\_source": {  > "lid": "urn:nasa:pds:orex.dsn:trk223\_ionosphere:orex\_beno\_2019\_244\_2019\_274\_ion",  > "vid": "1.1",  > "lidvid": "urn:nasa:pds:orex.dsn:trk223\_ionosphere:orex\_beno\_2019\_244\_2019\_274\_ion::1.1",  > "title": "DSN Media Calibration (TRK 2-23) Ionospheric Calibration File",  > "product\_class": "Product\_Ancillary",  > "\_package\_id": "5e02532e-5670-4661-a86d-5ff6c3203b79",  > "ref\_lid\_instrument\_host": "urn:nasa:pds:context:instrument\_host:spacecraft.osiris-rex",  > "ref\_lid\_investigation": "urn:nasa:pds:context:investigation:mission.orex::1.0",  > "ref\_lid\_target": "urn:nasa:pds:context:target:asteroid.101955\_bennu::1.0"  > }  > },  > {  > "\_index": "registry",  > "\_type": "\_doc",  28c45  < "\_package\_id": "44733ef8-4999-4aeb-96d6-46e077db4245",  ---  > "\_package\_id": "5e02532e-5670-4661-a86d-5ff6c3203b79", |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.09 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.6 |
| Description | Deploy Test vs Operations Registry environments (pds-registry-app#15) |
| Requirements | same as in HVT.1 |
| Success Criteria | Normal registry absorbs data from a second registry |
| Test Steps | 1. cd /Users/rchen/Desktop/test 2. Clean database as described in HVT.0 3. harvest -c testHvt/regapp10/regapp10.cfg -o /tmp/harvOut 4. registry-manager load-data -file /tmp/harvOut 5. curl "http://localhost:9200/registry/\_search?q=\*" | python -m json.tool 6. mkdir /tmp/harvTmp 7. registry-manager create-registry -index test 8. harvest -c testHvt/regapp20/regapp20.cfg -o /tmp/harvTmp 9. registry-manager load-data -index test -file /tmp/harvTmp 10. curl "http://localhost:9200/test/\_search?q=\*" | python -m json.tool 11. registry-manager export-data -all -index test -file /tmp/harvDump.json 12. registry-manager load-data -file /tmp/harvDump.json -updateSchema n #regAp#69 regAp#15 13. curl "http://localhost:9200/registry/\_search?q=\*" | python -m json.tool 14. registry-manager delete-registry -index test   rm -r /tmp/harvTmp /tmp/harvDump.json |
| Test Results | Step 3:  [INFO] Output directory: /tmp/harvOut  [INFO] Output format: json  [INFO] Reading configuration from testHvt/regapp10/regapp10.cfg  [INFO] Processing file /Users/rchen/Desktop/test/testHvt/regapp10/regapp10a.xml  [INFO] Summary:  [INFO] Skipped files: 0  [INFO] Processed files: 1  [INFO] File counts by type:  [INFO] Product\_Ancillary: 1  [INFO] Package ID: ca017428-e7a6-400e-a871-cea66a6f9a13  Step 4:  Elasticsearch URL: http://localhost:9200  Index: registry  Updating schema with fields from /tmp/harvOut/fields.txt  Updated 0 fields  Loading data...  Loading file: /tmp/harvOut/es-docs.json  Loaded 1 document(s)  Done  Step 5:  % Total % Received % Xferd Average Speed Time Time Time Current  Dload Upload Total Spent Left Speed  100 886 100 886 0 0 57510 0 --:--:-- --:--:-- --:--:-- 59066  {  "took": 1,  "timed\_out": false,  "\_shards": {  "total": 1,  "successful": 1,  "skipped": 0,  "failed": 0  },  "hits": {  "total": {  "value": 1,  "relation": "eq"  },  "max\_score": 1.0,  "hits": [  {  "\_index": "registry",  "\_type": "\_doc",  "\_id": "urn:nasa:pds:orex.dsn:trk223\_ionosphere:orex\_beno\_2019\_244\_2019\_274\_ion::1.0",  "\_score": 1.0,  "\_source": {  "lid": "urn:nasa:pds:orex.dsn:trk223\_ionosphere:orex\_beno\_2019\_244\_2019\_274\_ion",  "vid": "1.0",  "lidvid": "urn:nasa:pds:orex.dsn:trk223\_ionosphere:orex\_beno\_2019\_244\_2019\_274\_ion::1.0",  "title": "DSN Media Calibration (TRK 2-23) Ionospheric Calibration File",  "product\_class": "Product\_Ancillary",  "\_package\_id": "ca017428-e7a6-400e-a871-cea66a6f9a13",  "ref\_lid\_instrument\_host": "urn:nasa:pds:context:instrument\_host:spacecraft.osiris-rex",  "ref\_lid\_investigation": "urn:nasa:pds:context:investigation:mission.orex::1.0",  "ref\_lid\_target": "urn:nasa:pds:context:target:asteroid.101955\_bennu::1.0"  }  }  ]  }  }  Step 7:  Elasticsearch URL: http://localhost:9200  Creating index...  Index: test  Schema: /PDS4tools/registry-manager/elastic/registry.json  Shards: 1  Replicas: 0  Done  Creating index...  Index: test-dd  Schema: /PDS4tools/registry-manager/elastic/data-dic.json  Shards: 1  Replicas: 0  Done  Loading file: /PDS4tools/registry-manager/elastic/data-dic-data.jar:dd.json  Loaded 2491 document(s)  Done  Step 8:  [INFO] Output directory: /tmp/harvTmp  [INFO] Output format: json  [INFO] Reading configuration from testHvt/regapp20/regapp20.cfg  [INFO] Processing file /Users/rchen/Desktop/test/testHvt/regapp20/regapp20.xml  [INFO] Summary:  [INFO] Skipped files: 0  [INFO] Processed files: 1  [INFO] File counts by type:  [INFO] Product\_Observational: 1  [INFO] Package ID: cc990caa-4e65-4ec9-9ae4-000e7bd8471c  Step 9:  Elasticsearch URL: http://localhost:9200  Index: test  Updating schema with fields from /tmp/harvTmp/fields.txt  Updated 0 fields  Loading data...  Loading file: /tmp/harvTmp/es-docs.json  Loaded 1 document(s)  Done  Step 10:  % Total % Received % Xferd Average Speed Time Time Time Current  Dload Upload Total Spent Left Speed  100 1199 100 1199 0 0 1733 0 --:--:-- --:--:-- --:--:-- 1732  {  "took": 684,  "timed\_out": false,  "\_shards": {  "total": 1,  "successful": 1,  "skipped": 0,  "failed": 0  },  "hits": {  "total": {  "value": 1,  "relation": "eq"  },  "max\_score": 1.0,  "hits": [  {  "\_index": "test",  "\_type": "\_doc",  "\_id": "urn:nasa:pds:mars2020\_supercam:data\_raw\_spectra:ls\_\_c293t0624868150\_145er0\_\_0010094scam15218\_0001luj01::1.0",  "\_score": 1.0,  "\_source": {  "lid": "urn:nasa:pds:mars2020\_supercam:data\_raw\_spectra:ls\_\_c293t0624868150\_145er0\_\_0010094scam15218\_0001luj01",  "vid": "1.0",  "lidvid": "urn:nasa:pds:mars2020\_supercam:data\_raw\_spectra:ls\_\_c293t0624868150\_145er0\_\_0010094scam15218\_0001luj01::1.0",  "title": "Mars 2020 SuperCam Raw Raman Spectra",  "product\_class": "Product\_Observational",  "\_file\_name": "regapp20.xml",  "\_file\_type": "application/xml",  "\_file\_size": 4375,  "\_file\_md5": "YuRpwxHS+p+iXSR7ZSLVJg==",  "\_package\_id": "cc990caa-4e65-4ec9-9ae4-000e7bd8471c",  "ref\_lid\_document": "urn:nasa:pds:mars2020.supercam:document:bundle\_sis",  "ref\_lid\_instrument": "urn:nasa:pds:context:instrument:mars2020.supercam",  "ref\_lid\_instrument\_host": "urn:nasa:pds:context:instrument\_host:spacecraft.mars2020",  "ref\_lid\_investigation": "urn:nasa:pds:context:investigation:mission.mars2020",  "ref\_lid\_target": "urn:nasa:pds:context:target:planet.mars"  }  }  ]  }  }  Step 11:  Elasticsearch URL: http://localhost:9200  Index: test  Export all documents  Exported 1 document(s)  Done  Step 12:  Elasticsearch URL: http://localhost:9200  Index: registry  Loading data...  Loading file: /tmp/harvDump.json  Loaded 1 document(s)  Done  Step 13: Note both LIDs: the u:n:p:orex.dsn:… and u:n:p:mars2020\_supercam:…  % Total % Received % Xferd Average Speed Time Time Time Current  Dload Upload Total Spent Left Speed  100 1943 100 1943 0 0 15650 0 --:--:-- --:--:-- --:--:-- 15669  {  "took": 118,  "timed\_out": false,  "\_shards": {  "total": 1,  "successful": 1,  "skipped": 0,  "failed": 0  },  "hits": {  "total": {  "value": 2,  "relation": "eq"  },  "max\_score": 1.0,  "hits": [  {  "\_index": "registry",  "\_type": "\_doc",  "\_id": "urn:nasa:pds:orex.dsn:trk223\_ionosphere:orex\_beno\_2019\_244\_2019\_274\_ion::1.0",  "\_score": 1.0,  "\_source": {  "lid": "urn:nasa:pds:orex.dsn:trk223\_ionosphere:orex\_beno\_2019\_244\_2019\_274\_ion",  "vid": "1.0",  "lidvid": "urn:nasa:pds:orex.dsn:trk223\_ionosphere:orex\_beno\_2019\_244\_2019\_274\_ion::1.0",  "title": "DSN Media Calibration (TRK 2-23) Ionospheric Calibration File",  "product\_class": "Product\_Ancillary",  "\_package\_id": "ca017428-e7a6-400e-a871-cea66a6f9a13",  "ref\_lid\_instrument\_host": "urn:nasa:pds:context:instrument\_host:spacecraft.osiris-rex",  "ref\_lid\_investigation": "urn:nasa:pds:context:investigation:mission.orex::1.0",  "ref\_lid\_target": "urn:nasa:pds:context:target:asteroid.101955\_bennu::1.0"  }  },  {  "\_index": "registry",  "\_type": "\_doc",  "\_id": "urn:nasa:pds:mars2020\_supercam:data\_raw\_spectra:ls\_\_c293t0624868150\_145er0\_\_0010094scam15218\_0001luj01::1.0",  "\_score": 1.0,  "\_source": {  "lid": "urn:nasa:pds:mars2020\_supercam:data\_raw\_spectra:ls\_\_c293t0624868150\_145er0\_\_0010094scam15218\_0001luj01",  "vid": "1.0",  "lidvid": "urn:nasa:pds:mars2020\_supercam:data\_raw\_spectra:ls\_\_c293t0624868150\_145er0\_\_0010094scam15218\_0001luj01::1.0",  "title": "Mars 2020 SuperCam Raw Raman Spectra",  "product\_class": "Product\_Observational",  "\_file\_name": "regapp20.xml",  "\_file\_type": "application/xml",  "\_file\_size": 4375.0,  "\_file\_md5": "YuRpwxHS+p+iXSR7ZSLVJg==",  "\_package\_id": "cc990caa-4e65-4ec9-9ae4-000e7bd8471c",  "ref\_lid\_document": "urn:nasa:pds:mars2020.supercam:document:bundle\_sis",  "ref\_lid\_instrument": "urn:nasa:pds:context:instrument:mars2020.supercam",  "ref\_lid\_instrument\_host": "urn:nasa:pds:context:instrument\_host:spacecraft.mars2020",  "ref\_lid\_investigation": "urn:nasa:pds:context:investigation:mission.mars2020",  "ref\_lid\_target": "urn:nasa:pds:context:target:planet.mars"  }  }  ]  }  }  Step 14:  Elasticsearch URL: http://localhost:9200  Deleting index test  Deleting index test-dd  Done |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.09 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.7 |
| Description | Publish and manage up to 100 million registrations (pds-registry-app#54) |
| Requirements | PASS pds-registry-app#54: The service should be scalable to enable publishing and management of up to 100 million registrations |
| Success Criteria | Harvest 100,000,000 labels. Retrieve individual products |
| Test Steps | 1. Clean database as described in HVT.0 2. cd /Users/rchen/Desktop/test/testHvt/regapp54 #regAp#54   OK, the following code is weird because I wanted 1 program to generate 1,000,000 labels with different LIDs (though pointing to the same data file) then change the vid and repeat 100 times. However, my computer started crawling somewhere after 100,000 labels, and even stopping the process and deleting the labels was iffy and took forever. So each runmeX generates 100,000 labels, harvests, register/loads, deletes them, then changes the vid a little and repeats 100 times. The various runme each forms slightly different vids. The runmeX also calls and outputs date 3 times per 100,00, which provided the info to determine amount of time to run each part   1. runme0; runme1; runme2; runme3; runme4; runme5; runme6; runme7; runme8; runme9 2. http://localhost:9200/registry/\_count   http://localhost:9200/registry/\_search?q=lid:urn\:nasa\:pds\:relab\:data\_reflectance\:5690 |
| Test Results | Step 3: a ton of output  Step 4: note the count is 100,000,000    Step 5: note the 1,000 hits. Response was immediate |
| Comments | Results met success criteria. Total time: 44 hours, of which harvest took 24.55 hours, registry-manager load-data took 9.13 hours, and the file generation and deletion took 10.16 hours. The time to register didn’t vary much, from 52.38 minutes for the first 10,000,000 to 55.30 minutes for the last 10,000,000 |
| Date of Testing | 2020.11.19 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.8 |
| Description | Require LID and VID for artifcats (pds-registry-app#73).  Validate metadata (pds-registry-app#74). |
| Requirements | PASS pds-registry-app#73: The service shall require a logical identifier and version be provided …  PASS pds-registry-app#74: The service shall validate metadata for a registered artifact |
| Success Criteria | Harvest or registry flags metadata missing such things |
| Test Steps | 1. cd /Users/rchen/Desktop/test 2. grep logical\_identifier testHvt/regapp73.xml   harvest -c testHvt/regapp73/regapp73.cfg -o /tmp/harvOut #regAp#73, #74 |
| Test Results | Step 2: Note that logical\_identifier is missing  <!--logical\_identifier>urn:nasa:pds:mars2020\_supercam:data\_raw\_spectra:ls\_\_c293t0624868150\_145er0\_\_0010094scam15218\_0001luj01</logical\_identifier-->  Step 3:  [INFO] Output directory: /tmp/harvest/out  [INFO] Output format: json  [INFO] Reading configuration from testHvt/regapp73/regapp73.cfg  [INFO] Processing file /Users/rchen/Desktop/test/testHvt/regapp73/regapp73.xml  [ERROR] Missing logical identifier: /Users/rchen/Desktop/test/testHvt/regapp73/regapp73.xml |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.11 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.9 |
| Description | Update (pds-registry-app#71) and delete (#70) registered artifacts |
| Requirements | PASS pds-registry-app#70: The service shall allow deletion of registered artifacts  PASS pds-registry-app#71: The service shall allow updates to registered artifacts |
| Success Criteria | Replace 1 registration with another with the same lidvid. Delete a registration |
| Test Steps | 1. cd /Users/rchen/Desktop/test 2. Clean database as described in HVT.0 3. harvest -c testHvt/regapp70/regapp70.cfg 4. registry-manager load-data -file /tmp/harvest/out 5. curl "http://localhost:9200/registry/\_search?q=\*" | python -m json.tool > xa 6. diff testHvt/regapp70/regapp70.xml testHvt/regapp70/regapp70.x2 7. mv testHvt/regapp70/regapp70.xml testHvt/regapp70/regapp70.x1 8. mv testHvt/regapp70/regapp70.x2 testHvt/regapp70/regapp70.xml 9. repeat Step 3 #regAp#71 10. repeat Step 4 11. curl "http://localhost:9200/registry/\_search?q=\*" | python -m json.tool > xb 12. diff xa xb 13. mv testHvt/regapp70/regapp70.xml testHvt/regapp70/regapp70.x2 14. mv testHvt/regapp70/regapp70.x1 testHvt/regapp70/regapp70.xml 15. registry-manager delete-data -lid urn:nasa:pds:orex.dsn:trk223\_ionosphere:orex\_beno\_2019\_244\_2019\_274\_ion #regAp#70   curl "http://localhost:9200/registry/\_search?q=\*" | python -m json.tool |
| Test Results | Step 3:  [INFO] Output directory: /tmp/harvest/out  [INFO] Output format: json  [INFO] Reading configuration from testHvt/regapp70/regapp70.cfg  [INFO] Processing file /Users/rchen/Desktop/test/testHvt/regapp70/regapp70a.xml  [INFO] Processing file /Users/rchen/Desktop/test/testHvt/regapp70/regapp70a2.xml  [INFO] Summary:  [INFO] Skipped files: 0  [INFO] Processed files: 2  [INFO] File counts by type:  [INFO] Product\_Ancillary: 2  [INFO] Package ID: c411567a-2258-485a-a8d8-d92423643b80  Step 4:  Elasticsearch URL: http://localhost:9200  Index: registry  Updating schema with fields from /tmp/harvest/out/fields.txt  Updated 0 fields  Loading data...  Loading file: /tmp/harvest/out/es-docs.json  Loaded 2 document(s)  Done  Step 6:  15c15  < <title>DSN Media Calibration (TRK 2-23) Ionospheric Calibration File</title>  ---  > <title>\*\*\*FAKE VALUE - JUST SHOWING UPDATES\*\*\*</title>  Step 8: same output as Step 5 except for \_package\_id value.  Step 9: same as Step 3 except for the Package ID  [INFO] Output directory: /tmp/harvest/out  [INFO] Output format: json  [INFO] Reading configuration from testHvt/regapp70/regapp70.cfg  [INFO] Processing file /Users/rchen/Desktop/test/testHvt/regapp70/regapp70.xml  [INFO] Summary:  [INFO] Skipped files: 0  [INFO] Processed files: 1  [INFO] File counts by type:  [INFO] Product\_Ancillary: 1  [INFO] Package ID: 9d22109d-3820-44ec-ba23-85f18c2e672f  Step 10: same as Step 4  Step 12:  2c2  < "took": 2,  ---  > "took": 696,  26c26  < "title": "DSN Media Calibration (TRK 2-23) Ionospheric Calibration File",  ---  > "title": "\*\*\*FAKE VALUE - JUST SHOWING UPDATES\*\*\*",  28c28  < "\_package\_id": "e7c21faa-7624-4bc3-8b9b-0b03d5d3a735",  ---  > "\_package\_id": "9d22109d-3820-44ec-ba23-85f18c2e672f",  Step 15:  Elasticsearch URL: http://localhost:9200  Index: registry  LID: urn:nasa:pds:orex.dsn:trk223\_ionosphere:orex\_beno\_2019\_244\_2019\_274\_ion  Deleted 1 document(s)  Step 16: nothing left in database  % Total % Received % Xferd Average Speed Time Time Time Current  Dload Upload Total Spent Left Speed  100 160 100 160 0 0 17271 0 --:--:-- --:--:-- --:--:-- 17777  {  "took": 1,  "timed\_out": false,  "\_shards": {  "total": 1,  "successful": 1,  "skipped": 0,  "failed": 0  },  "hits": {  "total": {  "value": 0,  "relation": "eq"  },  "max\_score": null,  "hits": []  }  } |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.12 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.10 |
| Description | Register file system metadata (pds-registry-app#67) |
| Requirements | NOTYET pds-registry-app#67 The service shall require a subset of file system metadata … |
| Success Criteria | The captured metadata includes path, checksum, LID, VID, size, timestamp, and mime type of product |
| Test Steps | 1. Clean database as described in HVT.0 2. cd /Users/rchen/Desktop/test 3. harvest -c testHvt/regapp67/regapp67.cfg #regAp#67 4. registry-manager load-data -file /tmp/harvest/out 5. curl "http://localhost:9200/registry/\_search?q=\*" | python -m json.tool |
| Test Results | Step 3:  [INFO] Output directory: /tmp/harvOut  [INFO] Package ID: d62a3992-d8d5-4b28-91c0-76702a240cfd  Step 4:  Elasticsearch URL: http://localhost:9200  Done  Step 5:  % Total % Received % Xferd Average Speed Time Time Time Current  "ref\_lid\_target": "urn:nasa:pds:context:target:planet.mars" |
| Comments |  |
| Date of Testing |  |
| Test Personnel |  |

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| Test Case ID | HVT.11 |
| Description | Parse date of yyyy-mm-ddZ (hvt#29)  Store all values, including duplicates, of multivalued fields (hvt#30) |
| Requirements | PASS harvest#29 Could not parse date in yyyy-MM-ddZ format  PASS harvest#30 For multivalued fields only unique values are stored |
| Success Criteria | All values, including duplicates, get stored. Date with no time gets stored. |
| Test Steps | 1. Clean database as described in HVT.0 2. cd /Users/rchen/Desktop/test 3. harvest -c testHvt/hvt30/hvt30.cfg #hvt#29,hvt#30 4. registry-manager load-data -file /tmp/harvest/out 5. grep -A3 modification\_date testHvt/hvt30/collection\_data-1.0.xml   curl "http://localhost:9200/registry/\_search?q=\*" | python -m json.tool | grep -A4 Modification\_Detail |
| Test Results | Step 3:  [INFO] Output directory: /tmp/harvest/out  [INFO] Output format: json  [INFO] Reading configuration from testHvt/hvt30/hvt30.cfg  [INFO] Processing file /Users/rchen/Desktop/test/testHvt/hvt30/collection\_data-1.0.xml  [INFO] Summary:  [INFO] Skipped files: 0  [INFO] Processed files: 1  [INFO] File counts by type:  [INFO] Product\_Collection: 1  [INFO] Package ID: 39cb57d2-2f48-485d-9fe6-db7d197e4cc6  Step 4:  Elasticsearch URL: http://localhost:9200  Index: registry  Updating schema with fields from /tmp/harvest/out/fields.txt  Updated 53 fields  Loading data...  Loading file: /tmp/harvest/out/es-docs.json  Loaded 1 document(s)  Done  Step 5:  <modification\_date>2020-11-16</modification\_date>  <version\_id>1.1</version\_id>  <description>do all show up correctly</description>  </Modification\_Detail>  --  <modification\_date>2020-11-16</modification\_date> <!-- hvt#30 -->  <version\_id>1.0</version\_id>  <description>RC: do duplicates reach search index? hvt#30</description>  </Modification\_Detail>  --  <modification\_date>2020-11-16</modification\_date>  <version\_id>1.0</version\_id>  <description>Initial Version</description>  </Modification\_Detail>  Step 6: Date stored correctly. Duplicates stored correctly.  % Total % Received % Xferd Average Speed Time Time Time Current  Dload Upload Total Spent Left Speed  100 5541 100 5541 0 0 562k 0 --:--:-- --:--:-- --:--:-- 601k  "pds/Modification\_Detail/pds/description": [  "do all show up correctly",  "RC: do duplicates reach search index? hvt#30",  "Initial Version"  ],  --  "pds/Modification\_Detail/pds/modification\_date": [  "2020-11-16T00:00:00Z",  "2020-11-16T00:00:00Z",  "2020-11-16T00:00:00Z"  ],  --  "pds/Modification\_Detail/pds/version\_id": [  "1.1",  "1.0",  "1.0"  ], |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.22 |
| Test Personnel | Richard Chen |

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| Test Case ID | SCMA.1 |
| Description | Verify changes made to the IM schema and schematron. |
| 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 | The documentation of the testing of the information model is roughly the size of this document, so that documentation has been placed in its own document, testScma.docx. For build 11.0, testScma.docx shows tests of:   * IM#130, i.e. CCB-256 * IM#143, i.e. CCB-268 * IM#193, i.e. CCB-308 * IM#203, i.e. CCB-290 * IM#207, i.e. CCB-289 * IM#214, i.e. CCB-292 * IM#218, i.e. CCB-294 * IM#220, i.e. CCB-297 |
| Comments | Results met success criteria. |
| Date of Testing | 2020.09.21 |
| Test Personnel | Richard Chen |

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| Test Case ID | SCMA.2 |
| Description | Use LDDTool to create local data dictionaries |
| Requirements | PASS 1.3.3: PDS will provide criteria for validating archival products |
| Success Criteria | Validate uses the created local data dictionary to validate a label. |
| Test Steps | 1. cd /Users/rchen/Desktop/test/testLDD 2. validate -x ../PDS4\_PDS\_1E00.xsd -S ../PDS4\_PDS\_1E00.sch -t ccb235a.xml 3. validate -x ../PDS4\_PDS\_1E00.xsd -S ../PDS4\_PDS\_1E00.sch -t ccb235lddinput.xml 4. lddtool -pl ccb235lddinput.xml 5. validate -x ../PDS4\_PDS\_1E00.xsd PDS4\_INSIGHT\_1E00\_1E00.xsd -S ../PDS4\_PDS\_1E00.sch PDS4\_INSIGHT\_1E00\_1E00.sch -t ccb235a.xml   rm PDS4\_INSIGHT\_1E00\_1E00.\* |
| Test Results | Step 2:  PDS Validate Tool Report  Configuration:  Version 1.22.1  Date 2020-04-09T06:00:15Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testLDD/ccb235a.xml]  User Specified Schemas [file:/Users/rchen/Desktop/test/PDS4\_PDS\_1E00.xsd]  User Specified Schematrons [file:/Users/rchen/Desktop/test/PDS4\_PDS\_1E00.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'.  1 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.schema  End of Report  Completed execution in 3262 ms  Step 3: Standard good message  Step 4:  >>info - LDDTOOL Version: 11.2.2  >>info - IM Version Id: 1.14.0.0  >>info - IM Namespace Id: pds  >>info - IM Label Version Id: 1.20  >>info - Date: Wed Apr 08 23:04:10 PDT 2020  >>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  >>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 - Set LDDToolSingletonClass - DMDocument.LDDToolSingletonDOMClass.title:USER  WARNING Init: - Config.Properties Namespace Id Not Found:insight  INFO Init: - Config.Properties Namespace Id Using:pds  INFO Init: - LDD Dictionary\_Type Found:Mission  WARNING Header: - New steward has been specified:geo  WARNING Header: - New namespace id has been specified:insight  >>info - LDDTOOL Exit  >>info - Exit  Step 5: Standard good message |
| Comments | Results met success criteria. |
| Date of Testing | 2020.04.08 |
| Test Personnel | Richard Chen |

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| Test Case ID | SCMA.3 |
| Description | Test various capabilities described in release 10b.  RDD 10b issues left to test after SCMA.1: IM#74, IM#77, IM#79, IM#81, IM#93, IM#105, IM#109, IM#111, IM#125, IM#127, IM#154, IM#180 |
| Requirements | PASS 1.3.3: PDS will provide criteria for validating archival products  PASS pds4-information-model#180: LDDTool incorrectly handles "unbounded" maximum cardinality in Choice blocks |
| Success Criteria | Verify proper handling of build 10b issues not covered by SCMA.1 |
| Test Steps | All executions of lddtool below verify IM#77, IM#79, IM#81   1. cd /Users/rchen/Desktop/test/testLDD 2. lddtool –version #IM#74 3. lddtool -plD im93atm.xml im93naif.xml #IM#93   You could view the output DocBook (export/DD/PDS4\_PDS\_DD\_1E00.xml); instead   1. grep XX im93\* export/DD/PDS4\_PDS\_DD\_1E00.xml # show LDD in DocBook 2. cp im93naif.xml x.xml; lddtool -pl x.xml; rm x.xml #IM#111 3. lddtool -pl im125lddinput.xml #IM#125; nillable inside class works 4. validate -x ../PDS4\_PDS\_1E00.xsd PDS4\_MAVEN\_1E00\_1E00.xsd -S ../PDS4\_PDS\_1E00.sch PDS4\_MAVEN\_1E00\_1E00.sch -t im125.xml 5. lddtool -plM im125lddinput #IM#154, fail nicely if -M 6. lddtool -pl im180lddinput.xml #IM#180, max=\* -> maxOccurs="unbounded” 7. grep "<xs:choice" PDS4\_GEOMETRY\_1E00\_1E00.xsd 8. validate -x ../PDS4\_PDS\_1E00.xsd PDS4\_GEOMETRY\_1E00\_1E00.xsd -S ../PDS4\_PDS\_1E00.sch -t im180.xml   rm PDS4\_\*\_1E00\_1E00.\* |
| Test Results | Step 2: show software version & IM version  LDDTool Version: 11.2.2  Built with IM Version: 1.14.0.0  Build Date: 2020-04-06 16:43:45  Step 3:  >>info - LDDTOOL Version: 11.2.2  >>info - IM Version Id: 1.14.0.0  >>info - IM Namespace Id: pds  >>info - IM Label Version Id: 1.20  >>info - Date: Wed Apr 08 23:09:51 PDT 2020  >>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  >>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 - Set LDDToolSingletonClass - DMDocument.LDDToolSingletonDOMClass.title:USER  INFO Init: - Config.Properties Namespace Id Found:atm  INFO Init: - Config.Properties Namespace Id Using:atm  INFO Init: - LDD Dictionary\_Type Found:Mission  INFO Init: - Config.Properties Namespace Id Found:naif  INFO Init: - Config.Properties Namespace Id Using:naif  INFO Init: - LDD Dictionary\_Type Found:Mission  WARNING Header: - New steward has been specified:geo  WARNING Header: - New namespace id has been specified:naif  >>info - LDDTOOL Exit  >>info - Exit  Step 4:  im93atm.xml: <name>XXATMType\_List</name>  im93atm.xml: <local\_identifier>XXATMType\_List</local\_identifier>  im93naif.xml: <name>XXNAIFObservation\_Information</name>  im93naif.xml: <local\_identifier>XXNAIFObservation\_Information</local\_identifier>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <title><anchor xml:id="N1927552474"/>XXATMType\_List</title>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <entry namest="c1" nameend="c3" align="left"><emphasis>Name: </emphasis>XXATMType\_List</entry>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <entry namest="c1" nameend="c4" align="left"><emphasis>Class Hierarchy: </emphasis><link linkend="N1927552474">XXATMType\_&#x200B;List</link></entry>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <title>type in <link linkend="N1927552474">XXATMType\_&#x200B;List</link></title>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <entry><emphasis>Class Name: </emphasis><link linkend="N1927552474">XXATMType\_&#x200B;List</link></entry>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <title>type\_list\_identifier in <link linkend="N1927552474">XXATMType\_&#x200B;List</link></title>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <entry><emphasis>Class Name: </emphasis><link linkend="N1927552474">XXATMType\_&#x200B;List</link></entry>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <title><anchor xml:id="N-1198652248"/>XXNAIFObservation\_Information</title>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <entry namest="c1" nameend="c3" align="left"><emphasis>Name: </emphasis>XXNAIFObservation\_Information</entry>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <entry namest="c1" nameend="c4" align="left"><emphasis>Class Hierarchy: </emphasis><link linkend="N-1198652248">XXNAIFObservation\_&#x200B;Information</link></entry>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <title>bibcode in <link linkend="N-1198652248">XXNAIFObservation\_&#x200B;Information</link></title>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <entry><emphasis>Class Name: </emphasis><link linkend="N-1198652248">XXNAIFObservation\_&#x200B;Information</link></entry>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <title>mission\_phase\_name\_type in <link linkend="N-1198652248">XXNAIFObservation\_&#x200B;Information</link></title>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <entry><emphasis>Class Name: </emphasis><link linkend="N-1198652248">XXNAIFObservation\_&#x200B;Information</link></entry>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <title>release\_number in <link linkend="N-1198652248">XXNAIFObservation\_&#x200B;Information</link></title>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <entry><emphasis>Class Name: </emphasis><link linkend="N-1198652248">XXNAIFObservation\_&#x200B;Information</link></entry>  Step 5:  >>info - LDDTOOL Version: 11.2.2  >>info - IM Version Id: 1.14.0.0  >>info - IM Namespace Id: pds  >>info - IM Label Version Id: 1.20  >>info - Date: Wed Apr 08 23:28:59 PDT 2020  >>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  >>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 - Set LDDToolSingletonClass - DMDocument.LDDToolSingletonDOMClass.title:USER  INFO Init: - Config.Properties Namespace Id Found:naif  INFO Init: - Config.Properties Namespace Id Using:naif  INFO Init: - LDD Dictionary\_Type Found:Mission  WARNING Header: - New steward has been specified:geo  WARNING Header: - New namespace id has been specified:naif  >>info - LDDTOOL Exit  >>info - Exit  Step 6:  >>info - LDDTOOL Version: 11.2.2  >>info - IM Version Id: 1.14.0.0  >>info - IM Namespace Id: pds  >>info - IM Label Version Id: 1.20  >>info - Date: Thu Apr 09 10:01:19 PDT 2020  >>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  >>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 - Set LDDToolSingletonClass - DMDocument.LDDToolSingletonDOMClass.title:USER  WARNING Init: - Config.Properties Namespace Id Not Found:maven  INFO Init: - Config.Properties Namespace Id Using:pds  INFO Init: - LDD Dictionary\_Type Found:Mission  WARNING Header: - New steward has been specified:geo  WARNING Header: - New namespace id has been specified:maven  >>info - LDDTOOL Exit  >>info - Exit  Step 7: Standard good message  Step 8:  >>ERROR: This flag has been deprecated as of PDS4 IM Version 1.14.0.0. See the LDDTool User's Manual for more information on how to provide this information.  Step 9:  >>info - LDDTOOL Version: 11.3.0-SNAPSHOT  >>info - IM Version Id: 1.14.0.0  >>info - IM Namespace Id: pds  >>info - IM Label Version Id: 1.20  >>info - Date: Sun May 10 22:12:44 PDT 2020  >>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  >>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 - Set LDDToolSingletonClass - DMDocument.LDDToolSingletonDOMClass.title:USER  WARNING Init: - Config.Properties Namespace Id Not Found:geometry  INFO Init: - Config.Properties Namespace Id Using:pds  INFO Init: - LDD Dictionary\_Type Found:Discipline  WARNING Header: - New steward has been specified:geo  WARNING Header: - New namespace id has been specified:geometry  >>info - LDDTOOL Exit  >>info - Exit  Step 10: for a while, lddtool returned maxOccurs="\*">, which is bad  <xs:choice minOccurs="1" maxOccurs="unbounded">  Step 11: Standard good message |
| Comments | Results met success criteria. |
| Date of Testing | 2020.04.09 |
| Test Personnel | Richard Chen |

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| Test Case ID | SCMA.4 |
| Description | Improvement LDDTool: Add PDS Namespace Registry information to Help output |
| Requirements | PASS pds4-information-model#172: Add PDS Namespace Registry information to Help output |
| Success Criteria | `lddtool -h` (or another option?) to see configured namespaces |
| Test Steps | 1, lddtool --help  2. lddtool -plN ccb235lddinput.xml |
| Test Results | 1.  Usage: lddtool -pl [OPTION]... FILE1 FILE2 ...  Parse a local data dictionary definition file and generate PDS4 data standard files.  Example: lddtool -pl inputFileName  Process control:  -p, --PDS4 Set the context to PDS4  -l, --LDD Process a local data dictionary input file  -D, --DataDict Write the Data Dictionary DocBook file.  -J, --JSON Write the data dictionary to a JSON formatted file.  -m, --merge Generate file to merge the local dictionary into the master dictionary  -M, --Mission This option has no effect starting with PDS4 IM Version 1.14.0.0. See the LDDTool User's Manual for more information on how to provide this information.  -n, --nuance Write nuance property maps to LDD schema annotation in JSON  -N, --Namespace Print the list of configured namespaces to the log  -1, --IM Spec Write the Information Model Specification for an LDD.  -v, --version Returns the LDDTool version number  -h, --help Print this message  2.  >> INFO Configured NameSpaceIds:[alt, atm, bc, bc\_mpo\_bel, bc\_mpo\_ber, bc\_mpo\_isa, bc\_mpo\_mag, bc\_mpo\_mer, bc\_mpo\_mgn, bc\_mpo\_mix, bc\_mpo\_mre, bc\_mpo\_phe, bc\_mpo\_sim, bc\_mpo\_six, bc\_mpo\_srn, bc\_mtm\_cam, cart, darts, disp, em16, em16\_tgo\_acs, em16\_tgo\_cas, em16\_tgo\_frd, em16\_tgo\_nmd, emrsp, emrsp\_rm, emrsp\_rm\_clu, emrsp\_rm\_ise, emrsp\_rm\_loc, emrsp\_rm\_mic, emrsp\_rm\_mis, emrsp\_rm\_mom, emrsp\_rm\_nav, emrsp\_rm\_pan, emrsp\_rm\_rls, emrsp\_rm\_wis, geo, geom, img, img\_surface, isda, mer, msn, msn\_surface, naif, particle, pds, ppi, proc, psa, rings, rs, rssa, sbn, sp, speclib, wave]  >> INFO LDDTOOL Version: 12.0.0  >> INFO IM Version Id: 1.15.0.0  >> INFO IM Namespace Id: pds  >> INFO IM Label Version Id: 1.21  >> INFO Date: Fri Nov 20 16:30:20 PST 2020  >> INFO PARENT\_DIR: /home/gxchen/pds-test/lddtool  >> INFO SCRIPT\_DIR: /home/gxchen/pds-test/lddtool/bin  >> INFO LIB\_DIR: /home/gxchen/pds-test/lddtool/lib  >>> INFO Init: - Config.Properties Namespace Id Using:pds  >>> INFO Init: - LDD Dictionary\_Type is Mission  >>> WARNING Init: - Config.Properties Namespace Id Not Found:insight  >>> WARNING Header: - New steward has been specified:geo  >>> WARNING Header: - New namespace id has been specified:insight  -- LDDTool Execution Summary --  3 warning(s)  0 error(s)  0 fatal error(s)  >> INFO Exit(0) |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.20 |
| Test Personnel | Gary Chen |

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| Test Case ID | SCMA.5 |
| Description | Improvement LDDTool: Add error counter or flag to enable unsuccessful termination System.exit |
| Requirements | PASS pds4-information-model#176: Add error counter or flag to enable unsuccessful termination System.exit |
| Success Criteria | Run lddtool with bad input, then `echo $?`, which should print not 0. |
| Test Steps | lddtool -pl PDS4\_IMG\_IngestLDD.xml |
| Test Results | -- LDDTool Execution Summary --  1 warning(s)  4 error(s)  0 fatal error(s)  >> INFO Exit(1) |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.20 |
| Test Personnel | Gary Chen |

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| Test Case ID | SCMA.6 |
| Description | Improvement LDDTool: Improve error messages to clearly designate between FATAL\_ERROR vs ERROR |
| Requirements | PASS pds4-information-model#178: Improve error messages to clearly designate between FATAL\_ERROR vs ERROR |
| Success Criteria | Run lddtool with a nonexistent input file to see FATAL\_ERROR. Run lddtool with an input file with a mild syntax error to see ERROR. |
| Test Steps | 1. lddtool -pl PDS4\_IMG\_IngestLDD2.xml # this file doesn’t exit   lddtool -pl PDS4\_IMG\_IngestLDD.xml |
| Test Results | >> FATAL ERROR Input file not found: PDS4\_IMG\_IngestLDD2.xml  2.  >>> ERROR Init: - LDD Dictionary\_Type not Found:TBD\_dictionary\_type Defaulting to Discipline  >>> ERROR Attribute: <mask\_type> - The 'type' attribute must have at least one permissible value.  >>> ERROR Attribute: <radiometric\_type> - The 'type' attribute must have at least one permissible value.  >>> ERROR Attribute: <subframe\_type> - The 'type' attribute must have at least one permissible value. |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.20 |
| Test Personnel | Gary Chen |

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| Test Case ID | SCMA.7 |
| Description | Improvement LDDTool: Revise the handling of supplying the IM version (alternate version) via command-line |
| Requirements | PASS pds4-information-model#222: Revise the handling of supplying the IM version (alternate version) via command-line |
| Success Criteria | Run lddtool normally. Save output files. Run `lddtool -V currentIMVersion` and compare output files. |
| Test Steps | 1. lddtool -pl ccb235lddinput.xml 2. lddtool -pl -V 1E00 ccb235lddinput.xml   lddtool -pl -V 1F00 ccb235lddinput.xml |
| Test Results | 1.  >> INFO LDDTOOL Version: 12.0.0  >> INFO IM Version Id: 1.15.0.0  >> INFO IM Namespace Id: pds  >> INFO IM Label Version Id: 1.21  >> INFO Date: Sun Nov 22 21:43:50 PST 2020  >> INFO PARENT\_DIR: /home/gxchen/pds-test/lddtool  >> INFO SCRIPT\_DIR: /home/gxchen/pds-test/lddtool/bin  >> INFO LIB\_DIR: /home/gxchen/pds-test/lddtool/lib  >>> INFO Init: - Config.Properties Namespace Id Using:pds  >>> INFO Init: - LDD Dictionary\_Type is Mission  >>> WARNING Init: - Config.Properties Namespace Id Not Found:insight  >>> WARNING Header: - New steward has been specified:geo  >>> WARNING Header: - New namespace id has been specified:insight  -- LDDTool Execution Summary --  3 warning(s)  0 error(s)  0 fatal error(s)  >> INFO Exit(0)  2.  >> INFO The configured IM Versions are:[1F00, 1E00, 1D00, 1C00, 1B10, 1B00]  >> INFO The provided IM Version 1F00 is valid  >> INFO LDDTOOL Version: 12.0.0  >> INFO IM Version Id: 1.15.0.0  >> INFO IM Namespace Id: pds  >> INFO IM Label Version Id: 1.21  >> INFO Date: Sun Nov 22 21:45:04 PST 2020  >> INFO PARENT\_DIR: /home/gxchen/pds-test/lddtool  >> INFO SCRIPT\_DIR: /home/gxchen/pds-test/lddtool/bin  >> INFO LIB\_DIR: /home/gxchen/pds-test/lddtool/lib  >>> INFO Init: - Config.Properties Namespace Id Using:pds  >>> INFO Init: - LDD Dictionary\_Type is Mission  >>> WARNING Init: - Config.Properties Namespace Id Not Found:insight  >>> WARNING Header: - New steward has been specified:geo  >>> WARNING Header: - New namespace id has been specified:insight  -- LDDTool Execution Summary --  3 warning(s)  0 error(s)  0 fatal error(s)  >> INFO Exit(0)  3,  >> INFO The configured IM Versions are:[1F00, 1E00, 1D00, 1C00, 1B10, 1B00]  >> INFO The provided IM Version 1E00 is valid  >> INFO LDDTOOL Version: 0.0.0  >> INFO IM Version Id: 1.14.0.0  >> INFO IM Namespace Id: pds  >> INFO IM Label Version Id: 1.20  >> INFO Date: Sun Nov 22 21:46:08 PST 2020  >> INFO PARENT\_DIR: /home/gxchen/pds-test/lddtool  >> INFO SCRIPT\_DIR: /home/gxchen/pds-test/lddtool/bin  >> INFO LIB\_DIR: /home/gxchen/pds-test/lddtool/lib  >> 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 Init: - Config.Properties Namespace Id Using:pds  >>> INFO Init: - LDD Dictionary\_Type is Mission  >>> WARNING Init: - Config.Properties Namespace Id Not Found:insight  >>> WARNING Header: - New steward has been specified:geo  >>> WARNING Header: - New namespace id has been specified:insight  -- LDDTool Execution Summary --  5 warning(s)  0 error(s)  0 fatal error(s)  >> INFO Exit(0) |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.22 |
| Test Personnel | Gary Chen |

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| Test Case ID | SCMA.8 |
| Description | Improvement LDDTool: Add capability to generate LDDs based on user-specified IM version |
| Requirements | PASS pds4-information-model#88: Add capability to generate LDDs based on user-specified IM version |
| Success Criteria | Run lddtool -VsomeOldVersion and see output files named that way |
| Test Steps | lddtool -pl -V 1F00 ccb235lddinput.xml |
| Test Results | -rw-r--r-- 1 gxchen pds 2210 Nov 22 21:46 PDS4\_INSIGHT\_1E00\_1E00.csv  -rw-r--r-- 1 gxchen pds 1484 Nov 22 21:46 PDS4\_INSIGHT\_1E00\_1E00.sch  -rw-r--r-- 1 gxchen pds 2876 Nov 22 21:46 PDS4\_INSIGHT\_1E00\_1E00.txt  -rw-r--r-- 1 gxchen pds 2781 Nov 22 21:46 PDS4\_INSIGHT\_1E00\_1E00.xml  -rw-r--r-- 1 gxchen pds 3814 Nov 22 21:46 PDS4\_INSIGHT\_1E00\_1E00.xsd  -rw-r--r-- 1 gxchen pds 2210 Nov 22 21:45 PDS4\_INSIGHT\_1F00\_1E00.csv  -rw-r--r-- 1 gxchen pds 1484 Nov 22 21:45 PDS4\_INSIGHT\_1F00\_1E00.sch  -rw-r--r-- 1 gxchen pds 2877 Nov 22 21:45 PDS4\_INSIGHT\_1F00\_1E00.txt  -rw-r--r-- 1 gxchen pds 2781 Nov 22 21:45 PDS4\_INSIGHT\_1F00\_1E00.xml  -rw-r--r-- 1 gxchen pds 3814 Nov 22 21:45 PDS4\_INSIGHT\_1F00\_1E00.xsd |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.22 |
| Test Personnel | Gary Chen |

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| Test Case ID | SCMA.9 |
| Description | Improvement CCB-285: GeoTIFF format as operational PDS4 image |
| Requirements | NOTYET pds4-information-model#166: GeoTIFF format as operational PDS4 image |
| Success Criteria | Find “TIFF 6.0” in PDS4\_PDS\_\*.sch in Header/parsing\_standard\_id |
| Test Steps | validate -t val220/a17\_sep\_dr005507\_f00001.xml |
| Test Results |  |
| Comments |  |
| Date of Testing |  |
| Test Personnel |  |

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| Test Case ID | SCMA.10 |
| Description | Improvement LDDTool: requires one class with (element\_flag = true) even when no classes defined |
| Requirements | PASS pds4-information-model#188: requires one class with (element\_flag = true) even when no classes defined |
| Success Criteria | Create lddinput with no classes, only rules. Lddtool is supposed to allow this, I think. |
| Test Steps | 1. diff ccb235lddinput\_0.xml ccb235lddinput.xml 2. lddtool -pl ccb235lddinput.xml |
| Test Results | Step 1.  73,103d72  <  < <DD\_Class>  < <name>Observation\_Information</name>  < <version\_id>1.0</version\_id>  < <local\_identifier>Observation\_Information</local\_identifier>  < <submitter\_name>Susan Slavney</submitter\_name>   1. < <definition>The Observation\_Information class provide diff ccb235lddinput\_0.xml ccb235lddinput.xml   lddtool -pl ccb235lddinput.xml s information about a science  < observation.</definition>  < <abstract\_flag>false</abstract\_flag>  < <element\_flag>true</element\_flag>  < <DD\_Association>  < <identifier\_reference>release\_number</identifier\_reference>  < <reference\_type>attribute\_of</reference\_type>  < <minimum\_occurrences>0</minimum\_occurrences>  < <maximum\_occurrences>1</maximum\_occurrences>  < </DD\_Association>  < <DD\_Association>  < <identifier\_reference>bibcode</identifier\_reference>  < <reference\_type>attribute\_of</reference\_type>  < <minimum\_occurrences>0</minimum\_occurrences>  < <maximum\_occurrences>1</maximum\_occurrences>  < </DD\_Association>  < <DD\_Association>  < <identifier\_reference>mission\_phase\_name</identifier\_reference>  < <reference\_type>attribute\_of</reference\_type>  < <minimum\_occurrences>0</minimum\_occurrences>  < <maximum\_occurrences>1</maximum\_occurrences>  < </DD\_Association>  < </DD\_Class>  < <!-- End of Observation\_Information Class Definition -->  <  Step 2.  >> INFO LDDTOOL Version: 12.0.0  >> INFO IM Version Id: 1.15.0.0  >> INFO IM Namespace Id: pds  >> INFO IM Label Version Id: 1.21  >> INFO Date: Mon Nov 23 20:38:38 PST 2020  >> INFO PARENT\_DIR: /home/gxchen/pds-test/lddtool  >> INFO SCRIPT\_DIR: /home/gxchen/pds-test/lddtool/bin  >> INFO LIB\_DIR: /home/gxchen/pds-test/lddtool/lib  >>> INFO Init: - Config.Properties Namespace Id Using:pds  >>> INFO Init: - LDD Dictionary\_Type is Mission  >>> WARNING Init: - Config.Properties Namespace Id Not Found:insight  >>> WARNING Header: - New steward has been specified:geo  >>> WARNING Header: - New namespace id has been specified:insight  -- LDDTool Execution Summary --  3 warning(s)  0 error(s)  0 fatal error(s)  >> INFO Exit(0) |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.23 |
| Test Personnel | Gary Chen |

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| Test Case ID | SCMA.11 |
| Description | Defect LDDtool combining two consecutive choice blocks into one block |
| Requirements | PASS pds4-information-model#192: combining two consecutive choice blocks into one block |
| Success Criteria | Download Ed’s two attachments to the issue and see if running lddtool on the input avoids the problem in the output. Maybe create a second test. |
| Test Steps | 1. downloaded [ingest-PDS4\_GEOM\_1D00\_1720.xml.txt](https://github.com/NASA-PDS/pds4-information-model/files/4919752/ingest-PDS4_GEOM_1D00_1720.xml.txt) 2. lddtool –pl ingest-PDS4\_GEOM\_1D00\_1720.xml   compare with PDS4\_GEOM\_1E00\_1720.xsd provided with new version PDS4\_GEOM\_1F00\_1720.xsd |
| Test Results | Step 3. No change  Old:  <xs:sequence>  <xs:element ref="pds:local\_identifier" minOccurs="0" maxOccurs="unbounded"> </xs:element>  <xs:element name="device\_id" type="geom:device\_id" minOccurs="0" maxOccurs="1"> </xs:element>  <xs:element name="device\_name" type="geom:device\_name" minOccurs="1" maxOccurs="1"> </xs:element>  <xs:element name="device\_mode" type="geom:device\_mode" minOccurs="0" maxOccurs="1"> </xs:element>  <xs:element name="device\_phase" type="geom:device\_phase" minOccurs="0" maxOccurs="1"> </xs:element>  <xs:element name="selected\_instrument\_id" type="geom:selected\_instrument\_id" minOccurs="0" maxOccurs="1"> </xs:element>  <xs:choice minOccurs="1" maxOccurs="unbounded">  <xs:element name="Device\_Angle" type="geom:Device\_Angle"> </xs:element>  <xs:element name="Device\_Component\_State" type="geom:Device\_Component\_State"> </xs:element>  <xs:element name="Device\_Motor\_Counts" type="geom:Device\_Motor\_Counts"> </xs:element>  <xs:element name="Vector\_Device\_Gravity" type="geom:Vector\_Device\_Gravity"> </xs:element>  <xs:element name="Device\_Temperature" type="geom:Device\_Temperature"> </xs:element>  <xs:element name="Coordinate\_Space\_Present" type="geom:Coordinate\_Space\_Present"> </xs:element>  <xs:element ref="geom:Coordinate\_Space\_Reference"> </xs:element>  </xs:choice>  </xs:sequence>  </xs:complexType>  New:  <xs:sequence>  <xs:element ref="pds:local\_identifier" minOccurs="0" maxOccurs="unbounded"> </xs:element>  <xs:element name="device\_id" type="geom:device\_id" minOccurs="0" maxOccurs="1"> </xs:element>  <xs:element name="device\_name" type="geom:device\_name" minOccurs="1" maxOccurs="1"> </xs:element>  <xs:element name="device\_mode" type="geom:device\_mode" minOccurs="0" maxOccurs="1"> </xs:element>  <xs:element name="device\_phase" type="geom:device\_phase" minOccurs="0" maxOccurs="1"> </xs:element>  <xs:element name="selected\_instrument\_id" type="geom:selected\_instrument\_id" minOccurs="0" maxOccurs="1"> </xs:element>  <xs:choice minOccurs="1" maxOccurs="unbounded">  <xs:element name="Device\_Angle" type="geom:Device\_Angle"> </xs:element>  <xs:element name="Device\_Component\_State" type="geom:Device\_Component\_State"> </xs:element>  <xs:element name="Device\_Motor\_Counts" type="geom:Device\_Motor\_Counts"> </xs:element>  <xs:element name="Vector\_Device\_Gravity" type="geom:Vector\_Device\_Gravity"> </xs:element>  <xs:element name="Device\_Temperature" type="geom:Device\_Temperature"> </xs:element>  <xs:element name="Coordinate\_Space\_Present" type="geom:Coordinate\_Space\_Present"> </xs:element>  <xs:element ref="geom:Coordinate\_Space\_Reference"> </xs:element>  </xs:choice>  </xs:sequence>  </xs:complexType> |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.23 |
| Test Personnel | Gary Chen |

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| Test Case ID | SCMA.12 |
| Description | Defect LDDTool: erroneously replaces TBD values with null in JSON output |
| Requirements | PASS pds4-information-model#227: erroneously replaces TBD values with null in JSON output |
| Success Criteria | Create an lddtool input with “TBD” in various fields of DD\_Attribute and see if the output preserves “TBD”, as lddtool should do. |
| Test Steps | 1. Change definition fields in im180lldinput.xml to ‘TBD’ 2. lddtool -plJ im180lddinput.xml   grep -nw PDS4\_GEOMETRY\_1F00\_1E00.JSON -e '\_TBD' |
| Test Results | Step 3.  52: "description": "\_TBD" ,  77: "description": "\_TBD" ,  102: "description": "\_TBD" , |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.23 |
| Test Personnel | Gary Chen |

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| Test Case ID | SCMA.13 |
| Description | Defect LDDTool: uses wrong version of XSD when referencing IMG dictionary |
| Requirements | PASS pds4-information-model#229: uses wrong version of XSD when referencing IMG dictionary |
| Success Criteria | Download the attachments, run lddtool, check if output ldd references the correct .xsd. |
| Test Steps | 1. lddtool -lp PDS4\_IMG\_IngestLDD.xml PDS4\_MARS2020\_IngestLDD.xml 2. Verify .xsd file reference the correct version. |
| Test Results | Step 2.  <xs:import namespace="http://pds.nasa.gov/pds4/pds/v1" schemaLocation="https://pds.nasa.gov/pds4/pds/v1/PDS4\_PDS\_1F00.xsd"/>  <xs:import namespace="http://pds.nasa.gov/pds4/img/v1" schemaLocation="https://pds.nasa.gov/pds4/img/v1/PDS4\_IMG\_1F00\_1810.xsd"/> |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.23 |
| Test Personnel | Gary Chen |

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| Test Case ID | SCMA.14 |
| Description | Defect LDDTool: Version info bug introduced since v11.2.0 |
| Requirements | PASS pds4-information-model#168: Version info bug introduced since v11.2.0 |
| Success Criteria | `lddtool -version` gives the right version (was 0.0 in one build) |
| Test Steps | 1. Lddtool -v 2. Verify version is not 0.0.0. |
| Test Results | Step 2.  LDDTool Version: 12.0.0  Built with IM Version: 1.15.0.0  Build Date: 2020-10-12 13:13:47  Configured IM Versions: [1F00, 1E00, 1D00, 1C00, 1B10, 1B00] |
| Comments | Results met success criteria. |
| Date of Testing | 2020.10.12 |
| Test Personnel | Gary Chen |

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| Test Case ID | SCMA.15 |
| Description | Defect LDDTool: update LDD attribute checking to only check for "type" and "\_type" |
| Requirements | PASS pds4-information-model#230: LDD attribute checks only for "type" and "\_type" |
| Success Criteria | Create an attribute xxxtype without permissible values. Lddtool should not complain. If changed to xxx\_type, lddtool should complain |
| Test Steps | 1. lddtool -lp $(pwd)/PDS4\_CTLI\_IngestLDD.xml |
| Test Results | Step 1. No error  >> INFO LDDTOOL Version: 12.0.0  >> INFO IM Version Id: 1.15.0.0  >> INFO IM Namespace Id: pds  >> INFO IM Label Version Id: 1.21  >> INFO Date: Mon Nov 23 21:46:04 PST 2020  >> INFO PARENT\_DIR: /home/gxchen/pds-test/lddtool  >> INFO SCRIPT\_DIR: /home/gxchen/pds-test/lddtool/bin  >> INFO LIB\_DIR: /home/gxchen/pds-test/lddtool/lib  >>> INFO Init: - Config.Properties Namespace Id Using:pds  >>> INFO Init: - LDD Dictionary\_Type is Discipline  >>> INFO Attribute: <type> - The default minimum characters provided by the attribute's data type is being overridden with 1  >>> INFO Attribute: <type> - The default maximum characters provided by the attribute's data type is being overridden with 255  >>> INFO Attribute: <type> - This local attribute has a duplicate in the PDS4 data dictionary.  >>> INFO Attribute: <type> - This local attribute has a duplicate in the PDS4 data dictionary.  >>> INFO Attribute: <type> - This local attribute has a duplicate in the PDS4 data dictionary.  >>> INFO Attribute: <type> - This local attribute has a duplicate in the PDS4 data dictionary.  >>> INFO Attribute: <type> - This local attribute has a duplicate in the PDS4 data dictionary.  >>> INFO Attribute: <type> - This local attribute has a duplicate in the PDS4 data dictionary.  >>> INFO Attribute: <type> - This local attribute has a duplicate in the PDS4 data dictionary.  >>> INFO Attribute: <subtype> - This local attribute has a duplicate in the PDS4 data dictionary.  >>> WARNING Init: - Config.Properties Namespace Id Not Found:ctli  >>> WARNING Header: - New steward has been specified:ctli  >>> WARNING Header: - New namespace id has been specified:ctli  -- LDDTool Execution Summary --  3 warning(s)  0 error(s)  0 fatal error(s)  >> INFO Exit(0) |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.23 |
| Test Personnel | Gary Chen |

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| Test Case ID | SCMA.16 |
| Description | Improvement LDDTool: Use sch:value-of to display a variable in Schematron validation |
| Requirements | PASS pds4-information-model#167: Use sch:value-of to display a variable in Schematron validation |
| Success Criteria | Validate hits the sch:value-of rule |
| Test Steps | 1. cd /Users/rchen/Desktop/test/testLDD 2. lddtool -pl im167lddinput.xml 3. grep "value-of" im167lddinput.xml #rule: 2 colons in mission\_phase\_name 4. diff im167a.xml im167b.xml 5. validate -x ../PDS4\_PDS\_1F00.xsd PDS4\_MSN\_1G00\_1A00.xsd -S ../PDS4\_PDS\_1F00.sch PDS4\_MSN\_1G00\_1A00.sch -t im167a.xml 6. validate -x ../PDS4\_PDS\_1F00.xsd PDS4\_MSN\_1G00\_1A00.xsd -S ../PDS4\_PDS\_1F00.sch PDS4\_MSN\_1G00\_1A00.sch -t im167b.xml 7. rm PDS4\_HYB2\_\* |
| Test Results | Step 2:  >> INFO LDDTOOL Version: 10.1.0  >> INFO IM Version Id: 1.16.0.0  >> INFO IM Namespace Id: pds  >> INFO IM Label Version Id: 1.0  >> INFO Date: Sat Dec 05 22:06:07 PST 2020  >> INFO PARENT\_DIR: /Users/rchen/PDS4tools/lddtool  >> INFO SCRIPT\_DIR: /Users/rchen/PDS4tools/lddtool/bin  >> INFO LIB\_DIR: /Users/rchen/PDS4tools/lddtool/lib  >>> INFO Init: - Config.Properties Namespace Id Using:pds  >>> INFO Init: - LDD Dictionary\_Type is Mission  >>> WARNING Init: - Config.Properties Namespace Id Not Found:hyb2  >>> WARNING Attribute: <mission\_phase\_name> - This local attribute was not used in an Association.  >>> WARNING Header: - New steward has been specified:sbn  >>> WARNING Header: - New namespace id has been specified:hyb2  -- LDDTool Execution Summary --  4 warning(s)  0 error(s)  0 fatal error(s)  >> INFO Exit(0)  Step 3:  <rule\_message>msn:mission\_phase\_name demands &lt;sch:value-of select="$required\_colons"/&gt; colons for no good reason. Found &lt;sch:value-of select="$num\_colons"/&gt;.</rule\_message>  Step 4:  59c59  < <msn:mission\_phase\_name>Commissioning::Phase</msn:mission\_phase\_name>  ---  > <msn:mission\_phase\_name>Commissioning Phase</msn:mission\_phase\_name>  Step 5: standard good validation message because mission\_phase\_name has 2 colons  Step 6:  PDS Validate Tool Report  Configuration:  Version 1.25.0-SNAPSHOT  Date 2020-12-06T07:33:06Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testLDD/im167b.xml]  User Specified Schemas [file:/Users/rchen/Desktop/test/PDS4\_PDS\_1F00.xsd, file:/Users/rchen/Desktop/test/testLDD/PDS4\_MSN\_1G00\_1A00.xsd]  User Specified Schematrons [file:/Users/rchen/Desktop/test/PDS4\_PDS\_1F00.sch, file:/Users/rchen/Desktop/test/testLDD/PDS4\_MSN\_1G00\_1A00.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 /Users/rchen/PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testLDD/im167b.xml  ERROR [error.label.schematron] line 59, 41: Demanding 2 colons for no good reason. Found 0.  1 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.schematron  End of Report  Completed execution in 2959 ms |
| Comments | Results met success criteria. |
| Date of Testing | 2020.12.05 |
| 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 /Users/rchen/Desktop/test 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.  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 1.22.3  Date 2020-04-25T17:28:31Z  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  1 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/document/collection\_ast\_spectra\_reddy\_neos\_marscrossers\_document.xml  2 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/document/allspectra.xml  3 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/document/AA\_Document\_Index.xml  4 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/document/bundle\_description.xml  5 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/document/ref.xml  6 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/xml\_schema/PDS4\_PDS\_1600.xml  7 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/xml\_schema/collection.xml  8 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/data/collection\_ast\_spectra\_reddy\_neos\_marscrossers\_data.xml  9 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/data/science\_index.xml  10 product validation(s) completed  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'.  11 product validation(s) completed  .[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'.  37 product validation(s) completed  PDS4 Bundle Level Validation Results  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/document/collection\_ast\_spectra\_reddy\_neos\_marscrossers\_document.xml  1 integrity check(s) completed  [snip…]  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/data/2006/85709\_1998sg36.xml  37 integrity check(s) completed  Summary:  27 error(s)  0 warning(s)  Product Validation Summary:  10 product(s) passed  27 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  37 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  27 error.label.schema  End of Report  Completed execution in 6139 ms  Step 3: should be no errors.  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-25T17:41:24Z  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  1 product validation(s) completed  [snip…]  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/data/2006/85709\_1998sg36.xml  37 integrity check(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  37 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  37 check(s) passed  0 check(s) failed  0 check(s) skipped  End of Report  Completed execution in 5957 ms |
| Comments | Results met success criteria. |
| Date of Testing | 2020.03.28 |
| 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   validate -t testPrep/product\_document/Product\_Doc\_good.xml |
| Test Results | Step 2: the referenced file was removed in step 1  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-25T18:23:41Z  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  1 product validation(s) completed  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  2 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/document/AA\_Document\_Index.xml  3 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/document/bundle\_description.xml  4 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/document/ref.xml  5 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  4 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.missing\_file  End of Report  Completed execution in 4070 ms  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> /Users/rchen/Desktop/test/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 1.22.3  Date 2020-04-25T18:24:25Z  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  1 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.missing\_file  End of Report  Completed execution in 3525 ms  Step 7: Standard good message. Non-existent path has been replaced by a real path |
| Comments | Results met success criteria |
| Date of Testing | 2020.04.25 |
| 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.  Also test validate-bundle |
| 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/. Find the same bugs via validate-bundle |
| Test Steps | 1. cd /Users/rchen/Desktop/test/ 2. validate -R pds4.bundle -t bundle\_geo\_ra #VAL#137 3. validate -R pds4.bundle -t bundleLID #VAL#139 VAL#146 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/sol148d.xml’s LID does not extend the collection’s LID 7. data\_derived/sol149b.xml has another product’s LIDVID 8. data\_test/scraping/pit\_test\_scraping\_pic[12].xml have the same LID but different VIDs, which should not be flagged. 9. data\_test/scraping/pit\_test\_scraping.xml’s LID changed to “<xxx>.xml” 10. data\_test/scraping/pit\_test\_scraping.xml’s <title> added various spaces 11. the document collection’s LID does not have the bundle’s LID as its basis.   This also tests correctly counting errors, VAL#173  Re-run step 3 using validate-bundle, the parallel version. Get the same results.   1. validate-bundle -n 1 -t /Users/rchen/Desktop/test/bundleLID/bundle\_1.xml   rm -r validate\_20\* |
| Test Results | Step 2: val137: pit\_test\_icy\_soil\_dig1.csv has blank values, which is now ok. The 174th file, bundle\_weird.xml.gz, is used by a different test.  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-25T18:49:58Z  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.xml  1 product validation(s) completed  [snip...]  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/xml\_schema/collection.xml  173 product validation(s) completed  PDS4 Bundle Level Validation Results  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/context/context\_collection\_1.xml  1 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/data\_derived/data\_derived\_collection\_1.xml  2 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/data\_test/data\_test\_collection\_1.xml  3 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/document/document\_collection\_1.xml  4 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/xml\_schema/collection.xml  5 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/bundle\_weird.xml.gz  WARNING [warning.file.not\_referenced\_in\_label] File is not referenced by any label  6 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/bundle.xml  7 integrity check(s) completed  [snip...]  PASS: file:/Users/rchen/Desktop/test/bundle\_geo\_ra/document/ra\_instrument.xml  174 integrity check(s) completed  Summary:  0 error(s)  1 warning(s)  Product Validation Summary:  173 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  174 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 warning.file.not\_referenced\_in\_label  End of Report  Completed execution in 27143 ms  Step 3: good: flagging duplicate u:n:p:phx\_ra:data\_derived:sol149a::1.0 and sol148d.xml’s bad LID, not flagging pit\_test\_scraping\_pic[23].xml.  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-26T01:13:01Z  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  1 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/phx.ra\_1.0.xml  2 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/planet.mars\_1.2.xml  3 product validation(s) completed  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  4 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/mission.phoenix\_1.1.xml  5 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/sol149b.xml  6 product validation(s) completed  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)  7 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/sol148d.xml  8 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/data\_derived\_collection\_1.xml  9 product validation(s) completed  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)  10 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping.xml  11 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic1.xml  12 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic2.xml  13 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust\_dig2\_pic13.xml  14 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust.xml  15 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust\_dig1\_pic1.xml  16 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/document/collection\_1.xml  17 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/document/ra\_dataset.xml  18 product validation(s) completed  PDS4 Bundle Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/bundleLID/context/context\_collection\_1.xml  ERROR [error.table.records\_mismatch] Number of records read is not equal to the defined number of records in the collection (expected 4, got 3).  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  1 integrity check(s) completed  FAIL: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/data\_derived\_collection\_1.xml  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:phx\_ra:data\_derived777:sol148d does not begin with required parent LID urn:nasa:pds:phx\_ra:data\_derived  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.  2 integrity check(s) completed  FAIL: file:/Users/rchen/Desktop/test/bundleLID/data\_test/data\_test\_collection\_1.xml  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:phx\_ra:data\_test:pit\_test\_duricrust does not begin with required parent LID urn:nasa:pds:phx\_ra:data\_derived  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:phx\_ra:data\_test:pit\_test\_duricrust\_dig1\_pic1 does not begin with required parent LID urn:nasa:pds:phx\_ra:data\_derived  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:phx\_ra:data\_test:pit\_test\_duricrust\_dig2\_pic13 does not begin with required parent LID urn:nasa:pds:phx\_ra:data\_derived  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:phx\_ra:data\_test:pit\_test.xml does not begin with required parent LID urn:nasa:pds:phx\_ra:data\_derived  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1 does not begin with required parent LID urn:nasa:pds:phx\_ra:data\_derived  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1 does not begin with required parent LID urn:nasa:pds:phx\_ra:data\_derived  3 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/document/collection\_1.xml  4 integrity check(s) completed  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  5 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/sol148d.xml  6 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_derived/sol149b.xml  7 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping.xml  8 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/document/ra\_dataset.xml  9 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust.xml  10 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust\_dig1\_pic1.xml  11 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/phx.ra\_1.0.xml  12 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/mission.phoenix\_1.1.xml  13 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust\_dig2\_pic13.xml  14 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/context/planet.mars\_1.2.xml  15 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic1.xml  16 integrity check(s) completed  PASS: file:/Users/rchen/Desktop/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic2.xml  17 integrity check(s) completed  Summary:  12 error(s)  4 warning(s)  Product Validation Summary:  15 product(s) passed  3 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  13 check(s) passed  4 check(s) failed  0 check(s) skipped  Message Types:  8 error.integrity.missing\_parent\_prefix  2 error.table.records\_mismatch  2 error.label.duplicate\_identifier  3 warning.integrity.member\_not\_found  1 warning.integrity.unreferenced\_member  End of Report  Completed execution in 10182 ms  Step 4: validate-bundle has a lot of output. Check summary’s errors and warnings  [snip…]  >>>>>>>>>>>>>>> OVERALL SUMMARY:  Summary:  12 error(s)  4 warnings(s)  End of Report  <<<<<<<<<<<<<<<  Validation complete.  \* See /Users/rchen/Desktop/test/validate\_20200508\_103356/validate\_summary.log for a summary of results.  \* See /Users/rchen/Desktop/test/validate\_20200508\_103356 for individual Validate Tool execution reports. |
| Comments | Results met success criteria. |
| Date of Testing | 2020.05.08 |
| 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 /Users/rchen/Desktop/test/testPrep/product\_document   validate -t Product\_Doc\_part1.xml |
| Test Results | Step 2: No longer allowed  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-26T01:18:05Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/product\_document/Product\_Doc\_part1.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\_part1.xml  FATAL\_ERROR [error.label.schema] Error occurred while attempting to find schemas using the XPath '//\*/@xsi:schemaLocation': org.xml.sax.SAXParseException; systemId: file:/Users/rchen/Desktop/test/testPrep/product\_document/Product\_Doc\_part1.xml; lineNumber: 113; columnNumber: 1; XML document structures must start and end within the same entity.  ERROR [error.label.schematron] Error occurred while attempting to find schematrons using the XPath '/processing-instruction('xml-model')': org.xml.sax.SAXParseException; systemId: file:/Users/rchen/Desktop/test/testPrep/product\_document/Product\_Doc\_part1.xml; lineNumber: 113; columnNumber: 1; XML document structures must start and end within the same entity.  1 product validation(s) completed  Summary:  2 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.schematron  1 error.label.schema  End of Report  Completed execution in 1537 ms |
| Comments | Results met success criteria? |
| Date of Testing | 2020.04.25 |
| 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\_1E00.xsd  However, validate, when validating a label file, does complain when the schema is bad   1. validate -x PDS4\_PDS\_1E00.xsd -S PDS4\_PDS\_1E00.sch -t testLDD/im93atm.xml 2. diff -w PDS4\_PDS\_1E00.xsd testPrep/PDS4\_PDS\_1E00.bad.xsd 3. validate -x testPrep/PDS4\_PDS\_1E00.bad.xsd -S PDS4\_PDS\_1E00.sch -t testLDD/im93atm.xml   Give validate a non-existent schema  validate -x xxx.xsd -S PDS4\_PDS\_1D00.sch -t testLDD/im93atm.xml |
| Test Results | Step 1: standard good message  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  java.lang.Exception: Error while getting targetNamespace of schema 'file:/Users/rchen/Desktop/test/testPrep/PDS4\_PDS\_1E00.bad.xsd': org.xml.sax.SAXParseException; systemId: file:/Users/rchen/Desktop/test/testPrep/PDS4\_PDS\_1E00.bad.xsd; lineNumber: 8416; columnNumber: 3; The element type "xs:annotation" must be terminated by the matching end-tag "</xs:annotation>".  Completed execution in 924 ms  Step 4: validate throws a normal java exception, plus eventually:  FAIL: file:/Users/rchen/Desktop/test/testLDD/im93atm.xml  ERROR [error.validation.internal\_error] Error executing validationTask: java.lang.NullPointerException  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  1 product validation(s) completed |
| Comments | Results met success criteria |
| Date of Testing | 2020.04.25 |
| Test Personnel | Richard Chen |

|  |  |
| --- | --- |
| Test Case ID | VAL.6 |
| Description | Test various capabilities described in release documents: |
| Requirements | PASS L5.PRP.VA.\*: |
| Success Criteria | Verify proper handling of identified issues |
| Test Steps | 1. cd /Users/rchen/Desktop/test/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 5. validate -R pds4.collection -t orex 6. 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   Validate large bundle.   1. date ; validate -x PDS4\_PDS\_1800.xsd -S PDS4\_PDS\_1800.sch -t ../contextPDS3 > validate.big.out ; date   Validate a remote bundle   1. validate -t https://sbnarchive.psi.edu/pds4/non\_mission/gbo.ast.jpl.radar.shape\_models\_V1\_0/   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 #test legal and illegal ASCII\_Real values 4. validate -t ccb226.xml #test microseconds 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 273 seconds to 24 seconds) #VAL#8 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 #validate a directory remotely 10. validate -t ccb226.xml   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 1.22.3  Date 2020-04-26T07:40:29Z  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  1 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/collection.xml  2 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/data/174P.xml  3 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/data/67P.xml  4 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/data/C2013A1.xml  5 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/data/29P.xml  6 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/data/C2004Q2.xml  7 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/data/116P.xml  8 product validation(s) completed  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'  9 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_documents/collection.xml  10 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  9 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.checksum\_mismatch  End of Report  Completed execution in 4969 ms  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; 3rd, three. Also, bundle’s LID mismatches collection’s, which mismatches one data product’s LID  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-27T06:28:52Z  Parameters:  Targets [file: /Users/rchen/Desktop/test/testPrep/vld\_415/]  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/vld\_415/bundle.xml  1 product validation(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/collection.xml  2 product validation(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/116P.xml  WARNING [warning.label.file\_ref\_case\_mismatch] File reference'/Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/116p.tab' exists but the case doesn't match  3 product validation(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/174P.xml  WARNING [warning.label.file\_ref\_case\_mismatch] File reference'/Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/174p.tab' exists but the case doesn't match  4 product validation(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/C2004Q2.xml  WARNING [warning.label.file\_ref\_case\_mismatch] File reference'/Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/C2004q2.tab' exists but the case doesn't match  5 product validation(s) completed  PDS4 Bundle Level Validation Results  FAIL: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/collection.xml  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:xxxx:yyyy:c2004q2 does not begin with required parent LID urn:nasa:pds:xxx:yyyy  1 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/116P.tab  WARNING [warning.file.not\_referenced\_in\_label] File is not referenced by any label  2 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/174P.tab  WARNING [warning.file.not\_referenced\_in\_label] File is not referenced by any label  3 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/C2004Q2.tab  WARNING [warning.file.not\_referenced\_in\_label] File is not referenced by any label  4 integrity check(s) completed  FAIL: file: /Users/rchen/Desktop/test/testPrep/vld\_415/bundle.xml  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:xxx:yyyy does not begin with required parent LID urn:nasa:pds:xx  5 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/116P.xml  6 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/C2004Q2.xml  7 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/174P.xml  8 integrity check(s) completed  Summary:  2 error(s)  6 warning(s)  Product Validation Summary:  5 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  6 check(s) passed  2 check(s) failed  0 check(s) skipped  Message Types:  2 error.integrity.missing\_parent\_prefix  3 warning.label.file\_ref\_case\_mismatch  3 warning.file.not\_referenced\_in\_label  End of Report  Completed execution in 5385 ms  Step 6: weird to use -R pds4.collection on a bundle. Warnings are reasonable  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-27T06:36:44Z  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  1 product validation(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/collection\_tagcams\_hkl0.xml  2 product validation(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/cruise\_1/20170815T164303S694\_ncm\_L0S.xml  3 product validation(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/ega/20170922T204112S269\_ncm\_L0S.xml  4 product validation(s) completed  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  1 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/collection\_tagcams\_hkl0.xml  2 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/ega/20170922T204112S269\_ncm\_L0S.xml  3 integrity check(s) completed  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  4 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/cruise\_1/20170815T164303S694\_ncm\_L0S.xml  5 integrity check(s) completed  Summary:  0 error(s)  2 warning(s)  Product Validation Summary:  4 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  5 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 warning.integrity.unreferenced\_member  1 warning.file.not\_referenced\_in\_label  End of Report  Completed execution in 6802 ms  Step 7: weird to use -R pds4. Bundle on a collection. Warnings are reasonable  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-27T06:41:59Z  Parameters:  Targets [file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/]  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/data\_hkl0/collection\_tagcams\_hkl0.xml  1 product validation(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/cruise\_1/20170815T164303S694\_ncm\_L0S.xml  2 product validation(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/ega/20170922T204112S269\_ncm\_L0S.xml  3 product validation(s) completed  PDS4 Bundle Level Validation Results  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/ega/20170922T204112S269\_ncm\_L0S.xml  WARNING [warning.integrity.unreferenced\_member] Identifier 'urn:nasa:pds:orex.tagcams:data\_hkl0:20170922t204112s269\_ncm\_l0s.dat::1.0' is not a member of any collection within the given target  1 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/cruise\_1/20170815T164303S694\_ncm\_L0S.xml  WARNING [warning.integrity.unreferenced\_member] Identifier 'urn:nasa:pds:orex.tagcams:data\_hkl0:20170815t164303s694\_ncm\_l0s.dat::1.0' is not a member of any collection within the given target  2 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/collection\_tagcams\_hkl0.xml  WARNING [warning.integrity.unreferenced\_member] Identifier 'urn:nasa:pds:orex.tagcams:data\_hkl0::1.0' is not a member of any bundle within the given target  3 integrity check(s) completed  Summary:  0 error(s)  3 warning(s)  Product Validation Summary:  3 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  3 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  3 warning.integrity.unreferenced\_member  End of Report  Completed execution in 6839 ms  Step 8:  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-27T06:52:59Z  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  1 product validation(s) completed  Summary:  2 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  2 error.table.field\_value\_data\_type\_mismatch  End of Report  Completed execution in 4442 ms  Step 9: standard good message because -D disallowed checking previous step’s data  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:  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-27T06:59:19Z  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  1 product validation(s) completed  Summary:  4 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  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  Completed execution in 7255 ms  Step 13: the output file actually shows validation errors (irrelevant to this test)  Mon Apr 27 00:02:34 PDT 2020  Mon Apr 27 00:11:04 PDT 2020  Step 14:  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-27T21:00:37Z  Parameters:  Targets [https://sbnarchive.psi.edu/pds4/non\_mission/gbo.ast.jpl.radar.shape\_models\_V1\_0]  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: https://sbnarchive.psi.edu/pds4/non\_mission/gbo.ast.jpl.radar.shape\_models\_V1\_0/bundle\_gbo.ast.jpl.radar.shape\_models.xml  1 product validation(s) completed  PASS: https://sbnarchive.psi.edu/pds4/non\_mission/gbo.ast.jpl.radar.shape\_models\_V1\_0/data/a2100\_spin\_state.xml  2 product validation(s) completed  FAIL: https://sbnarchive.psi.edu/pds4/non\_mission/gbo.ast.jpl.radar.shape\_models\_V1\_0/data/a2100rashalom.xml  Begin Content Validation: https://sbnarchive.psi.edu/pds4/non\_mission/gbo.ast.jpl.radar.shape\_models\_V1\_0/data/a2100rashalom.obj  ERROR [error.table.records\_mismatch] table 2: Number of records read is not equal to the defined number of records in the label (expected 3440, got 2292).  End Content Validation: https://sbnarchive.psi.edu/pds4/non\_mission/gbo.ast.jpl.radar.shape\_models\_V1\_0/data/a2100rashalom.obj  3 product validation(s) completed  [snip…]  Summary:  13 error(s)  0 warning(s)  Product Validation Summary:  41 product(s) passed  13 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  13 error.table.records\_mismatch  End of Report  Completed execution in 78406 ms  Step 15: standard good message  Step 16: standard good message  Step 17: Build 10b has made extra records an error.  PDS557SAYSSKIPTHISPARTOFDATAFILE  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-27T22:13:28Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/mlascirdr.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/mlascirdr.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/mlascirdr.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 2, got 3).  End Content Validation: file:/Users/rchen/Desktop/test/testPrep/mlascirdr.tab  1 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.table.records\_mismatch  End of Report  Completed execution in 4310 ms  Step 18: Warn that collection.csv contains a dangling LID (nosuchfile.obj )  total 6184  -rw-rw-r-- 1 rchen 1 Apr 20 2019 00ANOTHERDANGLER  total 24  -rw-rw-r-- 1 rchen 1 Apr 20 2019 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.  1 integrity check(s) completed  [snip]  Step 19: Line 1 of .csv is all good values; line 2 is half bad values  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T02:57:59Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/ccb213.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/ccb213.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/ccb213.csv  ERROR [error.table.field\_value\_data\_type\_mismatch] table 1, record 2, field 5: Value does not match its data type 'ASCII\_Real': '-15e99.99' does not match the pattern '(\+|-)?([0-9]+(\.[0-9]\*)?|\.[0-9]+)([Ee](\+|-)?[0-9]+)?'  ERROR [error.table.field\_value\_data\_type\_mismatch] table 1, record 2, field 6: Value does not match its data type 'ASCII\_Real': 'NaN' does not match the pattern '(\+|-)?([0-9]+(\.[0-9]\*)?|\.[0-9]+)([Ee](\+|-)?[0-9]+)?'  ERROR [error.table.field\_value\_data\_type\_mismatch] table 1, record 2, field 7: Value does not match its data type 'ASCII\_Real': -INF is not allowed  ERROR [error.table.field\_value\_data\_type\_mismatch] table 1, record 2, field 8: Value does not match its data type 'ASCII\_Real': '+.' does not match the pattern '(\+|-)?([0-9]+(\.[0-9]\*)?|\.[0-9]+)([Ee](\+|-)?[0-9]+)?'  ERROR [error.table.field\_value\_data\_type\_mismatch] table 1, record 2, field 9: Value does not match its data type 'ASCII\_Real': '-.' does not match the pattern '(\+|-)?([0-9]+(\.[0-9]\*)?|\.[0-9]+)([Ee](\+|-)?[0-9]+)?'  End Content Validation: file:/Users/rchen/Desktop/test/testPrep/ccb213.csv  1 product validation(s) completed  Summary:  5 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  5 error.table.field\_value\_data\_type\_mismatch  End of Report  Completed execution in 3771 ms  Step 20: Standard good message. 2016-12-31T23:59:60.555555Z ok in label and data  Step 21: Standard good message  …  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T03:13:18Z  [snip…]  End of Report  Completed execution in 23691 ms  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: Older versions hung. (this test works faster with quick failures)  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T03:19:21Z  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  1 product validation(s) completed  [snip…]  Summary:  1806 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1806 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1806 error.label.schema  End of Report  Completed execution in 1045722 ms  Step 26: Standard good message.  Step 27: I think complaining about insufficient digit is correct  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T03:22:31Z  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  ERROR [error.label.schematron] line 100, 26: If a validation\_format is present, its value must be equal to the value in field\_format  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  1 product validation(s) completed  Summary:  2 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.schematron  1 error.table.field\_value\_format\_precision\_mismatch  End of Report  Completed execution in 3975 ms |
| Comments | Results met success criteria. |
| Date of Testing | 2020.04.27 |
| Test Personnel | Richard Chen |

|  |  |
| --- | --- |
| Test Case ID | VAL.7 |
| Description | Test various capabilities described in release documents. |
| Requirements | PASS L5.PRP.VA.\*: |
| Success Criteria | Verify build 10a issues |
| Test Steps | 1. cd /Users/rchen/Desktop/test/testPrep 2. validate -t val15.xml #VAL#15 3. validate -t val87.xml # edit val87.catalog to point to local files 4. validate -C val87.catalog -t val87.xml #VAL#87 VAL#71 5. validate -C val87.catalog val87.xml #VAL#72 6. validate -c val84.cfg #VAL#84 VAL#74 7. validate -t val28.xml 8. validate --add-context-products val28.json -t val28.xml #VAL#28 9. validate -t val28.xml --skip-context-validation #VAL#47 10. validate -R pds4.bundle -t val30 >& v.out #VAL#29 VAL#30 VAL#39 11. validate -t val30/bundle\_\_insight\_ifg\_mars\_1.0.xml -f #VAL#23 12. validate -t val30/bundle\_\_insight\_ifg\_mars\_1.0.xml -m1D00 #VAL#23 13. validate -t val30/bundle\_\_insight\_ifg\_mars\_1.0.xml --no-data-check #VAL#133 14. validate -R pds4.bundle -t val30 --skip-content-validation #VAL#133 VAL#99 15. validate --target-manifest val50.list #VAL#50. Edit val50.lst if paths changed 16. diff val15.xml val62.xml 17. validate -t val62.xml #VAL#62 VAL#90 18. diff val9a.xml val9b.xml 19. validate -t val9a.xml 20. validate -t val9b.xml # VAL#9 VAL#170 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 #VAL#33 23. diff val28.json val107.json #VAL#107 24. validate -v1 --add-context-products val28.json -t val28.xml 25. validate -v1 --add-context-products val107.json -t val28.xml #VAL#28 26. echo $JAVA\_HOME #VAL#37. 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"   validate -t val55.xml # Note: error message “WARNING: An illegal reflective access operation has occurred” never appears. #VAL#55 VAL#95 |
| Test Results | Step 2: in 10a, standard good message. Eventually, error for incorrect name  Step 3:  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T04:59:37Z  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'.  1 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.schematron  End of Report  Completed execution in 5159 ms  Step 4: standard good message  Step 5: prevent -C from greediness  gov.nasa.pds.validate.commandline.options.InvalidOptionException: No files specified for validation. Check your paths and use -t flag to explicitly denote the set of target data.  Completed execution in 871 ms  Step 6: standard good message. specify schema and schematron via config file  Step 7: the .xml references a non-existent LID  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T05:23:18Z  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  1 product validation(s) completed  Summary  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.context\_ref\_not\_found  End of Report  Completed execution in 4376 ms  Step 8: the .json “defines” the non-existent LID. The WARNING is deliberate  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T05:25:19Z  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.  1 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val28.xml  2 product validation(s) completed  Summary:  0 error(s)  1 warning(s)  Product Validation Summary:  2 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 warning.product\_not\_registered  End of Report  Completed execution in 4298 ms  Step 9: Standard good message, i.e. no check for error.label.context\_ref\_not\_found  Step 10: v1.22.3 needed 17+ minutes for the 6.4GB bundle. v1.15.0 needed 51.  Steps 11-13: flags -f, -m --no-check-data deprecated (note: checksum warnings valid)  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T06:04:50Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val30/bundle\_\_insight\_ifg\_mars\_1.0.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/val30/bundle\_\_insight\_ifg\_mars\_1.0.xml  1 product validation(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  1 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  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.  Completed execution in 3906 ms  Step 14: --skip-content-validation works. 1+ minutes to execute  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T06:43:01Z  [snip…]  PASS: file:/Users/rchen/Desktop/test/testPrep/val30/data-ifg-calibrated/ifg\_cal\_SOL0041\_20190107T090652\_20190108T094626\_pt2Hz\_v01.xml  585 integrity check(s) completed  Summary:  179 error(s)  2 warning(s)  Product Validation Summary:  485 product(s) passed  98 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  581 check(s) passed  4 check(s) failed  0 check(s) skipped  Message Types:  98 error.label.checksum\_mismatch  78 error.integrity.missing\_parent\_prefix  2 error.file.name\_has\_invalid\_characters  1 error.table.records\_mismatch  2 warning.file.not\_referenced\_in\_label  End of Report  Completed execution in 84515 ms  Step 15:  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T06:51:00Z  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  1 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val30/document/PolymonialFits.xml  2 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val30/document/InSight\_IFG\_Data\_Calibration\_Description.xml  3 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val30/document/Insight\_IFG\_SIS.v1.1.xml  4 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val30/document/collection\_document\_1.0.xml  5 product validation(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  5 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  End of Report  Completed execution in 5732 ms  Step 16:  32c32  < <name>A Non-Shouting Name</name> <!-- RChen: error per val15; should be INSIGHT as of 2019.10 -->  ---  > <name>INSIGHT</name> <!-- RChen: as of 20191020-->  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>  Step 17: The ERRORs are correct. v1.14.0 would not have caught them  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T06:54:43Z  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  1 product validation(s) completed  Summary:  2 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  2 error.label.context\_ref\_not\_found  End of Report  Completed execution in 4527 ms  Step 18:  70c70  < <Table\_Character> <!-- val9: content validation should PASS on blank int -->  ---  > <Table\_Delimited> <!-- val9: content validation should FAIL on blank int -->  72a73  > <parsing\_standard\_id>PDS DSV 1</parsing\_standard\_id>  75c76,77  < <Record\_Character>  ---  > <field\_delimiter>Comma</field\_delimiter>  > <Record\_Delimited>  78,79c80  < <record\_length unit="byte">33</record\_length>  < <Field\_Character>  ---  > <Field\_Delimited>  82d82  < <field\_location unit="byte">1</field\_location>  84d83  < <field\_length unit="byte">17</field\_length>  86,87c85,86  < </Field\_Character>  < <Field\_Character>  ---  > </Field\_Delimited>  > <Field\_Delimited>  90d88  < <field\_location unit="byte">19</field\_location>  92d89  < <field\_length unit="byte">13</field\_length>  94,96c91,93  < </Field\_Character>  < </Record\_Character>  < </Table\_Character>  ---  > </Field\_Delimited>  > </Record\_Delimited>  > </Table\_Delimited>  Step 19: Error on last data line is correct  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T06:57:39Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val9a.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/val9a.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/val9.tab  ERROR [error.table.record\_length\_mismatch] table 1, record 5: Record does not equal the defined record length (expected 33, got 20).  ERROR [error.table.bad\_field\_read] table 1, record 5, field 2: Error while getting field value: offset 18, count 13, length 20  End Content Validation: file:/Users/rchen/Desktop/test/testPrep/val9.tab  1 product validation(s) completed  Summary:  2 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.table.record\_length\_mismatch  1 error.table.bad\_field\_read  End of Report  Completed execution in 4669 ms  Step 20: record 2 has int of spaces, bad for Table\_Delimited. Validate fails correctly  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T07:01:23Z  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 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  1 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.table.field\_value\_data\_type\_mismatch  End of Report  Completed execution in 4397 ms  Step 21:  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T07:02:40Z  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  1 product validation(s) completed  Summary:  6 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  3 error.label.context\_ref\_not\_found  2 error.label.schematron  1 error.label.schema  End of Report  Completed execution in 3804 ms  Step 22: validate -C warns error.catalog.unresolvable\_resource instead of quitting  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T07:09:17Z  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  1 product validation(s) completed  Summary:  6 error(s)  2 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  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  Completed execution in 3777 ms  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 1.22.3  Date 2020-04-28T07:12:04Z  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.  1 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val28.xml  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]'  2 product validation(s) completed  Summary:  0 error(s)  1 warning(s)  Product Validation Summary:  2 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 warning.product\_not\_registered  4 info.label.context\_ref\_mismatch  4 info.label.context\_ref\_found  1 info.label.context\_ref\_case\_mismatch  End of Report  Completed execution in 4432 ms  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.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]'  2 product validation(s) completed  Summary:  0 error(s)  1 warning(s)  Product Validation Summary:  2 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 warning.product\_not\_registered  4 info.label.context\_ref\_found  3 info.label.context\_ref\_mismatch  1 info.label.context\_ref\_case\_mismatch  End of Report  Completed execution in 3851 ms  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 1.22.3  Release Date: 2020-04-17 18:16:03  Copyright 2019, by the California Institute of Technology ("Caltech").  All rights reserved.  Step 32: One iteration of validate was not catching these 4 errors.  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T07:27:24Z  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  1 product validation(s) completed  Summary:  4 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  4 error.table.record\_length\_mismatch  End of Report  Completed execution in 3863 ms |
| Comments | Results met success criteria. |
| Date of Testing | 2020.04.28 |
| Test Personnel | Richard Chen |

|  |  |
| --- | --- |
| Test Case ID | VAL.8 |
| Description | Test various capabilities described in release 10b: |
| Requirements | PASS L5.PRP.VA.\*: |
| Success Criteria | Verify proper handling of build 10b issues. |
| Test Steps | 1. cd /Users/rchen/Desktop/test/testPrep 2. validate -t val56char.xml # VAL#56 3. validate -t val56bin.xml 4. validate --skip-content-validation -t val182.xml #VAL#175 VAL#182 VAL#183 5. validate --skip-content-validation -t val56char.xml #for VAL#135 6. validate -t val63.xml #VAL#63 7. validate -t val29 #also VAL#123 VAL#180 8. validate -t ../contextPDS3 #VAL#124 VAL#126 9. validate -t val217/d\*.xml val217/[ab]\*.xml # val#149 val#215 10. validate -t val217/\*.xml #VAL#208 needs d\*.xml to validate last 11. diff val178.xml val29/data\_raw/nmd\_raw\_sc\_uvis\_20200309T124117-20200309T143020-28-10231-1.xml 12. validate -t val178.xml; validate -D -t val178.xml; validate -t val29/data\_raw/nmd\_raw\_sc\_uvis\_20200309T124117-20200309T143020-28-10231-1.xml; validate -D -t val29/data\_raw/nmd\_raw\_sc\_uvis\_20200309T124117-20200309T143020-28-10231-1.xml #VAL#178 13. validate --spot-check-data 54 -t val29/data\_raw/nmd\_raw\_sc\_uvis\_20200309T124117-20200309T143020-28-10231-1.xml # VAL#165 14. validate -t val201.xml # VAL#201 15. validate -t val118 # VAL#118 16. validate -h # VAL#145 17. validate-bundle -n 1 -t /Users/rchen/Desktop/test/bundleLID/bundle\_1.xml -r validate\_20.txt # VAL#194. Same as VAL.3 step 4 plus -r option   tail validate\_20.txt; rm -r validate\_20\* |
| Test Results | Step 2: validate catches overlapping fields  PDS Validate Tool Report  Configuration:  Version 1.25.0-SNAPSHOT  Date 2020-12-04T22:50:15Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val56char.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 /Users/rchen/PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testPrep/val56char.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/val56char.tab  ERROR [error.table.field\_value\_overlap] table 1, record 1, field 2: This field overlaps the next field. Current field ends at 34. Next field starts at 21  ERROR [error.table.field\_value\_overlap] table 1, record 1, field 2: This field overlaps the next field. Current field ends at 35. Next field starts at 22  ERROR [error.table.records\_mismatch] table 1: Number of records read is not equal to the defined number of records in the label (expected 2, got 1).  End Content Validation: file:/Users/rchen/Desktop/test/testPrep/val56char.tab  1 product validation(s) completed  Summary:  3 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  2 error.table.field\_value\_overlap  1 error.table.records\_mismatch  End of Report  Completed execution in 4091 ms  Step 3:  PDS Validate Tool Report  Configuration:  Version 1.25.0-SNAPSHOT  Date 2020-12-04T22:54:24Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val56bin.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 /Users/rchen/PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testPrep/val56bin.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/val56bin.dat  ERROR [error.table.field\_value\_overlap] table 1, record 1, field 5: This field overlaps the next field. Current field ends at 39. Next field starts at 38  End Content Validation: file:/Users/rchen/Desktop/test/testPrep/val56bin.dat  1 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.table.field\_value\_overlap  End of Report  Completed execution in 3722 ms  Step 4: Standard good message. Validate 1.17.5 would check data anyway  Step 5: Standard good message. u:n:p:c:telescope:\* wasn’t in validate’s json input  Step 6: validate v1.17.5 allowed this, but validate#63 wanted it to be an error. Meh  PDS Validate Tool Report  Configuration:  Version 1.25.0-SNAPSHOT  Date 2020-12-04T22:59:23Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val63.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 /Users/rchen/PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testPrep/val63.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/val63.tab  ERROR [error.table.bad\_file\_read] table 1: ERROR: GroupFieldCharacter attribute group\_length is larger than size of contained fields: 32>20.  End Content Validation: file:/Users/rchen/Desktop/test/testPrep/val63.tab  1 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.table.bad\_file\_read  End of Report  Completed execution in 4173 ms  Step 7: val29: improve bundle performance, v1.15.0 took 269 seconds; val123: <1sec/100MB, big file is 673MB, so more like 1sec/20MB; val180: all threads completed even though 1 took much longer.  PDS Validate Tool Report  Configuration:  Version 1.25.0-SNAPSHOT  Date 2020-12-04T23:00:26Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val29/]  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 /Users/rchen/PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/testPrep/val29/bundle\_em16\_tgo\_nmd.xml  1 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val29/data\_pp/collection\_data\_partially\_processed.xml  2 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val29/data\_pp/nmd\_par\_sc\_uvis\_20200309T124104-20200309T143040-29-10231-1.xml  3 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val29/data\_raw/nmd\_raw\_sc\_uvis\_20200309T124117-20200309T143020-28-10231-1.xml  4 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val29/data\_raw/collection\_data\_raw.xml  5 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val29/data\_raw/nmd\_raw\_sc\_uvis\_20200309T124054-20200309T131745-27-10231-1.xml  6 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val29/data\_raw/nmd\_raw\_sc\_uvis\_20200309T124104-20200309T143040-29-10231-1.xml  7 product validation(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  7 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  End of Report  Completed execution in 55013 ms  Step 8: speed of validation without content validation here: 27302files/921seconds. In 10b, this was 747 seconds.  PDS Validate Tool Report  Configuration:  Version 1.25.0-SNAPSHOT  Date 2020-12-04T23:03:14Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/contextPDS3/]  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 /Users/rchen/PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/contextPDS3/Product\_Bundle\_1.0.xml  1 product validation(s) completed  ..  PASS: file:/Users/rchen/Desktop/test/contextPDS3/attribute/aaCollection\_1.0.xml  2 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/contextPDS3/attribute/Product/attribute\_da\_contact\_pds\_user\_id\_1.0.xml  3 product validation(s) completed  [snip…]  PASS: file:/Users/rchen/Desktop/test/contextPDS3/personnel/Product/guest\_IALEXEEV\_1.0.xml  27302 product validation(s) completed  Summary:  39 error(s)  0 warning(s)  Product Validation Summary:  27289 product(s) passed  13 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  26 error.table.field\_value\_data\_type\_mismatch  8 error.label.duplicate\_identifier  2 error.table.fields\_mismatch  2 error.label.schema  1 error.table.records\_mismatch  End of Report  Completed execution in 921465 ms  Step 9: Every data file is 3 records, and each data file has 3 labels pointing to it, with records = 2,3,4, so val#149 wants 15 warnings, 15 clean passes, and 15 fails.  PDS Validate Tool Report  Configuration:  Version 1.25.0-SNAPSHOT  Date 2020-12-04T23:24:48Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val217/delanc2.xml, file:/Users/rchen/Desktop/test/testPrep/val217/delanc3.xml, file:/Users/rchen/Desktop/test/testPrep/val217/delanc4.xml, file:/Users/rchen/Desktop/test/testPrep/val217/delbro2.xml, file:/Users/rchen/Desktop/test/testPrep/val217/delbro3.xml, file:/Users/rchen/Desktop/test/testPrep/val217/delbro4.xml, file:/Users/rchen/Desktop/test/testPrep/val217/delinv2.xml, file:/Users/rchen/Desktop/test/testPrep/val217/delinv3.xml, file:/Users/rchen/Desktop/test/testPrep/val217/delinv4.xml, file:/Users/rchen/Desktop/test/testPrep/val217/delmet2.xml, file:/Users/rchen/Desktop/test/testPrep/val217/delmet3.xml, file:/Users/rchen/Desktop/test/testPrep/val217/delmet4.xml, file:/Users/rchen/Desktop/test/testPrep/val217/delobs2.xml, file:/Users/rchen/Desktop/test/testPrep/val217/delobs3.xml, file:/Users/rchen/Desktop/test/testPrep/val217/delobs4.xml, file:/Users/rchen/Desktop/test/testPrep/val217/delsup2.xml, file:/Users/rchen/Desktop/test/testPrep/val217/delsup3.xml, file:/Users/rchen/Desktop/test/testPrep/val217/delsup4.xml, file:/Users/rchen/Desktop/test/testPrep/val217/ascanc2.xml, file:/Users/rchen/Desktop/test/testPrep/val217/ascanc3.xml, file:/Users/rchen/Desktop/test/testPrep/val217/ascanc4.xml, file:/Users/rchen/Desktop/test/testPrep/val217/ascbro2.xml, file:/Users/rchen/Desktop/test/testPrep/val217/ascbro3.xml, file:/Users/rchen/Desktop/test/testPrep/val217/ascbro4.xml, file:/Users/rchen/Desktop/test/testPrep/val217/ascmet2.xml, file:/Users/rchen/Desktop/test/testPrep/val217/ascmet3.xml, file:/Users/rchen/Desktop/test/testPrep/val217/ascmet4.xml, file:/Users/rchen/Desktop/test/testPrep/val217/ascobs2.xml, file:/Users/rchen/Desktop/test/testPrep/val217/ascobs3.xml, file:/Users/rchen/Desktop/test/testPrep/val217/ascobs4.xml, file:/Users/rchen/Desktop/test/testPrep/val217/ascsup2.xml, file:/Users/rchen/Desktop/test/testPrep/val217/ascsup3.xml, file:/Users/rchen/Desktop/test/testPrep/val217/ascsup4.xml, file:/Users/rchen/Desktop/test/testPrep/val217/binanc2.xml, file:/Users/rchen/Desktop/test/testPrep/val217/binanc3.xml, file:/Users/rchen/Desktop/test/testPrep/val217/binanc4.xml, file:/Users/rchen/Desktop/test/testPrep/val217/binbro2.xml, file:/Users/rchen/Desktop/test/testPrep/val217/binbro3.xml, file:/Users/rchen/Desktop/test/testPrep/val217/binbro4.xml, file:/Users/rchen/Desktop/test/testPrep/val217/binobs2.xml, file:/Users/rchen/Desktop/test/testPrep/val217/binobs3.xml, file:/Users/rchen/Desktop/test/testPrep/val217/binobs4.xml, file:/Users/rchen/Desktop/test/testPrep/val217/binsup2.xml, file:/Users/rchen/Desktop/test/testPrep/val217/binsup3.xml, file:/Users/rchen/Desktop/test/testPrep/val217/binsup4.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 /Users/rchen/PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/delanc2.xml  1 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/delanc3.xml  2 product validation(s) completed  FAIL: file:/Users/rchen/Desktop/test/testPrep/val217/delanc4.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/val217/del.csv  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/testPrep/val217/del.csv  3 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/delbro2.xml  4 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/delbro3.xml  5 product validation(s) completed  FAIL: file:/Users/rchen/Desktop/test/testPrep/val217/delbro4.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/val217/del.csv  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/testPrep/val217/del.csv  6 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/delinv2.xml  7 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/delinv3.xml  8 product validation(s) completed  FAIL: file:/Users/rchen/Desktop/test/testPrep/val217/delinv4.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/val217/delinv.csv  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/testPrep/val217/delinv.csv  9 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/delmet2.xml  10 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/delmet3.xml  11 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/delmet4.xml  12 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/delobs2.xml  13 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/delobs3.xml  14 product validation(s) completed  FAIL: file:/Users/rchen/Desktop/test/testPrep/val217/delobs4.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/val217/del.csv  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/testPrep/val217/del.csv  15 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/delsup2.xml  16 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/delsup3.xml  17 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/delsup4.xml  18 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/ascanc2.xml  19 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/ascanc3.xml  20 product validation(s) completed  FAIL: file:/Users/rchen/Desktop/test/testPrep/val217/ascanc4.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/val217/asc.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/testPrep/val217/asc.tab  21 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/ascbro2.xml  22 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/ascbro3.xml  23 product validation(s) completed  FAIL: file:/Users/rchen/Desktop/test/testPrep/val217/ascbro4.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/val217/asc.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/testPrep/val217/asc.tab  24 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/ascmet2.xml  25 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/ascmet3.xml  26 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/ascmet4.xml  27 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/ascobs2.xml  28 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/ascobs3.xml  29 product validation(s) completed  FAIL: file:/Users/rchen/Desktop/test/testPrep/val217/ascobs4.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/val217/asc.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/testPrep/val217/asc.tab  30 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/ascsup2.xml  31 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/ascsup3.xml  32 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/ascsup4.xml  33 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/binanc2.xml  34 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/binanc3.xml  35 product validation(s) completed  FAIL: file:/Users/rchen/Desktop/test/testPrep/val217/binanc4.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/val217/bin.dat  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/testPrep/val217/bin.dat  36 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/binbro2.xml  37 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/binbro3.xml  38 product validation(s) completed  FAIL: file:/Users/rchen/Desktop/test/testPrep/val217/binbro4.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/val217/bin.dat  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/testPrep/val217/bin.dat  39 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/binobs2.xml  40 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/binobs3.xml  41 product validation(s) completed  FAIL: file:/Users/rchen/Desktop/test/testPrep/val217/binobs4.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/val217/bin.dat  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/testPrep/val217/bin.dat  42 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/binsup2.xml  43 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/binsup3.xml  44 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val217/binsup4.xml  45 product validation(s) completed  Summary:  10 error(s)  0 warning(s)  Product Validation Summary:  35 product(s) passed  10 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  10 error.table.records\_mismatch  End of Report  Completed execution in 12908 ms  Step 10: should be the same as the previous step, but val#208 shows an extra error  [snip…]  FAIL: file:/Users/rchen/Desktop/test/testPrep/val217/delanc2.xml  Begin Schema: https://pds.nasa.gov/pds4/rings/v1/PDS4\_RINGS\_1D00\_1900.xsd  ERROR [error.label.schema] line 1059, 78: src-resolve: Cannot resolve the name 'pds:Units\_of\_Gmass' to a(n) 'type definition' component.  ERROR [error.label.schema] line 1059, 78: src-resolve: Cannot resolve the name 'pds:Units\_of\_Gmass' to a(n) 'simpleType definition' component.  ERROR [error.label.schema] line 167, 74: src-resolve: Cannot resolve the name 'pds:local\_identifier' to a(n) 'element declaration' component.  ERROR [error.label.schema] line 183, 78: src-resolve: Cannot resolve the name 'pds:local\_identifier' to a(n) 'element declaration' component.  [snip…]  Step 11: the two products have equal width, widely different length  85c85  < <file\_name>val178.tab</file\_name>  ---  > <file\_name>nmd\_raw\_sc\_uvis\_20200309T124117-20200309T143020-28-10231-1.tab</file\_name>  89,90c89,90  < <records>2</records>  < <!--md5\_checksum>cb9114bd570918b94c612243796a8ea9</md5\_checksum-->  ---  > <records>4266</records>  > <md5\_checksum>cb9114bd570918b94c612243796a8ea9</md5\_checksum>  96c96  < <records>2</records>  ---  > <records>4266</records>  Step 12: val178: Improve performance with content validation off  Short file normal, with -D: 4225 ms, 3732 ms  Long file normal, with -D: 44937 ms, 5271 ms  Step 13: all standard good message  Step 14: this fails correctly. Val#201 inhibited checking  Step 15: VAL#118: at bottom, 311 errors = 228+74+8+1, 2 warnings  PDS Validate Tool Report  Configuration:  Version 1.25.0-SNAPSHOT  Date 2020-12-04T23:33:53Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val118/]  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 /Users/rchen/PDS4tools/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/Users/rchen/Desktop/test/testPrep/val118/bundle\_voroelden.xml  ERROR [error.label.schema] line 44, 37: cvc-complex-type.2.4.a: Invalid content was found starting with element '{"http://pds.nasa.gov/pds4/pds/v1":Internal\_Reference}'. One of '{"http://pds.nasa.gov/pds4/pds/v1":External\_Reference}' is expected.  ERROR [error.label.schema] line 56, 37: cvc-complex-type.2.4.a: Invalid content was found starting with element '{"http://pds.nasa.gov/pds4/pds/v1":Internal\_Reference}'. One of '{"http://pds.nasa.gov/pds4/pds/v1":External\_Reference}' is expected.  ERROR [error.label.context\_ref\_not\_found] line 53: 'Context product not found: urn:nasa:pds:context:instrument:vo1.rss  ERROR [error.label.context\_ref\_not\_found] line 57: 'Context product not found: urn:nasa:pds:context:instrument:vo2.rss  1 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val118/context/collection\_context\_voroelden.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  2 product validation(s) completed  [snip…]  FAIL: file:/Users/rchen/Desktop/test/testPrep/val118/data/voroelden\_1\_508\_a\_v01\_r00.xml  ERROR [error.label.context\_ref\_not\_found] line 30: 'Context product not found: urn:nasa:pds:context:investigation:mission.TBD  ERROR [error.label.context\_ref\_not\_found] line 40: 'Context product not found: urn:nasa:pds:context:instrument\_host:spacecraft.TBD  ERROR [error.label.context\_ref\_not\_found] line 48: 'Context product not found: urn:nasa:pds:context:instrument:TBD.TBD  79 product validation(s) completed  Summary:  311 error(s)  2 warning(s)  Product Validation Summary:  1 product(s) passed  78 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  228 error.label.context\_ref\_not\_found  74 error.table.missing\_CRLF  8 error.label.schema  1 error.label.duplicate\_identifier  2 warning.label.missing\_schematron\_spec  End of Report  Completed execution in 11271 ms  Step 16: val145: good description of --spot-check-data  usage: validate <target> <options>  [snip…]  --spot-check-data <num> Tool only checks every nth record or  line and skips the rest during data  content validation.  [snip…]  Step 17: Similar output to VAL.3 step 4  Step 18:  >>>>>>>>>>>>>>> OVERALL SUMMARY:  Summary:  12 error(s)  4 warnings(s)  End of Report  <<<<<<<<<<<<<<< |
| Comments | Minor bugs:  Step 10: [val#188](https://github.com/NASA-PDS/validate/issues/208) (was #208) is not fixed, but the scenario is unlikely since the labels have more divergent namespaces than bundles typically have  Step 9: [val#217](https://github.com/NASA-PDS/validate/issues/217): validate misses all 15 warnings and 5 errors for uncommon tables: - Table\_Delimited in Product\_Metadata\_Supplemental  - Table\_Delimited in Product\_Observational/File\_Area\_Observational\_Supplemental  - Table\_Character in Product\_Metadata\_Supplemental  - Table\_Character in Product\_Observational/File\_Area\_Observational\_Supplemental  - Table\_Binary in Product\_Observational/File\_Area\_Observational\_Supplemental |
| Date of Testing | 2020.12.04 |
| Test Personnel | Richard Chen |

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| --- | --- |
| Test Case ID | VAL.9 |
| Description | Improvement: Reduce error messages for overlapping fields |
| Requirements | FAIL validate#222: Reduce error messages for overlapping fields |
| Success Criteria | Tested by existing 29P.xml |
| Test Steps | Validate –t 29P.xml |
| Test Results | Still displaying 1209 errors  ds at 178. Next field starts at 169  ERROR [error.table.field\_value\_overlap] table 1, record 1204, field 16: This field overlaps the next field. Current field ends at 178. Next field starts at 169  ERROR [error.table.field\_value\_overlap] table 1, record 1205, field 16: This field overlaps the next field. Current field ends at 178. Next field starts at 169  ERROR [error.table.field\_value\_overlap] table 1, record 1206, field 16: This field overlaps the next field. Current field ends at 178. Next field starts at 169  ERROR [error.table.field\_value\_overlap] table 1, record 1207, field 16: This field overlaps the next field. Current field ends at 178. Next field starts at 169  ERROR [error.table.field\_value\_overlap] table 1, record 1208, field 16: This field overlaps the next field. Current field ends at 178. Next field starts at 169  ERROR [error.table.field\_value\_overlap] table 1, record 1209, field 16: This field overlaps the next field. Current field ends at 178. Next field starts at 169  End Content Validation: file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/29P.tab  1 product validation(s) completed  Summary:  1209 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1209 error.table.field\_value\_overlap  End of Report  Completed execution in 15132 ms |
| Comments | Fail: no reduction in error messages |
| Date of Testing | 2020.11.20 |
| Test Personnel | Gary Chen |

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| --- | --- |
| Test Case ID | VAL.10 |
| Description | Improvement: Validate Table\_Character groups and their specified lengths match the specified group\_length |
| Requirements | PASS validate#63: Validate Table\_Character groups and their specified lengths match the specified group\_length |
| Success Criteria | Tested by existing val63.xml |
| Test Steps | validate -t val63.xml |
| Test Results | PDS Validate Tool Report  Configuration:  Version 1.24.0  Date 2020-11-20T05:09:36Z  Parameters:  Targets [file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val63.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 /home/gxchen/pds-test/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val63.xml  Begin Content Validation: file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val63.tab  ERROR [error.table.bad\_file\_read] table 1: ERROR: GroupFieldCharacter attribute group\_length is larger than size of contained fields: 32>20.  End Content Validation: file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val63.tab  1 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.table.bad\_file\_read  End of Report  Completed execution in 13871 ms |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.20 |
| Test Personnel | Gary Chen |

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| Test Case ID | VAL.11 |
| Description | Improvement: Validate Table\_Character groups and their specified lengths match the specified group\_length |
| Requirements | PASS validate#63: Validate Table\_Character groups and their specified lengths match the specified group\_length |
| Success Criteria | Tested by existing val63.xml |
| Test Steps | validate -t val63.xml |
| Test Results | PDS Validate Tool Report  Configuration:  Version 1.24.0  Date 2020-11-20T05:09:36Z  Parameters:  Targets [file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val63.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 /home/gxchen/pds-test/validate/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val63.xml  Begin Content Validation: file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val63.tab  ERROR [error.table.bad\_file\_read] table 1: ERROR: GroupFieldCharacter attribute group\_length is larger than size of contained fields: 32>20.  End Content Validation: file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val63.tab  1 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.table.bad\_file\_read  End of Report  Completed execution in 13871 ms |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.20 |
| Test Personnel | Gary Chen |

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| --- | --- |
| Test Case ID | VAL.12 |
| Description | Defect: Validate incorrectly fails ASCII\_Integer field that is space-padded (empty) in Table\_Character |
| Requirements | PASS validate#206: Validate incorrectly fails ASCII\_Integer field that is space-padded (empty) in Table\_Character |
| Success Criteria | Find Table\_Character with ASCII\_Integer. Set value to blank. Should pass |
| Test Steps | Space pad field\_number to “ 1” in ascanc2a.xml  Validate –t ascanc2a.xml |
| Test Results | PDS Validate Tool Report  Configuration:  Version 1.24.0  Date 2020-11-20T05:46:57Z  Parameters:  Targets [file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val217/ascanc2a.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 /home/gxchen/pds-test/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val217/ascanc2a.xml  1 product validation(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  1 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  End of Report  Completed execution in 12276 ms |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.20 |
| Test Personnel | Gary Chen |

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| Test Case ID | VAL.13 |
| Description | Defect: validate v1.22.3 has large performance degradation on products with many tables |
| Requirements | NOTYET validate#219: validate v1.22.3 has large performance degradation on products with many tables |
| Success Criteria | Create a label with 1000s of tables. Watch performance |
| Test Steps |  |
| Test Results |  |
| Comments |  |
| Date of Testing |  |
| Test Personnel |  |

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| Test Case ID | VAL.14 |
| Description | Defect: Incorrect validation of number of records |
| Requirements | PASS validate#220: Incorrect validation of number of records |
| Success Criteria | Mostly tested by existing val217/\*.xml, but also test the file attached to the issue by radiosci |
| Test Steps | validate -t val220/a17\_sep\_dr005507\_f00001.xml |
| Test Results | PDS Validate Tool Report  Configuration:  Version 1.24.0  Date 2020-11-20T05:52:38Z  Parameters:  Targets [file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val220/a17\_sep\_dr005507\_f00001.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 /home/gxchen/pds-test/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val220/a17\_sep\_dr005507\_f00001.xml  1 product validation(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  1 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  End of Report  Completed execution in 13591 ms |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.20 |
| Test Personnel | Gary Chen |

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| Test Case ID | VAL.15 |
| Description | Defect: Product validation does not detect the number of table records correctly for Table + Array object |
| Requirements | PASS validate#233: Product validation does not detect the number of table records correctly for Table + Array object |
| Success Criteria | Test on the data attached to this issue, another variant of val217/val220. |
| Test Steps | validate -t val233/pan\_raw\_sc\_h\_observation\_20190819t110731.737z.xml --skip-context-validation |
| Test Results | PDS Validate Tool Report  Configuration:  Version 1.24.0  Date 2020-11-20T05:56:28Z  Parameters:  Targets [file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val233/pan\_raw\_sc\_h\_observation\_20190819t110731.737z.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 /home/gxchen/pds-test/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val233/pan\_raw\_sc\_h\_observation\_20190819t110731.737z.xml  1 product validation(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  1 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  End of Report  Completed execution in 16512 ms |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.20 |
| Test Personnel | Gary Chen |

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| Test Case ID | VAL.16 |
| Description | Defect: Software raises a field\_value\_overlap error on Table\_Binary Packed data fields |
| Requirements | PASS validate#177: Software raises a field\_value\_overlap error on Table\_Binary Packed data fields |
| Success Criteria | In any case, test on the data attached to this issue. |
| Test Steps | validate -t val177/wis\_raw\_sc\_20190823T054442.746Z.xml |
| Test Results | PDS Validate Tool Report  Configuration:  Version 1.24.0  Date 2020-11-20T05:59:17Z  Parameters:  Targets [file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val177/wis\_raw\_sc\_20190823T054442.746Z.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 /home/gxchen/pds-test/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val177/wis\_raw\_sc\_20190823T054442.746Z.xml  1 product validation(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  1 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  End of Report  Completed execution in 16635 ms |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.20 |
| Test Personnel | Gary Chen |

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| Test Case ID | VAL.17 |
| Description | Defect: Validate gives incorrect records mismatch WARNING for interleaved data objects |
| Requirements | PASS validate#234: Validate gives incorrect records mismatch WARNING for interleaved data objects |
| Success Criteria | Test on the data attached to this issue. |
| Test Steps | 1. cd testPrep 2. validate –t val234/1070135a.xml   validate GRV\_JUGR\_2016001\_2016292\_10\_V01.xml |
| Test Results | Step 2:  PDS Validate Tool Report  Configuration:  Version 1.24.0  Date 2020-11-20T06:06:05Z  Parameters:  Targets [file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val234/i070135a.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 /home/gxchen/pds-test/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val234/i070135a.xml  1 product validation(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  1 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  End of Report  Completed execution in 15373 ms  Step 3:  PDS Validate Tool Report  Configuration:  Version 1.24.0  Date 2020-11-20T06:08:43Z  Parameters:  Targets [file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val234/GRV\_JUGR\_2016001\_2016292\_10\_V01.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 /home/gxchen/pds-test/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val234/GRV\_JUGR\_2016001\_2016292\_10\_V01.xml  1 product validation(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  1 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  End of Report  Completed execution in 50058 ms |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.20 |
| Test Personnel | Gary Chen |

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| Test Case ID | VAL.18 |
| Description | Defect: validate 1.24.0-SNAPSHOT chokes on a probably good file |
| Requirements | PASS validate#243: validate 1.24.0-SNAPSHOT chokes on a probably good file |
| Success Criteria | Test on attached data. Another variant of 217/220? Might not be fixed |
| Test Steps | validate -t val243/x.xml |
| Test Results | PDS Validate Tool Report  Configuration:  Version 1.24.0  Date 2020-11-20T06:13:44Z  Parameters:  Targets [file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val243/x.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 /home/gxchen/pds-test/validate/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/home/gxchen/pds-test/testbuild10b-org/PDS4test.build10b/testPrep/val243/x.xml  1 product validation(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  1 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  End of Report  Completed execution in 24899 ms |
| Comments | Results met success criteria. |
| Date of Testing | 2020.11.20 |
| Test Personnel | Gary Chen |

### Testing of New/Modified Modules on Linux

These tests mainly demonstrate platform independence, so Description, Requirements, and Success Criteria have been removed from each test, while Test Case ID and Test Steps are unchanged except for directory specifications. The browser may need to be run through X Windows to access http://localhost

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| Test Case ID | DEEP.1 |
| Test Steps | If user’s shell is bash not csh, remove “.csh” from step 2   1. cd /home/rchen/test/testDeep 2. source $HOME/.virtualenvs/pds-deep-archive/bin/activate.csh 3. pds-deep-archive -s PDS\_RNG -b https://rings.anything/xxxx uranus\_occ\_support/bundle.xml 4. validate -t uranus\_occ\_support\_v1.0\_aip\_v1.0.xml 5. validate -t uranus\_occ\_support\_v1.0\_sip\_v1.0.xml   You could check that the generated .tab files list the files in the directory. I’m too lazy.   1. find uranus\_occ\_support -type f | wc 2. wc \*tab 3. grep records \*xml   rm uranus\_occ\_support\_\* |
| Test Results | Step 2: prompt changes to  [pds-deep-archive] pds-int.jpl.nasa.gov:/home/rchen>  Step 3:  INFO 👟 PDS Deep Archive, version 0.1.0  INFO 🏃‍♀️ Starting AIP generation for uranus\_occ\_support/bundle.xml  INFO 🎉 Success! AIP done, files generated:  INFO • Checksum manifest: uranus\_occ\_support\_v1.0\_checksum\_manifest\_v1.0.tab  INFO • Transfer manifest: uranus\_occ\_support\_v1.0\_transfer\_manifest\_v1.0.tab  INFO • XML label for them both: uranus\_occ\_support\_v1.0\_aip\_v1.0.xml  WARNING 🤚 Notice! --include-all-collections isn't yet supported; will assume it's enabled for now  INFO 🏃‍♀️ Starting SIP generation for uranus\_occ\_support/bundle.xml  INFO 🎉 Success! From /home/rchen/test/testDeep/uranus\_occ\_support/bundle.xml, generated these output files:  INFO • SIP Manifest: uranus\_occ\_support\_v1.0\_sip\_v1.0.tab  INFO • XML label for the SIP: uranus\_occ\_support\_v1.0\_sip\_v1.0.xml  INFO 👋 That's it! Thanks for making an AIP and SIP with us today. Bye!  Step 4:  PDS Validate Tool Report  Configuration:  Version 1.22.4  Date 2020-05-07T05:56:23Z  Parameters:  Targets [file:/home/rchen/test/testDeep/uranus\_occ\_support\_v1.0\_aip\_v1.0.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 /home/rchen/test/validate-1.22.4/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/home/rchen/test/testDeep/uranus\_occ\_support\_v1.0\_aip\_v1.0.xml  1 product validation(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  1 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  End of Report  Completed execution in 12692 ms  Step 5: standard good message, like step 4  Step 6: This and the next two steps show 28 files should be in the manifest  28 28 1798  Step 7:  28 56 2218 uranus\_occ\_support\_v1.0\_checksum\_manifest\_v1.0.tab  28 112 5630 uranus\_occ\_support\_v1.0\_sip\_v1.0.tab  28 56 14336 uranus\_occ\_support\_v1.0\_transfer\_manifest\_v1.0.tab  84 224 22184 total  Step 8:  uranus\_occ\_support\_v1.0\_aip\_v1.0.xml: <records>28</records>  uranus\_occ\_support\_v1.0\_aip\_v1.0.xml: <records>28</records>  uranus\_occ\_support\_v1.0\_aip\_v1.0.xml: <records>28</records>  uranus\_occ\_support\_v1.0\_sip\_v1.0.xml: <records>28</records>  uranus\_occ\_support\_v1.0\_sip\_v1.0.xml: <records>28</records> |
| Comments | Results met success criteria. |
| Date of Testing | 2020.05.06 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.1 |
| Test Steps | 1. Clean database as described in HVT.0 2. cd /home/rchen/test 3. harvest -c bundle\_geo\_ra.cfg -o /tmp/harvOut 4. In browser, <http://localhost:8983/solr/#/registry/collection-overview>, hit “Query”, then button “Execute Query” 5. registry-manager load-data -filePath /tmp/harvOut 6. Repeat step 4   Show update of registered artifacts   1. In same browser, in box q, replace \*:\* with lid:urn\:nasa\:pds\:phx\_ra Hit button “Execute Query” 2. gunzip bundle\_geo\_ra/bundle\_weird.xml.gz 3. diff bundle\_geo\_ra/bundle.xml bundle\_geo\_ra/bundle\_weird.xml 4. gzip bundle\_geo\_ra/bundle.xml 5. Repeat step 3 6. Repeat step 5 7. Repeat step 7. Note new title matches diff’s result 8. gzip bundle\_geo\_ra/bundle\_weird.xml; gunzip bundle\_geo\_ra/bundle.xml.gz   Show deletion of registered artifacts   1. registry-manager delete-data -lid urn:nasa:pds:phx\_ra 2. Repeat step 7 3. registry-manager delete-data -all   Repeat step 4 |
| Test Results | Step 3:  2020-05-06 23:03:27 [INFO] Logging to /tmp/harvest/harvest.log  2020-05-06 23:03:27 [INFO] Starting product crawler...  2020-05-06 23:03:27 [INFO] Reading configuration from bundle\_geo\_ra.cfg  2020-05-06 23:03:28 [INFO] Will write Solr docs to /tmp/harvOut  2020-05-06 23:03:28 [INFO] Processing file /home/rchen/test/bundle\_geo\_ra/context/spacecraft.phx\_1.1.xml  [snip…]  2020-05-06 23:03:31 [INFO] Processing file /home/rchen/test/bundle\_geo\_ra/xml\_schema/collection.xml  2020-05-06 23:03:31 [INFO] Summary:  2020-05-06 23:03:31 [INFO] Skipped files: 0  2020-05-06 23:03:31 [INFO] Processed files: 173  2020-05-06 23:03:31 [INFO] File counts by type:  2020-05-06 23:03:31 [INFO] Product\_Browse: 38  2020-05-06 23:03:31 [INFO] Product\_Bundle: 1  2020-05-06 23:03:31 [INFO] Product\_Collection: 5  2020-05-06 23:03:31 [INFO] Product\_Context: 4  2020-05-06 23:03:31 [INFO] Product\_Document: 4  2020-05-06 23:03:31 [INFO] Product\_Observational: 120  2020-05-06 23:03:31 [INFO] Product\_XML\_Schema: 1  2020-05-06 23:03:31 [INFO] Package ID: 10f0dc4a-9886-4318-a6c9-3137a8acb86e  Step 4: little output. Note "response":{"numFound":0  Step 5:  Loading file: /tmp/harvOut/solr-docs.xml  Done  Step 6: Note "response":{"numFound":173  Step 7:  Step 9:  12c12  < <title>Phoenix Robotic Arm Data Set</title>  ---  > <title>Phoenix Robotic Arm Data Set WEIRD</title>  Step 11: Output just like Step 3’s except a different last line  2020-05-06 23:14:17 [INFO] Package ID: 6e00d0dd-a7c6-4cf7-a074-c745823934f0  Step 13: Note the “WEIRD” in title    Step 15:  Deleted 1 document(s)  Step 16:  Step 17:  Deleted 172 document(s)  Step 18: little output. Note "response":{"numFound":0 |
| Comments | Results met success criteria |
| Date of Testing | 2020.05.06 |
| Test Personnel | Richard Chen |

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| Test Case ID | HVT.2 |
| Test Steps | 1. Clean database as described in HVT.0 2. cd /home/rchen/test 3. harvest -c testHvt/hvt22a.cfg -o /tmp/harvOut # hvt#22 4. registry-manager load-data -filePath /tmp/harvOut 5. harvest -c testHvt/hvt22b.cfg -o /tmp/harvOut 6. registry-manager load-data -filePath /tmp/harvOut 7. registry-manager load-data -help #part 2 of regAp#27   run HVT.1 on a Windows machine #regAp#37 and regAp#42 |
| Test Results | Step 3: this required first editing testHvt/\*.cfg to set the path correctly  2020-05-06 23:28:19 [INFO] Logging to /tmp/harvest/harvest.log  2020-05-06 23:28:19 [INFO] Starting product crawler...  2020-05-06 23:28:19 [INFO] Reading configuration from testHvt/hvt22a.cfg  2020-05-06 23:28:19 [INFO] Will write Solr docs to /tmp/harvOut  2020-05-06 23:28:20 [INFO] Processing file /home/rchen/test/testHvt/hvt22a/hvt22.xml  2020-05-06 23:28:20 [INFO] Processing file /home/rchen/test/testHvt/hvt22a/hvt22.bad.xml  2020-05-06 23:28:20 [INFO] Summary:  2020-05-06 23:28:20 [INFO] Skipped files: 0  2020-05-06 23:28:20 [INFO] Processed files: 2  2020-05-06 23:28:20 [INFO] File counts by type:  2020-05-06 23:28:20 [INFO] Product\_Ancillary: 2  2020-05-06 23:28:20 [INFO] Package ID: 2861715e-437f-4646-8fe5-0e74697c09cf  Step 4: should fail because the bad label has no VID  Loading file: /tmp/harvOut/solr-docs.xml  ERROR: Error from server at http://localhost:8983/solr: ERROR: [doc=urn:nasa:pds:uranus\_occ\_support:data:badvid::] Error adding field 'vid'='' msg=empty String  Step 5:  2020-05-06 23:30:05 [INFO] Logging to /tmp/harvest/harvest.log  2020-05-06 23:30:05 [INFO] Starting product crawler...  2020-05-06 23:30:05 [INFO] Reading configuration from testHvt/hvt22b.cfg  2020-05-06 23:30:06 [INFO] Will write Solr docs to /tmp/harvOut  2020-05-06 23:30:06 [INFO] Processing file /home/rchen/test/testHvt/hvt22b/hvt22.xml  2020-05-06 23:30:06 [INFO] Processing file /home/rchen/test/testHvt/hvt22b/hvt22.bad.xml  2020-05-06 23:30:07 [INFO] Summary:  2020-05-06 23:30:07 [INFO] Skipped files: 0  2020-05-06 23:30:07 [INFO] Processed files: 2  2020-05-06 23:30:07 [INFO] File counts by type:  2020-05-06 23:30:07 [INFO] Product\_Ancillary: 2  2020-05-06 23:30:07 [INFO] Package ID: 6d2d786f-149b-41e0-8283-96d83fc13a5f  Step 6: should fail because the bad label has no LID.  Loading file: /tmp/harvOut/solr-docs.xml  Done  Step 7:  Load data into registry collection  Options:  -filePath <path> An XML file or a directory to load. This is a required parameter.  -solrUrl <url> Solr URL. Default is http://localhost:8983/solr  -zkHost <host> ZooKeeper connection string, <host:port>[,<host:port>][/path]  For example, zk1:2181,zk2:2181,zk3:2181/solr  Step 8: unnecessary |
| Comments | Results met success criteria. |
| Date of Testing | 2020.05.06 |
| Test Personnel | Richard Chen |

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| Test Case ID | SCMA.2 |
| Test Steps | 1. cd /home/rchen/test/testLDD 2. validate -x ../PDS4\_PDS\_1E00.xsd -S ../PDS4\_PDS\_1E00.sch -t ccb235a.xml 3. validate -x ../PDS4\_PDS\_1E00.xsd -S ../PDS4\_PDS\_1E00.sch -t ccb235lddinput.xml 4. lddtool -pl ccb235lddinput.xml 5. validate -x ../PDS4\_PDS\_1E00.xsd PDS4\_INSIGHT\_1E00\_1E00.xsd -S ../PDS4\_PDS\_1E00.sch PDS4\_INSIGHT\_1E00\_1E00.sch -t ccb235a.xml   rm PDS4\_INSIGHT\_1E00\_1E00.\* |
| Test Results | Step 2:  PDS Validate Tool Report  Configuration:  Version 1.22.4  Date 2020-05-07T16:50:46Z  Parameters:  Targets [file:/home/rchen/test/testLDD/ccb235a.xml]  User Specified Schemas [file:/home/rchen/test/PDS4\_PDS\_1E00.xsd]  User Specified Schematrons [file:/home/rchen/test/PDS4\_PDS\_1E00.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 /home/rchen/test/validate-1.22.4/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/home/rchen/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'.  1 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.schema  End of Report  Completed execution in 11035 ms  Step 3: Standard good message  Step 4:  >>info - LDDTOOL Version: 11.2.2  >>info - IM Version Id: 1.14.0.0  >>info - IM Namespace Id: pds  >>info - IM Label Version Id: 1.20  >>info - Date: Thu May 07 09:53:07 PDT 2020  >>info - JAVAHOME: /home/rchen/test/jdk-11.0.6+10  >>info - PARENT\_DIR: /home/rchen/test/lddtool-11.2.2  >>info - SCRIPT\_DIR: /home/rchen/test/lddtool-11.2.2/bin  >>info - LIB\_DIR: /home/rchen/test/lddtool-11.2.2/lib  >>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 - Set LDDToolSingletonClass - DMDocument.LDDToolSingletonDOMClass.title:USER  WARNING Init: - Config.Properties Namespace Id Not Found:insight  INFO Init: - Config.Properties Namespace Id Using:pds  INFO Init: - LDD Dictionary\_Type Found:Mission  WARNING Header: - New steward has been specified:geo  WARNING Header: - New namespace id has been specified:insight  >>info - LDDTOOL Exit  >>info - Exit  Step 5: Standard good message |
| Comments | Results met success criteria. |
| Date of Testing | 2020.05.07 |
| Test Personnel | Richard Chen |

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| Test Case ID | SCMA.3 |
| Test Steps | All executions of lddtool below verify IM#77, IM#79, IM#81   1. cd /home/rchen/test/testLDD 2. lddtool -version #IM#74 3. lddtool -plD im93atm.xml im93naif.xml #IM#93   You could view the output DocBook (export/DD/PDS4\_PDS\_DD\_1E00.xml); instead   1. grep XX im93\* export/DD/PDS4\_PDS\_DD\_1E00.xml # show LDD in DocBook 2. cp im93naif.xml x.xml; lddtool -pl x.xml; rm x.xml #IM#111 3. lddtool -pl im125lddinput.xml #IM#125; nillable inside class works 4. validate -x ../PDS4\_PDS\_1E00.xsd PDS4\_MAVEN\_1E00\_1E00.xsd -S ../PDS4\_PDS\_1E00.sch PDS4\_MAVEN\_1E00\_1E00.sch -t im125.xml   lddtool -plM im125lddinput #IM#154, fail nicely if -M |
| Test Results | Step 2: show software version & IM version  LDDTool Version: 11.2.2  Built with IM Version: 1.14.0.0  Build Date: 2020-04-06 16:43:45  Step 3:  >>info - LDDTOOL Version: 11.2.2  >>info - IM Version Id: 1.14.0.0  >>info - IM Namespace Id: pds  >>info - IM Label Version Id: 1.20  >>info - Date: Thu May 07 09:57:01 PDT 2020  >>info - JAVAHOME: /home/rchen/test/jdk-11.0.6+10  >>info - PARENT\_DIR: /home/rchen/test/lddtool-11.2.2  >>info - SCRIPT\_DIR: /home/rchen/test/lddtool-11.2.2/bin  >>info - LIB\_DIR: /home/rchen/test/lddtool-11.2.2/lib  >>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 - Set LDDToolSingletonClass - DMDocument.LDDToolSingletonDOMClass.title:USER  INFO Init: - Config.Properties Namespace Id Found:atm  INFO Init: - Config.Properties Namespace Id Using:atm  INFO Init: - LDD Dictionary\_Type Found:Mission  INFO Init: - Config.Properties Namespace Id Found:naif  INFO Init: - Config.Properties Namespace Id Using:naif  INFO Init: - LDD Dictionary\_Type Found:Mission  WARNING Header: - New steward has been specified:geo  WARNING Header: - New namespace id has been specified:naif  >>info - LDDTOOL Exit  >>info - Exit  Step 4:  im93atm.xml: <name>XXATMType\_List</name>  im93atm.xml: <local\_identifier>XXATMType\_List</local\_identifier>  im93naif.xml: <name>XXNAIFObservation\_Information</name>  im93naif.xml: <local\_identifier>XXNAIFObservation\_Information</local\_identifier>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <title><anchor xml:id="N1927552474"/>XXATMType\_List</title>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <entry namest="c1" nameend="c3" align="left"><emphasis>Name: </emphasis>XXATMType\_List</entry>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <entry namest="c1" nameend="c4" align="left"><emphasis>Class Hierarchy: </emphasis><link linkend="N1927552474">XXATMType\_&#x200B;List</link></entry>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <title>type in <link linkend="N1927552474">XXATMType\_&#x200B;List</link></title>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <entry><emphasis>Class Name: </emphasis><link linkend="N1927552474">XXATMType\_&#x200B;List</link></entry>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <title>type\_list\_identifier in <link linkend="N1927552474">XXATMType\_&#x200B;List</link></title>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <entry><emphasis>Class Name: </emphasis><link linkend="N1927552474">XXATMType\_&#x200B;List</link></entry>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <title><anchor xml:id="N-1198652248"/>XXNAIFObservation\_Information</title>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <entry namest="c1" nameend="c3" align="left"><emphasis>Name: </emphasis>XXNAIFObservation\_Information</entry>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <entry namest="c1" nameend="c4" align="left"><emphasis>Class Hierarchy: </emphasis><link linkend="N-1198652248">XXNAIFObservation\_&#x200B;Information</link></entry>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <title>bibcode in <link linkend="N-1198652248">XXNAIFObservation\_&#x200B;Information</link></title>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <entry><emphasis>Class Name: </emphasis><link linkend="N-1198652248">XXNAIFObservation\_&#x200B;Information</link></entry>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <title>mission\_phase\_name\_type in <link linkend="N-1198652248">XXNAIFObservation\_&#x200B;Information</link></title>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <entry><emphasis>Class Name: </emphasis><link linkend="N-1198652248">XXNAIFObservation\_&#x200B;Information</link></entry>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <title>release\_number in <link linkend="N-1198652248">XXNAIFObservation\_&#x200B;Information</link></title>  export/DD/PDS4\_PDS\_DD\_1E00.xml: <entry><emphasis>Class Name: </emphasis><link linkend="N-1198652248">XXNAIFObservation\_&#x200B;Information</link></entry>  Step 5:  >>info - LDDTOOL Version: 11.2.2  >>info - IM Version Id: 1.14.0.0  >>info - IM Namespace Id: pds  >>info - IM Label Version Id: 1.20  >>info - Date: Thu May 07 10:03:51 PDT 2020  >>info - JAVAHOME: /home/rchen/test/jdk-11.0.6+10  >>info - PARENT\_DIR: /home/rchen/test/lddtool-11.2.2  >>info - SCRIPT\_DIR: /home/rchen/test/lddtool-11.2.2/bin  >>info - LIB\_DIR: /home/rchen/test/lddtool-11.2.2/lib  >>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 - Set LDDToolSingletonClass - DMDocument.LDDToolSingletonDOMClass.title:USER  INFO Init: - Config.Properties Namespace Id Found:naif  INFO Init: - Config.Properties Namespace Id Using:naif  INFO Init: - LDD Dictionary\_Type Found:Mission  WARNING Header: - New steward has been specified:geo  WARNING Header: - New namespace id has been specified:naif  >>info - LDDTOOL Exit  >>info - Exit  Step 6:  >>info - LDDTOOL Version: 11.2.2  >>info - IM Version Id: 1.14.0.0  >>info - IM Namespace Id: pds  >>info - IM Label Version Id: 1.20  >>info - Date: Thu May 07 10:04:43 PDT 2020  >>info - JAVAHOME: /home/rchen/test/jdk-11.0.6+10  >>info - PARENT\_DIR: /home/rchen/test/lddtool-11.2.2  >>info - SCRIPT\_DIR: /home/rchen/test/lddtool-11.2.2/bin  >>info - LIB\_DIR: /home/rchen/test/lddtool-11.2.2/lib  >>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 - Set LDDToolSingletonClass - DMDocument.LDDToolSingletonDOMClass.title:USER  WARNING Init: - Config.Properties Namespace Id Not Found:maven  INFO Init: - Config.Properties Namespace Id Using:pds  INFO Init: - LDD Dictionary\_Type Found:Mission  WARNING Header: - New steward has been specified:geo  WARNING Header: - New namespace id has been specified:maven  >>info - LDDTOOL Exit  >>info - Exit  Step 7: Standard good message  Step 8:  >>ERROR: This flag has been deprecated as of PDS4 IM Version 1.14.0.0. See the LDDTool User's Manual for more information on how to provide this information. |
| Comments | Results met success criteria. |
| Date of Testing | 2020.04.09 |
| Test Personnel | Richard Chen |

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| Test Case ID | VAL.1 |
| Test Steps | 1. cd /home/rchen/test 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.  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 1.22.4  Date 2020-05-07T17:23:49Z  Parameters:  Targets [file:/home/rchen/test/bundle\_psi/]  Rule Type pds4.bundle  User Specified Schemas [file:/home/rchen/test/bundle\_psi/xml\_schema/PDS4\_PDS\_1600.xsd]  User Specified Schematrons [file:/home/rchen/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 /home/rchen/test/validate-1.22.4/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/home/rchen/test/bundle\_psi/bundle\_ast\_spectra\_reddy\_neos\_marscrossers.xml  1 product validation(s) completed  PASS: file:/home/rchen/test/bundle\_psi/document/collection\_ast\_spectra\_reddy\_neos\_marscrossers\_document.xml  2 product validation(s) completed  PASS: file:/home/rchen/test/bundle\_psi/document/allspectra.xml  3 product validation(s) completed  PASS: file:/home/rchen/test/bundle\_psi/document/AA\_Document\_Index.xml  4 product validation(s) completed  PASS: file:/home/rchen/test/bundle\_psi/document/bundle\_description.xml  5 product validation(s) completed  PASS: file:/home/rchen/test/bundle\_psi/document/ref.xml  6 product validation(s) completed  PASS: file:/home/rchen/test/bundle\_psi/xml\_schema/PDS4\_PDS\_1600.xml  7 product validation(s) completed  PASS: file:/home/rchen/test/bundle\_psi/xml\_schema/collection.xml  8 product validation(s) completed  PASS: file:/home/rchen/test/bundle\_psi/data/collection\_ast\_spectra\_reddy\_neos\_marscrossers\_data.xml  9 product validation(s) completed  PASS: file:/home/rchen/test/bundle\_psi/data/science\_index.xml  10 product validation(s) completed  FAIL: file:/home/rchen/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'.  11 product validation(s) completed  [snip…]  FAIL: file:/home/rchen/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'.  37 product validation(s) completed  PDS4 Bundle Level Validation Results  PASS: file:/home/rchen/test/bundle\_psi/document/collection\_ast\_spectra\_reddy\_neos\_marscrossers\_document.xml  1 integrity check(s) completed  [snip…]  PASS: file:/Users/rchen/Desktop/test/bundle\_psi/data/2006/85709\_1998sg36.xml  37 integrity check(s) completed  Summary:  27 error(s)  0 warning(s)  Product Validation Summary:  10 product(s) passed  27 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  37 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  27 error.label.schema  End of Report  Completed execution in 20373 ms  Step 3: should be no errors.  PDS Validate Tool Report  Configuration:  Version 1.22.4  Date 2020-05-07T17:28:40Z  Parameters:  Targets [file:/home/rchen/test/bundle\_psi/]  Rule Type pds4.bundle  User Specified Schemas [file:/home/rchen/test/bundle\_psi/xml\_schema/PDS4\_PDS\_1600.xsd, file:/home/rchen/test/bundle\_psi2/PDS4\_IMG\_1100.xsd]  User Specified Schematrons [file:/home/rchen/test/bundle\_psi/xml\_schema/PDS4\_PDS\_1600.sch, file:/home/rchen/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 /home/rchen/test/validate-1.22.4/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/home/rchen/test/bundle\_psi/bundle\_ast\_spectra\_reddy\_neos\_marscrossers.xml  1 product validation(s) completed  [snip…]  PASS: file:/home/rchen/test/bundle\_psi/data/2006/85709\_1998sg36.xml  37 integrity check(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  37 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  37 check(s) passed  0 check(s) failed  0 check(s) skipped  End of Report  Completed execution in 19722 ms |
| Comments | Results met success criteria. |
| Date of Testing | 2020.05.07 |
| Test Personnel | Richard Chen |

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| Test Case ID | VAL.2 |
| 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 ‘/’. Change path in \_good.xml   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   validate -t testPrep/product\_document/Product\_Doc\_good.xml |
| Test Results | Step 2: the referenced file was removed in step 1  PDS Validate Tool Report  Configuration:  Version 1.22.4  Date 2020-05-07T17:50:15Z  Parameters:  Targets [file:/home/rchen/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 /home/rchen/test/validate-1.22.4/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/home/rchen/test/bundle\_psi/document/collection\_ast\_spectra\_reddy\_neos\_marscrossers\_document.xml  1 product validation(s) completed  FAIL: file:/home/rchen/test/bundle\_psi/document/allspectra.xml  ERROR [error.label.missing\_file] URI reference does not exist: file:/home/rchen/test/bundle\_psi/document/allspectra.pdf  2 product validation(s) completed  PASS: file:/home/rchen/test/bundle\_psi/document/AA\_Document\_Index.xml  3 product validation(s) completed  PASS: file:/home/rchen/test/bundle\_psi/document/bundle\_description.xml  4 product validation(s) completed  PASS: file:/home/rchen/test/bundle\_psi/document/ref.xml  5 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  4 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.missing\_file  End of Report  Completed execution in 12362 ms  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>/home/rchen/test/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 1.22.4  Date 2020-05-07T17:53:51Z  Parameters:  Targets [file:/home/rchen/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 /home/rchen/test/validate-1.22.4/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/home/rchen/test/testPrep/product\_document/Product\_Doc\_bad.xml  ERROR [error.label.missing\_file] URI reference does not exist: file:/replaceWithFullPath/image002.gif  1 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.missing\_file  End of Report  Completed execution in 10434 ms  Step 7: Standard good message. Non-existent path has been replaced by a real path |
| Comments | Results met success criteria |
| Date of Testing | 2020.05.27 |
| Test Personnel | Richard Chen |

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| Test Case ID | VAL.3 |
| Test Steps | 1. cd /home/rchen/test/ 2. validate -R pds4.bundle -t bundle\_geo\_ra #VAL#137 3. validate -R pds4.bundle -t bundleLID #VAL#139 VAL#146 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/sol148d.xml’s LID does not extend the collection’s LID 7. data\_derived/sol149b.xml has another product’s LIDVID 8. data\_test/scraping/pit\_test\_scraping\_pic[12].xml have the same LID but different VIDs, which should not be flagged. 9. data\_test/scraping/pit\_test\_scraping.xml’s LID changed to “<xxx>.xml” 10. data\_test/scraping/pit\_test\_scraping.xml’s <title> added various spaces 11. the document collection’s LID does not have the bundle’s LID as its basis.   This also tests correctly counting errors, VAL#173  Re-run step 3 using validate-bundle, the parallel version. Get the same results.   1. validate-bundle -n 1 -t /home/rchen/test/bundle\_psi/bundleLID/bundle\_1.xml   rm -r validate\_20\* |
| Test Results | Step 2: val137: pit\_test\_icy\_soil\_dig1.csv has blank values, which is now ok. The 174th file, bundle\_weird.xml.gz, is used by a different test.  PDS Validate Tool Report  Configuration:  Version 1.22.4  Date 2020-05-07T18:10:48Z  Parameters:  Targets [file:/home/rchen/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 /home/rchen/test/validate-1.22.4/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/home/rchen/test/bundle\_geo\_ra/bundle.xml  1 product validation(s) completed  [snip...]  PASS: file:/home/rchen/test/bundle\_geo\_ra/xml\_schema/collection.xml  173 product validation(s) completed  PDS4 Bundle Level Validation Results  PASS: file:/home/rchen/test/bundle\_geo\_ra/context/context\_collection\_1.xml  1 integrity check(s) completed  PASS: file:/home/rchen/test/bundle\_geo\_ra/data\_derived/data\_derived\_collection\_1.xml  2 integrity check(s) completed  PASS: file:/home/rchen/test/bundle\_geo\_ra/data\_test/data\_test\_collection\_1.xml  3 integrity check(s) completed  PASS: file:/home/rchen/test/bundle\_geo\_ra/document/document\_collection\_1.xml  4 integrity check(s) completed  PASS: file:/home/rchen/test/bundle\_geo\_ra/xml\_schema/collection.xml  5 integrity check(s) completed  PASS: file:/home/rchen/test/bundle\_geo\_ra/bundle\_weird.xml.gz  WARNING [warning.file.not\_referenced\_in\_label] File is not referenced by any label  6 integrity check(s) completed  PASS: file:/home/rchen/test/bundle\_geo\_ra/bundle.xml  7 integrity check(s) completed  [snip...]  PASS: file:/home/rchen/test/bundle\_geo\_ra/document/ra\_instrument.xml  174 integrity check(s) completed  Summary:  0 error(s)  1 warning(s)  Product Validation Summary:  173 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  174 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 warning.file.not\_referenced\_in\_label  End of Report  Completed execution in 71773 ms  Step 3: good: flagging duplicate u:n:p:phx\_ra:data\_derived:sol149a::1.0 and sol148d.xml’s bad LID, not flagging pit\_test\_scraping\_pic[23].xml.  PDS Validate Tool Report  Version 1.22.4  Date 2020-05-07T18:14:32Z  Parameters:  Targets [file:/home/rchen/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 /home/rchen/test/validate-1.22.4/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/home/rchen/test/bundleLID/bundle\_1.xml  1 product validation(s) completed  PASS: file:/home/rchen/test/bundleLID/context/phx.ra\_1.0.xml  2 product validation(s) completed  PASS: file:/home/rchen/test/bundleLID/context/planet.mars\_1.2.xml  3 product validation(s) completed  FAIL: file:/home/rchen/test/bundleLID/context/context\_collection\_1.xml  Begin Content Validation: file:/home/rchen/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:/home/rchen/test/bundleLID/context/context\_collection\_inventory\_1.tab  4 product validation(s) completed  PASS: file:/home/rchen/test/bundleLID/context/mission.phoenix\_1.1.xml  5 product validation(s) completed  PASS: file:/home/rchen/test/bundleLID/data\_derived/sol149b.xml  6 product validation(s) completed  FAIL: file:/home/rchen/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:/home/rchen/test/bundleLID/data\_derived/sol149b.xml)  7 product validation(s) completed  PASS: file:/home/rchen/test/bundleLID/data\_derived/sol148d.xml  8 product validation(s) completed  PASS: file:/home/rchen/test/bundleLID/data\_derived/data\_derived\_collection\_1.xml  9 product validation(s) completed  FAIL: file:/home/rchen/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:/home/rchen/test/bundleLID/data\_derived/data\_derived\_collection\_1.xml)  10 product validation(s) completed  PASS: file:/home/rchen/test/bundleLID/data\_test/scraping/pit\_test\_scraping.xml  11 product validation(s) completed  PASS: file:/home/rchen/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic1.xml  12 product validation(s) completed  PASS: file:/home/rchen/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic2.xml  13 product validation(s) completed  PASS: file:/home/rchen/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust\_dig2\_pic13.xml  14 product validation(s) completed  PASS: file:/home/rchen/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust.xml  15 product validation(s) completed  PASS: file:/home/rchen/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust\_dig1\_pic1.xml  16 product validation(s) completed  PASS: file:/home/rchen/test/bundleLID/document/collection\_1.xml  17 product validation(s) completed  PASS: file:/home/rchen/test/bundleLID/document/ra\_dataset.xml  18 product validation(s) completed  PDS4 Bundle Level Validation Results  FAIL: file:/home/rchen/test/bundleLID/context/context\_collection\_1.xml  ERROR [error.table.records\_mismatch] Number of records read is not equal to the defined number of records in the collection (expected 4, got 3).  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  1 integrity check(s) completed  FAIL: file:/home/rchen/test/bundleLID/data\_derived/data\_derived\_collection\_1.xml  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:phx\_ra:data\_derived777:sol148d does not begin with required parent LID urn:nasa:pds:phx\_ra:data\_derived  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.  2 integrity check(s) completed  FAIL: file:/home/rchen/test/bundleLID/data\_test/data\_test\_collection\_1.xml  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:phx\_ra:data\_test:pit\_test\_duricrust does not begin with required parent LID urn:nasa:pds:phx\_ra:data\_derived  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:phx\_ra:data\_test:pit\_test\_duricrust\_dig1\_pic1 does not begin with required parent LID urn:nasa:pds:phx\_ra:data\_derived  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:phx\_ra:data\_test:pit\_test\_duricrust\_dig2\_pic13 does not begin with required parent LID urn:nasa:pds:phx\_ra:data\_derived  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:phx\_ra:data\_test:pit\_test.xml does not begin with required parent LID urn:nasa:pds:phx\_ra:data\_derived  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1 does not begin with required parent LID urn:nasa:pds:phx\_ra:data\_derived  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:phx\_ra:data\_test:pit\_test\_scraping\_pic1 does not begin with required parent LID urn:nasa:pds:phx\_ra:data\_derived  3 integrity check(s) completed  PASS: file:/home/rchen/test/bundleLID/document/collection\_1.xml  4 integrity check(s) completed  FAIL: file:/home/rchen/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  5 integrity check(s) completed  PASS: file:/home/rchen/test/bundleLID/data\_derived/sol148d.xml  6 integrity check(s) completed  PASS: file:/home/rchen/test/bundleLID/data\_derived/sol149b.xml  7 integrity check(s) completed  PASS: file:/home/rchen/test/bundleLID/data\_test/scraping/pit\_test\_scraping.xml  8 integrity check(s) completed  PASS: file:/home/rchen/test/bundleLID/document/ra\_dataset.xml  9 integrity check(s) completed  PASS: file:/home/rchen/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust.xml  10 integrity check(s) completed  PASS: file:/home/rchen/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust\_dig1\_pic1.xml  11 integrity check(s) completed  PASS: file:/home/rchen/test/bundleLID/context/phx.ra\_1.0.xml  12 integrity check(s) completed  PASS: file:/home/rchen/test/bundleLID/context/mission.phoenix\_1.1.xml  13 integrity check(s) completed  PASS: file:/home/rchen/test/bundleLID/data\_test/duricrust/pit\_test\_duricrust\_dig2\_pic13.xml  14 integrity check(s) completed  PASS: file:/home/rchen/test/bundleLID/context/planet.mars\_1.2.xml  15 integrity check(s) completed  PASS: file:/home/rchen/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic1.xml  16 integrity check(s) completed  PASS: file:/home/rchen/test/bundleLID/data\_test/scraping/pit\_test\_scraping\_pic2.xml  17 integrity check(s) completed  Summary:  12 error(s)  4 warning(s)  Product Validation Summary:  15 product(s) passed  3 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  13 check(s) passed  4 check(s) failed  0 check(s) skipped  Message Types:  8 error.integrity.missing\_parent\_prefix  2 error.table.records\_mismatch  2 error.label.duplicate\_identifier  3 warning.integrity.member\_not\_found  1 warning.integrity.unreferenced\_member  End of Report  Completed execution in 24141 ms  Step 4: validate-bundle has a lot of output. Check summary’s errors and warnings  [snipj…]  >>>>>>>>>>>>>>> OVERALL SUMMARY:  Summary:  12 error(s)  4 warnings(s)  End of Report  <<<<<<<<<<<<<<<  Validation complete.  \* See /Users/rchen/Desktop/test/validate\_20200508\_103356/validate\_summary.log for a summary of results.  \* See /Users/rchen/Desktop/test/validate\_20200508\_103356 for individual Validate Tool execution reports. |
| Comments | Results met success criteria. |
| Date of Testing | 2020.05.07 |
| Test Personnel | Richard Chen |

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| Test Case ID | VAL.4 |
| Test Steps | 1. cd /home/rchen/test/testPrep/product\_document 2. validate -t Product\_Doc\_part1.xml |
| Test Results | Step 2: No longer allowed  PDS Validate Tool Report  Configuration:  Version 1.22.4  Date 2020-05-07T18:19:52Z  Parameters:  Targets [file:/home/rchen/test/testPrep/product\_document/Product\_Doc\_part1.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 /home/rchen/test/validate-1.22.4/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/home/rchen/test/testPrep/product\_document/Product\_Doc\_part1.xml  FATAL\_ERROR [error.label.schema] Error occurred while attempting to find schemas using the XPath '//\*/@xsi:schemaLocation': org.xml.sax.SAXParseException; systemId: file:/home/rchen/test/testPrep/product\_document/Product\_Doc\_part1.xml; lineNumber: 113; columnNumber: 1; XML document structures must start and end within the same entity.  ERROR [error.label.schematron] Error occurred while attempting to find schematrons using the XPath '/processing-instruction('xml-model')': org.xml.sax.SAXParseException; systemId: file:/home/rchen/test/testPrep/product\_document/Product\_Doc\_part1.xml; lineNumber: 113; columnNumber: 1; XML document structures must start and end within the same entity.  1 product validation(s) completed  Summary:  2 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.schematron  1 error.label.schema  End of Report  Completed execution in 5780 ms |
| Comments | Results met success criteria |
| Date of Testing | 2020.05.07 |
| Test Personnel | Richard Chen |

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| Test Case ID | VAL.5 |
| Test Steps | The validate tool does not accept a schema as its target, i.e. this does not work:  validate PDS4\_PDS\_1E00.xsd  However, validate, when validating a label file, does complain when the schema is bad   1. validate -x PDS4\_PDS\_1E00.xsd -S PDS4\_PDS\_1E00.sch -t testLDD/im93atm.xml 2. diff -w PDS4\_PDS\_1E00.xsd testPrep/PDS4\_PDS\_1E00.bad.xsd 3. validate -x testPrep/PDS4\_PDS\_1E00.bad.xsd -S PDS4\_PDS\_1E00.sch -t testLDD/im93atm.xml   Give validate a non-existent schema   1. validate -x xxx.xsd -S PDS4\_PDS\_1D00.sch -t testLDD/im93atm.xml |
| Test Results | Step 1: standard good message  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  java.lang.Exception: Error while getting targetNamespace of schema 'file:/home/rchen/test/testPrep/PDS4\_PDS\_1E00.bad.xsd': org.xml.sax.SAXParseException; systemId: file:/home/rchen/test/testPrep/PDS4\_PDS\_1E00.bad.xsd; lineNumber: 8416; 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:  java.io.IOException: /home/rchen/test/xxx.xsd (No such file or directory)  at gov.nasa.pds.tools.util.Utility.openConnection(Utility.java:155)  at gov.nasa.pds.tools.label.CachedLSResourceResolver.resolveResource(CachedLSResourceResolver.java:199)  at gov.nasa.pds.tools.label.XMLCatalogResolver.resolveResource(XMLCatalogResolver.java:391)  at gov.nasa.pds.validate.ValidateLauncher.validateSchemas(ValidateLauncher.java:1282)  at gov.nasa.pds.validate.ValidateLauncher.processMain(ValidateLauncher.java:1382)  at gov.nasa.pds.validate.ValidateLauncher.main(ValidateLauncher.java:1449)  Error while trying to read in 'file:/home/rchen/test/xxx.xsd'  PDS Validate Tool Report  Configuration:  Version 1.22.4  Date 2020-05-07T18:33:53Z  Parameters:  Targets [file:/home/rchen/test/testLDD/im93atm.xml]  User Specified Schemas [file:/home/rchen/test/xxx.xsd]  User Specified Schematrons [file:/home/rchen/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 /home/rchen/test/validate-1.22.4/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/home/rchen/test/PDS4\_PDS\_1D00.sch  FATAL\_ERROR [error.label.schematron] /home/rchen/test/PDS4\_PDS\_1D00.sch (No such file or directory)  1 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.schematron  End of Report  Completed execution in 3246 ms |
| Comments | Results met success criteria |
| Date of Testing | 2020.05.07 |
| Test Personnel | Richard Chen |

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| Test Case ID | VAL.6 |
| Test Steps | 1. cd /home/rchen/test/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 5. validate -R pds4.collection -t orex 6. 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   Validate large bundle.   1. date ; validate -x PDS4\_PDS\_1800.xsd -S PDS4\_PDS\_1800.sch -t ../contextPDS3 > validate.big.out ; date   Validate a remote bundle   1. validate -t https://sbnarchive.psi.edu/pds4/non\_mission/gbo.ast.jpl.radar.shape\_models\_V1\_0/   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 #test legal and illegal ASCII\_Real values 4. validate -t ccb226.xml #test microseconds 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 273 seconds to 24 seconds) #VAL#8 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 #validate a directory remotely 10. validate -t ccb226.xml   Ignore field\_format; use validation\_format: validate -t ccb214.xml |
| Test Results | SKIP too many steps  Step 2: The one error is deliberate to demonstrate that the rest are working  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-26T07:40:29Z  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  1 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/collection.xml  2 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/data/174P.xml  3 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/data/67P.xml  4 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/data/C2013A1.xml  5 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/data/29P.xml  6 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/data/C2004Q2.xml  7 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_data/data/116P.xml  8 product validation(s) completed  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'  9 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/cara\_data/cara\_documents/collection.xml  10 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  9 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.checksum\_mismatch  End of Report  Completed execution in 4969 ms  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; 3rd, three. Also, bundle’s LID mismatches collection’s, which mismatches one data product’s LID  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-27T06:28:52Z  Parameters:  Targets [file: /Users/rchen/Desktop/test/testPrep/vld\_415/]  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/vld\_415/bundle.xml  1 product validation(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/collection.xml  2 product validation(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/116P.xml  WARNING [warning.label.file\_ref\_case\_mismatch] File reference'/Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/116p.tab' exists but the case doesn't match  3 product validation(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/174P.xml  WARNING [warning.label.file\_ref\_case\_mismatch] File reference'/Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/174p.tab' exists but the case doesn't match  4 product validation(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/C2004Q2.xml  WARNING [warning.label.file\_ref\_case\_mismatch] File reference'/Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/C2004q2.tab' exists but the case doesn't match  5 product validation(s) completed  PDS4 Bundle Level Validation Results  FAIL: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/collection.xml  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:xxxx:yyyy:c2004q2 does not begin with required parent LID urn:nasa:pds:xxx:yyyy  1 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/116P.tab  WARNING [warning.file.not\_referenced\_in\_label] File is not referenced by any label  2 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/174P.tab  WARNING [warning.file.not\_referenced\_in\_label] File is not referenced by any label  3 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/C2004Q2.tab  WARNING [warning.file.not\_referenced\_in\_label] File is not referenced by any label  4 integrity check(s) completed  FAIL: file: /Users/rchen/Desktop/test/testPrep/vld\_415/bundle.xml  ERROR [error.integrity.missing\_parent\_prefix] Member LID urn:nasa:pds:xxx:yyyy does not begin with required parent LID urn:nasa:pds:xx  5 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/116P.xml  6 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/C2004Q2.xml  7 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/vld\_415/cara\_data/datayyy/174P.xml  8 integrity check(s) completed  Summary:  2 error(s)  6 warning(s)  Product Validation Summary:  5 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  6 check(s) passed  2 check(s) failed  0 check(s) skipped  Message Types:  2 error.integrity.missing\_parent\_prefix  3 warning.label.file\_ref\_case\_mismatch  3 warning.file.not\_referenced\_in\_label  End of Report  Completed execution in 5385 ms  Step 6: weird to use -R pds4.collection on a bundle. Warnings are reasonable  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-27T06:36:44Z  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  1 product validation(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/collection\_tagcams\_hkl0.xml  2 product validation(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/cruise\_1/20170815T164303S694\_ncm\_L0S.xml  3 product validation(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/ega/20170922T204112S269\_ncm\_L0S.xml  4 product validation(s) completed  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  1 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/collection\_tagcams\_hkl0.xml  2 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/ega/20170922T204112S269\_ncm\_L0S.xml  3 integrity check(s) completed  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  4 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/cruise\_1/20170815T164303S694\_ncm\_L0S.xml  5 integrity check(s) completed  Summary:  0 error(s)  2 warning(s)  Product Validation Summary:  4 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  5 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 warning.integrity.unreferenced\_member  1 warning.file.not\_referenced\_in\_label  End of Report  Completed execution in 6802 ms  Step 7: weird to use -R pds4. Bundle on a collection. Warnings are reasonable  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-27T06:41:59Z  Parameters:  Targets [file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/]  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/data\_hkl0/collection\_tagcams\_hkl0.xml  1 product validation(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/cruise\_1/20170815T164303S694\_ncm\_L0S.xml  2 product validation(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/ega/20170922T204112S269\_ncm\_L0S.xml  3 product validation(s) completed  PDS4 Bundle Level Validation Results  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/ega/20170922T204112S269\_ncm\_L0S.xml  WARNING [warning.integrity.unreferenced\_member] Identifier 'urn:nasa:pds:orex.tagcams:data\_hkl0:20170922t204112s269\_ncm\_l0s.dat::1.0' is not a member of any collection within the given target  1 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/cruise\_1/20170815T164303S694\_ncm\_L0S.xml  WARNING [warning.integrity.unreferenced\_member] Identifier 'urn:nasa:pds:orex.tagcams:data\_hkl0:20170815t164303s694\_ncm\_l0s.dat::1.0' is not a member of any collection within the given target  2 integrity check(s) completed  PASS: file: /Users/rchen/Desktop/test/testPrep/orex/data\_hkl0/collection\_tagcams\_hkl0.xml  WARNING [warning.integrity.unreferenced\_member] Identifier 'urn:nasa:pds:orex.tagcams:data\_hkl0::1.0' is not a member of any bundle within the given target  3 integrity check(s) completed  Summary:  0 error(s)  3 warning(s)  Product Validation Summary:  3 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  3 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  3 warning.integrity.unreferenced\_member  End of Report  Completed execution in 6839 ms  Step 8:  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-27T06:52:59Z  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  1 product validation(s) completed  Summary:  2 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  2 error.table.field\_value\_data\_type\_mismatch  End of Report  Completed execution in 4442 ms  Step 9: standard good message because -D disallowed checking previous step’s data  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:  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-27T06:59:19Z  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  1 product validation(s) completed  Summary:  4 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  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  Completed execution in 7255 ms  Step 13: the output file actually shows validation errors (irrelevant to this test)  Mon Apr 27 00:02:34 PDT 2020  Mon Apr 27 00:11:04 PDT 2020  Step 14:  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-27T21:00:37Z  Parameters:  Targets [https://sbnarchive.psi.edu/pds4/non\_mission/gbo.ast.jpl.radar.shape\_models\_V1\_0]  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: https://sbnarchive.psi.edu/pds4/non\_mission/gbo.ast.jpl.radar.shape\_models\_V1\_0/bundle\_gbo.ast.jpl.radar.shape\_models.xml  1 product validation(s) completed  PASS: https://sbnarchive.psi.edu/pds4/non\_mission/gbo.ast.jpl.radar.shape\_models\_V1\_0/data/a2100\_spin\_state.xml  2 product validation(s) completed  FAIL: https://sbnarchive.psi.edu/pds4/non\_mission/gbo.ast.jpl.radar.shape\_models\_V1\_0/data/a2100rashalom.xml  Begin Content Validation: https://sbnarchive.psi.edu/pds4/non\_mission/gbo.ast.jpl.radar.shape\_models\_V1\_0/data/a2100rashalom.obj  ERROR [error.table.records\_mismatch] table 2: Number of records read is not equal to the defined number of records in the label (expected 3440, got 2292).  End Content Validation: https://sbnarchive.psi.edu/pds4/non\_mission/gbo.ast.jpl.radar.shape\_models\_V1\_0/data/a2100rashalom.obj  3 product validation(s) completed  [snip…]  Summary:  13 error(s)  0 warning(s)  Product Validation Summary:  41 product(s) passed  13 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  13 error.table.records\_mismatch  End of Report  Completed execution in 78406 ms  Step 15: standard good message  Step 16: standard good message  Step 17: Build 10b has made extra records an error.  PDS557SAYSSKIPTHISPARTOFDATAFILE  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-27T22:13:28Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/mlascirdr.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/mlascirdr.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/mlascirdr.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 2, got 3).  End Content Validation: file:/Users/rchen/Desktop/test/testPrep/mlascirdr.tab  1 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.table.records\_mismatch  End of Report  Completed execution in 4310 ms  Step 18: Warn that collection.csv contains a dangling LID (nosuchfile.obj )  total 6184  -rw-rw-r-- 1 rchen 1 Apr 20 2019 00ANOTHERDANGLER  total 24  -rw-rw-r-- 1 rchen 1 Apr 20 2019 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.  1 integrity check(s) completed  [snip]  Step 19: Line 1 of .csv is all good values; line 2 is half bad values  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T02:57:59Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/ccb213.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/ccb213.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/ccb213.csv  ERROR [error.table.field\_value\_data\_type\_mismatch] table 1, record 2, field 5: Value does not match its data type 'ASCII\_Real': '-15e99.99' does not match the pattern '(\+|-)?([0-9]+(\.[0-9]\*)?|\.[0-9]+)([Ee](\+|-)?[0-9]+)?'  ERROR [error.table.field\_value\_data\_type\_mismatch] table 1, record 2, field 6: Value does not match its data type 'ASCII\_Real': 'NaN' does not match the pattern '(\+|-)?([0-9]+(\.[0-9]\*)?|\.[0-9]+)([Ee](\+|-)?[0-9]+)?'  ERROR [error.table.field\_value\_data\_type\_mismatch] table 1, record 2, field 7: Value does not match its data type 'ASCII\_Real': -INF is not allowed  ERROR [error.table.field\_value\_data\_type\_mismatch] table 1, record 2, field 8: Value does not match its data type 'ASCII\_Real': '+.' does not match the pattern '(\+|-)?([0-9]+(\.[0-9]\*)?|\.[0-9]+)([Ee](\+|-)?[0-9]+)?'  ERROR [error.table.field\_value\_data\_type\_mismatch] table 1, record 2, field 9: Value does not match its data type 'ASCII\_Real': '-.' does not match the pattern '(\+|-)?([0-9]+(\.[0-9]\*)?|\.[0-9]+)([Ee](\+|-)?[0-9]+)?'  End Content Validation: file:/Users/rchen/Desktop/test/testPrep/ccb213.csv  1 product validation(s) completed  Summary:  5 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  5 error.table.field\_value\_data\_type\_mismatch  End of Report  Completed execution in 3771 ms  Step 20: Standard good message. 2016-12-31T23:59:60.555555Z ok in label and data  Step 21: Standard good message  …  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T03:13:18Z  [snip…]  End of Report  Completed execution in 23691 ms  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: Older versions hung. (this test works faster with quick failures)  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T03:19:21Z  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  1 product validation(s) completed  [snip…]  Summary:  1806 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1806 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1806 error.label.schema  End of Report  Completed execution in 1045722 ms  Step 26: Standard good message.  Step 27: I think complaining about insufficient digit is correct  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T03:22:31Z  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  ERROR [error.label.schematron] line 100, 26: If a validation\_format is present, its value must be equal to the value in field\_format  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  1 product validation(s) completed  Summary:  2 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.schematron  1 error.table.field\_value\_format\_precision\_mismatch  End of Report  Completed execution in 3975 ms |
| Comments |  |
| Date of Testing |  |
| Test Personnel |  |

|  |  |
| --- | --- |
| Test Case ID | VAL.7 |
| Test Steps | 1. cd /home/rchen/test/testPrep 2. validate -t val15.xml #VAL#15 3. validate -t val87.xml # edit val87.catalog to point to local files 4. validate -C val87.catalog -t val87.xml #VAL#87 VAL#71 5. validate -C val87.catalog val87.xml #VAL#72 6. validate -c val84.cfg #VAL#84 VAL#74 7. validate -t val28.xml 8. validate --add-context-products val28.json -t val28.xml #VAL#28 9. validate -t val28.xml --skip-context-validation #VAL#47 10. validate -R pds4.bundle -t val30 >& v.out #VAL#29 VAL#30 VAL#39 11. validate -t val30/bundle\_\_insight\_ifg\_mars\_1.0.xml -f #VAL#23 12. validate -t val30/bundle\_\_insight\_ifg\_mars\_1.0.xml -m1D00 #VAL#23 13. validate -t val30/bundle\_\_insight\_ifg\_mars\_1.0.xml --no-data-check #VAL#133 14. validate -R pds4.bundle -t val30 --skip-content-validation #VAL#133 VAL#99 15. validate --target-manifest val50.list #VAL#50. Edit val50.lst if paths changed 16. diff val15.xml val62.xml 17. validate -t val62.xml #VAL#62 VAL#90 18. diff val9a.xml val9b.xml 19. validate -t val9a.xml 20. validate -t val9b.xml # VAL#9 VAL#170 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 #VAL#33 23. diff val28.json val107.json #VAL#107 24. validate -v1 --add-context-products val28.json -t val28.xml 25. validate -v1 --add-context-products val107.json -t val28.xml #VAL#28 26. echo $JAVA\_HOME #VAL#37. 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"   validate -t val55.xml # Note: error message “WARNING: An illegal reflective access operation has occurred” never appears. #VAL#55 VAL#95 |
| Test Results | SKIP too many steps  Step 2: in 10a, standard good message. Eventually, error for incorrect name  Step 3:  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T04:59:37Z  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'.  1 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.schematron  End of Report  Completed execution in 5159 ms  Step 4: standard good message  Step 5: prevent -C from greediness  gov.nasa.pds.validate.commandline.options.InvalidOptionException: No files specified for validation. Check your paths and use -t flag to explicitly denote the set of target data.  Completed execution in 871 ms  Step 6: standard good message. specify schema and schematron via config file  Step 7: the .xml references a non-existent LID  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T05:23:18Z  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  1 product validation(s) completed  Summary  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.label.context\_ref\_not\_found  End of Report  Completed execution in 4376 ms  Step 8: the .json “defines” the non-existent LID. The WARNING is deliberate  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T05:25:19Z  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.  1 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val28.xml  2 product validation(s) completed  Summary:  0 error(s)  1 warning(s)  Product Validation Summary:  2 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 warning.product\_not\_registered  End of Report  Completed execution in 4298 ms  Step 9: Standard good message, i.e. no check for error.label.context\_ref\_not\_found  Step 10: v1.22.3 needed 17+ minutes for the 6.4GB bundle. v1.15.0 needed 51.  Steps 11-13: flags -f, -m --no-check-data deprecated (note: checksum warnings valid)  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T06:04:50Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val30/bundle\_\_insight\_ifg\_mars\_1.0.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/val30/bundle\_\_insight\_ifg\_mars\_1.0.xml  1 product validation(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  1 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  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.  Completed execution in 3906 ms  Step 14: --skip-content-validation works. 1+ minutes to execute  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T06:43:01Z  [snip…]  PASS: file:/Users/rchen/Desktop/test/testPrep/val30/data-ifg-calibrated/ifg\_cal\_SOL0041\_20190107T090652\_20190108T094626\_pt2Hz\_v01.xml  585 integrity check(s) completed  Summary:  179 error(s)  2 warning(s)  Product Validation Summary:  485 product(s) passed  98 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  581 check(s) passed  4 check(s) failed  0 check(s) skipped  Message Types:  98 error.label.checksum\_mismatch  78 error.integrity.missing\_parent\_prefix  2 error.file.name\_has\_invalid\_characters  1 error.table.records\_mismatch  2 warning.file.not\_referenced\_in\_label  End of Report  Completed execution in 84515 ms  Step 15:  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T06:51:00Z  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  1 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val30/document/PolymonialFits.xml  2 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val30/document/InSight\_IFG\_Data\_Calibration\_Description.xml  3 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val30/document/Insight\_IFG\_SIS.v1.1.xml  4 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val30/document/collection\_document\_1.0.xml  5 product validation(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  5 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  End of Report  Completed execution in 5732 ms  Step 16:  32c32  < <name>A Non-Shouting Name</name> <!-- RChen: error per val15; should be INSIGHT as of 2019.10 -->  ---  > <name>INSIGHT</name> <!-- RChen: as of 20191020-->  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>  Step 17: The ERRORs are correct. v1.14.0 would not have caught them  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T06:54:43Z  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  1 product validation(s) completed  Summary:  2 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  2 error.label.context\_ref\_not\_found  End of Report  Completed execution in 4527 ms  Step 18:  70c70  < <Table\_Character> <!-- val9: content validation should PASS on blank int -->  ---  > <Table\_Delimited> <!-- val9: content validation should FAIL on blank int -->  72a73  > <parsing\_standard\_id>PDS DSV 1</parsing\_standard\_id>  75c76,77  < <Record\_Character>  ---  > <field\_delimiter>Comma</field\_delimiter>  > <Record\_Delimited>  78,79c80  < <record\_length unit="byte">33</record\_length>  < <Field\_Character>  ---  > <Field\_Delimited>  82d82  < <field\_location unit="byte">1</field\_location>  84d83  < <field\_length unit="byte">17</field\_length>  86,87c85,86  < </Field\_Character>  < <Field\_Character>  ---  > </Field\_Delimited>  > <Field\_Delimited>  90d88  < <field\_location unit="byte">19</field\_location>  92d89  < <field\_length unit="byte">13</field\_length>  94,96c91,93  < </Field\_Character>  < </Record\_Character>  < </Table\_Character>  ---  > </Field\_Delimited>  > </Record\_Delimited>  > </Table\_Delimited>  Step 19: Error on last data line is correct  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T06:57:39Z  Parameters:  Targets [file:/Users/rchen/Desktop/test/testPrep/val9a.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/val9a.xml  Begin Content Validation: file:/Users/rchen/Desktop/test/testPrep/val9.tab  ERROR [error.table.record\_length\_mismatch] table 1, record 5: Record does not equal the defined record length (expected 33, got 20).  ERROR [error.table.bad\_field\_read] table 1, record 5, field 2: Error while getting field value: offset 18, count 13, length 20  End Content Validation: file:/Users/rchen/Desktop/test/testPrep/val9.tab  1 product validation(s) completed  Summary:  2 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.table.record\_length\_mismatch  1 error.table.bad\_field\_read  End of Report  Completed execution in 4669 ms  Step 20: record 2 has int of spaces, bad for Table\_Delimited. Validate fails correctly  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T07:01:23Z  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 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  1 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.table.field\_value\_data\_type\_mismatch  End of Report  Completed execution in 4397 ms  Step 21:  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T07:02:40Z  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  1 product validation(s) completed  Summary:  6 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  3 error.label.context\_ref\_not\_found  2 error.label.schematron  1 error.label.schema  End of Report  Completed execution in 3804 ms  Step 22: validate -C warns error.catalog.unresolvable\_resource instead of quitting  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T07:09:17Z  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  1 product validation(s) completed  Summary:  6 error(s)  2 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  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  Completed execution in 3777 ms  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 1.22.3  Date 2020-04-28T07:12:04Z  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.  1 product validation(s) completed  PASS: file:/Users/rchen/Desktop/test/testPrep/val28.xml  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]'  2 product validation(s) completed  Summary:  0 error(s)  1 warning(s)  Product Validation Summary:  2 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 warning.product\_not\_registered  4 info.label.context\_ref\_mismatch  4 info.label.context\_ref\_found  1 info.label.context\_ref\_case\_mismatch  End of Report  Completed execution in 4432 ms  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.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]'  2 product validation(s) completed  Summary:  0 error(s)  1 warning(s)  Product Validation Summary:  2 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 warning.product\_not\_registered  4 info.label.context\_ref\_found  3 info.label.context\_ref\_mismatch  1 info.label.context\_ref\_case\_mismatch  End of Report  Completed execution in 3851 ms  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 1.22.3  Release Date: 2020-04-17 18:16:03  Copyright 2019, by the California Institute of Technology ("Caltech").  All rights reserved.  Step 32: One iteration of validate was not catching these 4 errors.  PDS Validate Tool Report  Configuration:  Version 1.22.3  Date 2020-04-28T07:27:24Z  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  1 product validation(s) completed  Summary:  4 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  4 error.table.record\_length\_mismatch  End of Report  Completed execution in 3863 ms |
| Comments |  |
| Date of Testing |  |
| Test Personnel |  |

|  |  |
| --- | --- |
| Test Case ID | VAL.8 |
| Test Steps | 1. cd /home/rchen/test/testPrep 2. validate -t val56char.xml # VAL#56 3. validate -t val56bin.xml 4. validate --skip-content-validation -t val182.xml #VAL#175 VAL#182 VAL#183 5. validate --skip-content-validation -t val56char.xml #for VAL#135 6. validate -t val63.xml #VAL#63 7. validate -t val29 #also VAL#123 VAL#180 8. validate -t ../contextPDS3 #VAL#124 VAL#126 9. validate -t val217/d\*.xml val217/[ab]\*.xml # VAL#149 10. validate -t val217/\*.xml #VAL#208 needs d\*.xml to validate last 11. diff val178.xml val29/data\_raw/nmd\_raw\_sc\_uvis\_20200309T124117-20200309T143020-28-10231-1.xml 12. validate -t val178.xml; validate -D -t val178.xml; validate -t val29/data\_raw/nmd\_raw\_sc\_uvis\_20200309T124117-20200309T143020-28-10231-1.xml; validate -D -t val29/data\_raw/nmd\_raw\_sc\_uvis\_20200309T124117-20200309T143020-28-10231-1.xml #VAL#178 13. validate --spot-check-data 54 -t val29/data\_raw/nmd\_raw\_sc\_uvis\_20200309T124117-20200309T143020-28-10231-1.xml # VAL#165 14. validate -t val201.xml # VAL#201 15. validate -t val118 # VAL#118 16. validate -h # VAL#145 17. validate-bundle -n 1 -t /home/rchen/test/bundleLID/bundle\_1.xml -r validate\_.txt # VAL#194. Same as VAL.3 step 4 plus -r option   tail validate\_.txt; rm -r validate\_\* "{}.log" |
| Test Results | Step 2: validate catches overlapping fields  PDS Validate Tool Report  Configuration:  Version 1.22.4  Date 2020-05-07T18:46:19Z  Parameters:  Targets [file:/home/rchen/test/testPrep/val56char.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 /home/rchen/test/validate-1.22.4/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/home/rchen/test/testPrep/val56char.xml  Begin Content Validation: file:/home/rchen/test/testPrep/val56char.tab  ERROR [error.table.field\_value\_overlap] table 1, record 1, field 2: The field is overlapping with the next field. Current field ends at 34. Next field starts at 21  ERROR [error.table.field\_value\_overlap] table 1, record 2, field 2: The field is overlapping with the next field. Current field ends at 34. Next field starts at 21  End Content Validation: file:/home/rchen/test/testPrep/val56char.tab  1 product validation(s) completed  Summary:  2 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  2 error.table.field\_value\_overlap  End of Report  Completed execution in 11529 ms  Step 3:  PDS Validate Tool Report  Configuration:  Version 1.22.4  Date 2020-05-07T18:48:05Z  Parameters:  Targets [file:/home/rchen/test/testPrep/val56bin.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 /home/rchen/test/validate-1.22.4/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/home/rchen/test/testPrep/val56bin.xml  Begin Content Validation: file:/home/rchen/test/testPrep/val56bin.dat  ERROR [error.table.field\_value\_overlap] table 1, record 1, field 5: The field is overlapping with the next field. Current field ends at 38. Next field starts at 37  ERROR [error.table.field\_value\_overlap] table 1, record 2, field 5: The field is overlapping with the next field. Current field ends at 38. Next field starts at 37  End Content Validation: file:/home/rchen/test/testPrep/val56bin.dat  1 product validation(s) completed  Summary:  2 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  2 error.table.field\_value\_overlap  End of Report  Completed execution in 11342 ms  Step 4: Standard good message. Validate 1.17.5 would check data anyway  Step 5: Standard good message. u:n:p:c:telescope:\* wasn’t in validate’s json input  Step 6: validate v1.17.5 allowed this, but validate#63 wanted it to be an error. Meh  PDS Validate Tool Report  Configuration:  Version 1.22.4  Date 2020-05-07T21:00:50Z  Parameters:  Targets [file:/home/rchen/test/testPrep/val63.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 /home/rchen/test/validate-1.22.4/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/home/rchen/test/testPrep/val63.xml  Begin Content Validation: file:/home/rchen/test/testPrep/val63.tab  ERROR [error.table.bad\_file\_read] table 1: ERROR: GroupFieldCharacter attribute group\_length is larger than size of contained fields: 32>20.  End Content Validation: file:/home/rchen/test/testPrep/val63.tab  1 product validation(s) completed  Summary:  1 error(s)  0 warning(s)  Product Validation Summary:  0 product(s) passed  1 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  1 error.table.bad\_file\_read  End of Report  Completed execution in 11343 ms  Step 7: val29: improve bundle performance, v1.15.0 took 269 seconds; val123: <1sec/100MB, big file is 673MB, so more like 1sec/20MB; val180: all threads completed even though 1 took much longer.  PDS Validate Tool Report  Configuration:  Version 1.22.4  Date 2020-05-07T21:01:56Z  Parameters:  Targets [file:/home/rchen/test/testPrep/val29/]  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 /home/rchen/test/validate-1.22.4/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/home/rchen/test/testPrep/val29/bundle\_em16\_tgo\_nmd.xml  1 product validation(s) completed  PASS: file:/home/rchen/test/testPrep/val29/data\_pp/collection\_data\_partially\_processed.xml  2 product validation(s) completed  PASS: file:/home/rchen/test/testPrep/val29/data\_pp/nmd\_par\_sc\_uvis\_20200309T124104-20200309T143040-29-10231-1.xml  3 product validation(s) completed  PASS: file:/home/rchen/test/testPrep/val29/data\_raw/nmd\_raw\_sc\_uvis\_20200309T124117-20200309T143020-28-10231-1.xml  4 product validation(s) completed  PASS: file:/home/rchen/test/testPrep/val29/data\_raw/collection\_data\_raw.xml  5 product validation(s) completed  PASS: file:/home/rchen/test/testPrep/val29/data\_raw/nmd\_raw\_sc\_uvis\_20200309T124054-20200309T131745-27-10231-1.xml  6 product validation(s) completed  PASS: file:/home/rchen/test/testPrep/val29/data\_raw/nmd\_raw\_sc\_uvis\_20200309T124104-20200309T143040-29-10231-1.xml  7 product validation(s) completed  Summary:  0 error(s)  0 warning(s)  Product Validation Summary:  7 product(s) passed  0 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  End of Report  Completed execution in 83015 ms  Step 8: speed of validation without content validation here: 27302files/747seconds  PDS Validate Tool Report  Configuration:  Version 1.22.4  Date 2020-05-07T21:05:56Z  Parameters:  Targets [file:/home/rchen/test/contextPDS3/]  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 /home/rchen/test/validate-1.22.4/resources/registered\_context\_products.json  Product Level Validation Results  PASS: file:/home/rchen/test/contextPDS3/Product\_Bundle\_1.0.xml  1 product validation(s) completed  [snip…]  PASS: file:/home/rchen/test/contextPDS3/personnel/Product/guest\_IALEXEEV\_1.0.xml  27302 product validation(s) completed  Summary:  39 error(s)  0 warning(s)  Product Validation Summary:  27289 product(s) passed  13 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  26 error.table.field\_value\_data\_type\_mismatch  8 error.label.duplicate\_identifier  2 error.table.fields\_mismatch  2 error.label.schema  1 error.table.records\_mismatch  End of Report  Completed execution in 1343346 ms  Step 9: Every 3 files is 1 short, 1 good, 1 long, so val#149 wants 30 fails, 15 passes,  PDS Validate Tool Report  Configuration:  Version 1.22.4  Date 2020-05-07T21:42:31Z  Parameters:  Targets [file:/home/rchen/test/testPrep/val217/delanc2.xml, file:/home/rchen/test/testPrep/val217/delanc3.xml, file:/home/rchen/test/testPrep/val217/delanc4.xml, file:/home/rchen/test/testPrep/val217/delbro2.xml, file:/home/rchen/test/testPrep/val217/delbro3.xml, file:/home/rchen/test/testPrep/val217/delbro4.xml, file:/home/rchen/test/testPrep/val217/delinv2.xml, file:/home/rchen/test/testPrep/val217/delinv3.xml, file:/home/rchen/test/testPrep/val217/delinv4.xml, file:/home/rchen/test/testPrep/val217/delmet2.xml, file:/home/rchen/test/testPrep/val217/delmet3.xml, file:/home/rchen/test/testPrep/val217/delmet4.xml, file:/home/rchen/test/testPrep/val217/delobs2.xml, file:/home/rchen/test/testPrep/val217/delobs3.xml, file:/home/rchen/test/testPrep/val217/delobs4.xml, file:/home/rchen/test/testPrep/val217/delsup2.xml, file:/home/rchen/test/testPrep/val217/delsup3.xml, file:/home/rchen/test/testPrep/val217/delsup4.xml, file:/home/rchen/test/testPrep/val217/ascanc2.xml, file:/home/rchen/test/testPrep/val217/ascanc3.xml, file:/home/rchen/test/testPrep/val217/ascanc4.xml, file:/home/rchen/test/testPrep/val217/ascbro2.xml, file:/home/rchen/test/testPrep/val217/ascbro3.xml, file:/home/rchen/test/testPrep/val217/ascbro4.xml, file:/home/rchen/test/testPrep/val217/ascmet2.xml, file:/home/rchen/test/testPrep/val217/ascmet3.xml, file:/home/rchen/test/testPrep/val217/ascmet4.xml, file:/home/rchen/test/testPrep/val217/ascobs2.xml, file:/home/rchen/test/testPrep/val217/ascobs3.xml, file:/home/rchen/test/testPrep/val217/ascobs4.xml, file:/home/rchen/test/testPrep/val217/ascsup2.xml, file:/home/rchen/test/testPrep/val217/ascsup3.xml, file:/home/rchen/test/testPrep/val217/ascsup4.xml, file:/home/rchen/test/testPrep/val217/binanc2.xml, file:/home/rchen/test/testPrep/val217/binanc3.xml, file:/home/rchen/test/testPrep/val217/binanc4.xml, file:/home/rchen/test/testPrep/val217/binbro2.xml, file:/home/rchen/test/testPrep/val217/binbro3.xml, file:/home/rchen/test/testPrep/val217/binbro4.xml, file:/home/rchen/test/testPrep/val217/binobs2.xml, file:/home/rchen/test/testPrep/val217/binobs3.xml, file:/home/rchen/test/testPrep/val217/binobs4.xml, file:/home/rchen/test/testPrep/val217/binsup2.xml, file:/home/rchen/test/testPrep/val217/binsup3.xml, file:/home/rchen/test/testPrep/val217/binsup4.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 /home/rchen/test/validate-1.22.4/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/home/rchen/test/testPrep/val217/delanc2.xml  Begin Content Validation: file:/home/rchen/test/testPrep/val217/del.csv  ERROR [error.table.records\_mismatch] table 1: Number of records read is not equal to the defined number of records in the label (expected 2, got 3).  End Content Validation: file:/home/rchen/test/testPrep/val217/del.csv  1 product validation(s) completed  PASS: file:/home/rchen/test/testPrep/val217/delanc3.xml  2 product validation(s) completed  FAIL: file:/home/rchen/test/testPrep/val217/delanc4.xml  Begin Content Validation: file:/home/rchen/test/testPrep/val217/del.csv  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:/home/rchen/test/testPrep/val217/del.csv  3 product validation(s) completed  [snip...]  Summary:  20 error(s)  0 warning(s)  Product Validation Summary:  25 product(s) passed  20 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  20 error.table.records\_mismatch  End of Report  Completed execution in 34450 ms  Step 10: should be the same as the previous step, but val#208 shows an extra error  [snip…]  FAIL: file:/home/rchen/test/testPrep/val217/delsup4.xml  ERROR [error.validation.internal\_error] Error executing validationTask: java.lang.NullPointerException  Begin Schema: https://pds.nasa.gov/pds4/rings/v1/PDS4\_RINGS\_1D00\_1900.xsd  ERROR [error.label.schema] line 1059, 78: src-resolve: Cannot resolve the name 'pds:Units\_of\_Gmass' to a(n) 'type definition' component.  ERROR [error.label.schema] line 1059, 78: src-resolve: Cannot resolve the name 'pds:Units\_of\_Gmass' to a(n) 'simpleType definition' component.  ERROR [error.label.schema] line 167, 74: src-resolve: Cannot resolve the name 'pds:local\_identifier' to a(n) 'element declaration' component.  ERROR [error.label.schema] line 183, 78: src-resolve: Cannot resolve the name 'pds:local\_identifier' to a(n) 'element declaration' component.  [snip…]  Step 11: the two products have equal width, widely different length  85c85  < <file\_name>val178.tab</file\_name>  ---  > <file\_name>nmd\_raw\_sc\_uvis\_20200309T124117-20200309T143020-28-10231-1.tab</file\_name>  89,90c89,90  < <records>2</records>  < <!--md5\_checksum>cb9114bd570918b94c612243796a8ea9</md5\_checksum-->  ---  > <records>4266</records>  > <md5\_checksum>cb9114bd570918b94c612243796a8ea9</md5\_checksum>  96c96  < <records>2</records>  ---  > <records>4266</records>  Step 12: val178: Improve performance with content validation off  Short file normal, with -D: 12401 ms, 10898 ms  Long file normal, with -D: 75571 ms, 14660 ms  Step 13: all standard good message  Step 14: this fails correctly. Val#201 inhibited checking  Step 15: VAL#118: at bottom, 385 errors = 228+74+74+8+1, 2 warnings  PDS Validate Tool Report Configuration:  Version 1.22.4  Date 2020-05-07T22:08:20Z  Parameters:  Targets [file:/home/rchen/test/testPrep/val118/]  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 /home/rchen/test/validate-1.22.4/resources/registered\_context\_products.json  Product Level Validation Results  FAIL: file:/home/rchen/test/testPrep/val118/bundle\_voroelden.xml  ERROR [error.label.schema] line 44, 37: cvc-complex-type.2.4.a: Invalid content was found starting with element '{"http://pds.nasa.gov/pds4/pds/v1":Internal\_Reference}'. One of '{"http://pds.nasa.gov/pds4/pds/v1":External\_Reference}' is expected.  ERROR [error.label.schema] line 56, 37: cvc-complex-type.2.4.a: Invalid content was found starting with element '{"http://pds.nasa.gov/pds4/pds/v1":Internal\_Reference}'. One of '{"http://pds.nasa.gov/pds4/pds/v1":External\_Reference}' is expected.  ERROR [error.label.context\_ref\_not\_found] line 53: 'Context product not found: urn:nasa:pds:context:instrument:vo1.rss  ERROR [error.label.context\_ref\_not\_found] line 57: 'Context product not found: urn:nasa:pds:context:instrument:vo2.rss  1 product validation(s) completed  PASS: file:/home/rchen/test/testPrep/val118/context/collection\_context\_voroelden.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  2 product validation(s) completed  [snip…]  FAIL: file:/home/rchen/test/testPrep/val118/data/voroelden\_1\_508\_a\_v01\_r00.xml  ERROR [error.label.context\_ref\_not\_found] line 30: 'Context product not found: urn:nasa:pds:context:investigation:mission.TBD  ERROR [error.label.context\_ref\_not\_found] line 40: 'Context product not found: urn:nasa:pds:context:instrument\_host:spacecraft.TBD  ERROR [error.label.context\_ref\_not\_found] line 48: 'Context product not found: urn:nasa:pds:context:instrument:TBD.TBD  Begin Content Validation: file:/home/rchen/test/testPrep/val118/data/voroelden\_1\_508\_a\_v01\_r00.tab  ERROR [error.table.records\_mismatch] table 2: Number of records read is not equal to the defined number of records in the label (expected 163, got 162).  End Content Validation: file:/home/rchen/test/testPrep/val118/data/voroelden\_1\_508\_a\_v01\_r00.tab  79 product validation(s) completed  Summary:  385 error(s)  2 warning(s)  Product Validation Summary:  1 product(s) passed  78 product(s) failed  0 product(s) skipped  Referential Integrity Check Summary:  0 check(s) passed  0 check(s) failed  0 check(s) skipped  Message Types:  228 error.label.context\_ref\_not\_found  74 error.table.records\_mismatch  74 error.table.missing\_CRLF  8 error.label.schema  1 error.label.duplicate\_identifier  2 warning.label.missing\_schematron\_spec  End of Report  Completed execution in 40183 ms  Step 16: val145: good description of --spot-check-data  usage: validate <target> <options>  [snip…]  --spot-check-data <num> Tool only checks every nth record or  line and skips the rest during data  content validation.  [snip…]  Step 17: Similar output to VAL.3 step 4  Step 18:  >>>>>>>>>>>>>>> OVERALL SUMMARY:  Summary:  12 error(s)  4 warnings(s)  End of Report  <<<<<<<<<<<<<<< |
| Comments | Minor bugs:  Step 9: [val#217](https://github.com/NASA-PDS/validate/issues/217) (was #149) is not fixed  Step 10: [val#188](https://github.com/NASA-PDS/validate/issues/208) (was #208) is not fixed |
| Date of Testing | 2020.05.08 |
| Test Personnel | Richard Chen |

## RDD Traceability

The Release Description (RDD) for Build 11.0,

<https://pds-engineering.jpl.nasa.gov/development/pds4/11.0.0/release/rdd-11.0.0.html>

guides the testing in this document. The RDD lists the issues, as tracked in github, that the software in this build addresses. Anomalies found during testing become github issues, so to avoid duplication of information and effort, this document does not track historical anomalies.

In the table below:

* Column 1: the issue ID, abbreviated from the RDD, used in the test steps above

“regAp#N” is “pds-registry-app#N” in the RDD  
“hvt#N” : “harvest#N”  
“elas#N” : “pds-registry-mgr-elastic#N”  
“doi#N” : “pds-doi-service#N”

“deep#N” : “pds-deep-archive#N”

“val#N” : “validate#N”

“im#N” : “pds4-information-model”

* Column 2: type of issue.  
  I: improvement  
  D: defect  
  R: requirement
* Column 3: status: “pass”, “skip”, “fail”.
* Column 4: if column 2 is “pass” or “fail”, the test case ID. If “skip”

“cost”: the value of the test would be minimal, and the effort, large

“docs”: the issue concerned documentation

“hidden”: the change was internal to the software with no external manifestation

“notyet”: the issue is not implemented yet

* Column 5: brief description of the issue

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| deep#13 | I | pass | DEEP.7 | Improve SIP Gen performance for very large data sets |
| deep#21 | I | pass | DEEP.2 | Develop one script to run both AIP and SIP generator |
| deep#24 | I | pass | DEEP.3 | Update software to only include latest collection in when bundle references LIDs |
| deep#28 | I | skip | docs | Update docs to include release instructions |
| deep#29 | D | pass | DEEP.8 | SIP and Transfer Manifest duplicate files and LIDVIDs |
| deep#39 | D | pass | DEEP.9 | SIP Generator not outputting correctly for spice example bundle |
| deep#41 | D | pass | DEEP.9 | AIP Generator not outputting correctly for spice example bundle |
| deep#44 | D | pass | DEEP.10 | SIP label contains invalid manifest URL using file path |
| deep#45 | R | pass | DEEP.1 | The tool shall be capable of generating a valid Archive Information Package transfer manifest and PDS4 XML label in accordance with the PDS4 Information Model |
| deep#46 | R | pass | DEEP.1 | The tool shall be capable of generating a valid AIP and SIP products and PDS4 XML label in accordance with the PDS4 Information Model |
| deep#47 | R | skip | notyet | The tool shall be capable of generating product manifests from an online Registry Service |
| deep#48 | R | pass | DEEP.1 | The tool shall be capable of generating product manifests by crawling a file system using the information contained within the specified bundle and collection products |
| deep#49 | R | pass | DEEP.1 | The tool shall generate a product manifest based upon the specification of a bundle as input |
| deep#50 | R | pass | DEEP.1 | The tool shall include products in the manifests based upon the relationships described in the PDS4 bundle and collection metadata |
| deep#51 | R | skip | notyet | The tool shall be capable of accepting a checksum manifest as input to use in place of Registry or on-demand product checksum generation |
| deep#52 | R | pass | DEEP.1 | The tool shall generate a PDS4 label for the SIP and AIP using at least PDS4 Information Model v1.13.0.0 |
| deep#53 | R | pass | DEEP.1 | The tool shall require AIP and SIP products contain only products with valid logical identifiers according to the PDS4 Standards Reference |
| deep#54 | R | pass | DEEP.1 | The Submission Information Package manifest shall be a tab-delimited table with one record per product and four fields per record containing the following fields: checksum value |
| deep#55 | I | pass | DEEP.4 | Add READMEs to AIPs and SIPs |
| deep#59 | D | pass | DEEP.17 | Update Usage instructions to more clearly define command-line arguments |
| deep#63 | I | pass | DEEP.5 | Add timestamp to SIP / AIP product LIDs and filenames |
| deep#64 | D | pass | DEEP.11 | Software does not exit after running against large data set |
| deep#65 | I | pass | DEEP.6 | Update software to handle Document\_File.directory\_path\_name |
| deep#69 | D | pass | DEEP.12 | Software appears to be excluding all the products associated with the collections |
| deep#71 | D | pass | DEEP.13 | AIP Generator outputs duplicate records in the checksum / transfer manifest |
| deep#75 | D | pass | DEEP.15 | Invalid filenames to match SIP / AIP LIDs |
| deep#77 | D | pass | DEEP.16 | Deep Archive doesn't do Windows |
| deep#78 | D | pass | DEEP.16 | Standalone AIP Generator Fails |
| deep#8 | I | skip | docs | Document SIP Gen component into Node Delivery procedures |
| deep#82 | D | skip | cost | Output SIP uses backslash in output URLs on Windows |
| doi#1 | I | skip | hidden | Develop initial requirements and design for DOI Service |
| doi#10 | R | pass | DOI.2 | The software shall be capable of batch processing >1 DOI requests. |
| doi#11 | R | pass | DOI.2 | The software shall be capable of autonomously generating the minimum set of DOI metadata from PDS4 Collection |
| doi#12 | R | pass | DOI.2 | The software shall validate a minimum set of metadata is provided when reserving |
| doi#13 | R | pass | DOI.2 | The software shall validate the DOI metadata when reserving |
| doi#14 | R | pass | DOI.1 | The software shall maintain a database of PDS DOIs and their current state. |
| doi#15 | R | pass | DOI.1 | The software shall maintain the ability to manage DOIs through OSTI |
| doi#16 | R | skip | notyet | The software shall maintain the ability to manage DOIs through DataCite. |
| doi#18 | I | pass | DOI.2 | Develop DOI metadata automated validation component |
| doi#19 | I | skip | hidden | Design REST API and JSON response |
| doi#2 | I | skip | hidden | Create / Draft a DOI object capability |
| doi#20 | I | skip | hidden | Develop draft PDS Policy for Assigning DOIs |
| doi#21 | I | pass | DOI.1 | Reserve a DOI capability |
| doi#22 | I | pass | DOI.1 | Release DOI capability |
| doi#24 | I | pass | DOI.1 | Update Released DOI capability |
| doi#25 | I | pass | DOI.2 | DOI Batch Processing capability |
| doi#26 | I | pass | DOI.1 | Implement initial DOI database and management |
| doi#27 | I | pass | DOI.1 | Develop DOI Status / Query component |
| doi#28 | I | skip | hidden | Re-organize and clean-up code to meet coding standards |
| doi#29 | I | pass | DOI.1 | Develop ability to maintain a transaction log database |
| doi#30 | R | pass | DOI.1 | The software shall provide a Status capability that will allow a user to query for the current status of a DOI |
| doi#31 | I | pass | DOI.1 | Develop maintain internal database of DOI requests |
| doi#32 | I | pass | DOI.1 | Develop Status / Query capability for querying database and return JSON |
| doi#33 | I | pass | DOI.1 | Develop Pending DOI Handler component for iteratively querying OSTI for DOI status until status change |
| doi#35 | R | skip | notyet | The software shall provide the capability of producing a DOI Status Report based upon a user-specified query |
| doi#4 | I | pass | DOI.1 | Develop Status / Query API and component for OSTI status of a DOI |
| doi#40 | I | skip | hidden | Develop operational documentation and test suite |
| doi#41 | I | skip | hidden | Develop simple regression test suite for deployment |
| doi#42 | I | skip | docs | Update documentation for operational installation and usage |
| doi#44 | I | skip | hidden | Perform benchmark tests between original prototype software and new system |
| doi#46 | I | pass | DOI.1 | Implement the command line and parser to release a doi |
| doi#5 | R | pass | DOI.1 | The software shall be capable of accepting a request to create a draft DOI. |
| doi#55 | D | pass | DOI.1 | Update default DOI metadata according to changes in requirements |
| doi#56 | I | pass | DOI.2 | validate the submitted OSTI record against a schema |
| doi#58 | I | pass | DOI.2 | create full\_name when first/last name cannot be parsed |
| doi#6 | R | pass | DOI.1 | The software shall be capable of accepting a request to reserve a DOI. |
| doi#60 | I | skip | docs | Add configuration documentation |
| doi#65 | I | skip | hidden | Revise DOI Service Requirements |
| doi#7 | R | pass | DOI.1 | The software shall be capable of accepting a request to release a DOI. |
| doi#70 | I | pass | DOI.2 | add check to ensure landing page is online prior to DOI release |
| doi#71 | I | skip | hidden | initialize production deployment with pre-existing dois |
| doi#72 | D | pass | DOI.2 | node is not provided as contributor in the reserve records |
| doi#8 | R | skip | notyet | The software shall be capable of accepting a request to deactivate a DOI. |
| doi#82 | I | skip | hidden | End to end behave test |
| doi#83 | I | skip | docs | Write procedure documentation |
| doi#9 | R | pass | DOI.1 | The software shall be capable of accepting a request to update DOI metadata. |
| elas#3 | I | skip | notyet | Implement Authentication |
| elas#7 | D | skip | notyet | update-schema command doesn't work |
| hvt#24 | I | pass | HVT.4 | Implement date conversion from PDS4 date/time strings to Solr format |
| hvt#29 | D | pass | HVT.11 | Could not parse date in yyyy-MM-ddZ format |
| hvt#30 | D | pass | HVT.11 | For multivalued fields only unique values are stored |
| hvt#4 | D | pass | HVT.4 | Fix bug where ingested product start\_date\_time is off by 12 hours |
| im#130 | I | pass | SCMA.1 | CCB-256: Need method for providing permissible value definitions for external namespaces in Ingest\_LDD |
| im#143 | I | pass | SCMA.1 | CCB-268 how to test this |
| im#158 | I | skip | hidden | LDDTool: Setup and configure CI/CD and Nightly Builds |
| im#165 | I | skip | hidden | CCB-284: Streamline process for adding or removing standard values. |
| im#166 | I | skip | notyet | CCB-285: GeoTIFF format as operational PDS4 image |
| im#167 | I | pass | SCMA.16 | LDDTool: Use sch:value-of to display a variable in Schematron validation |
| im#168 | D | pass | SCMA.14 | LDDTool: Version info bug introduced since v11.2.0 |
| im#172 | I | pass | SCMA.4 | LDDTool: Add PDS Namespace Registry information to Help output |
| im#176 | I | pass | SCMA.5 | LDDTool: Add error counter or flag to enable unsuccessful termination System.exit |
| im#178 | I | pass | SCMA.6 | LDDTool: Improve error messages to clearly designate between FATAL\_ERROR vs ERROR |
| im#180 | D | pass | SCMA.3 | LDDTool does not handle "unbounded" maximum cardinality in Choice blocks correctly |
| im#188 | D | pass | SCMA.10 | LDDTool: requires one class with (element\_flag = true) |
| im#192 | D | pass | SCMA.11 | LDDtool combining two consecutive choice blocks into one block |
| im#193 | I | pass | SCMA.1 | CCB-308: IM schematron needs to be updated to handle SI unit prefixes |
| im#203 | I | pass | SCMA.1 | CCB-290: Add value 'Field Campaign' to Investigation\_Area type enumerated value list |
| im#207 | I | pass | SCMA.1 | CCB-289: Define new class Encoded\_Audio to describe supplementary audio data products |
| im#214 | I | pass | SCMA.1 | CCB-292: New enumerated values for reference\_type. |
| im#216 | I | pass | QED | CCB-296: Duplicated value in enumerated value list of Product\_Context /Internal\_Reference /reference\_type. |
| im#218 | I | pass | SCMA.1 | CCB-294: Add enumerated value to Units\_of\_Pixel\_Resolution\_Angular |
| im#220 | I | pass | SCMA.1 | CCB-297: Inappropriate values in permissible values list for Product\_Observational/Observation\_Area/Target\_Identification/Internal\_Reference/reference\_type |
| im#222 | I | pass | SCMA.7 | LDDTool: Revise the handling of supplying the IM version (alternate version) via command-line |
| im#227 | D | pass | SCMA.12 | LDDTool: erroneously replaces TBD values with null in JSON output |
| im#229 | D | pass | SCMA.13 | LDDTool: uses wrong version of XSD when referencing IMG dictionary |
| im#230 | D | pass | SCMA.15 | LDDTool: update LDD attribute checking to only check for "type" and "\_type" |
| im#87 | I | skip | hidden | LDDTool: Enhance software error handling and logging for improved usability |
| im#88 | I | pass | SCMA.8 | LDDTool: Add capability to generate LDDs based on user-specified IM version |
| regAp#10 | I | pass | HVT.5 | Develop capability for handling multiple product versions |
| regAp#11 | I | skip | hidden | Develop Registry reporting / visualization component |
| regAp#15 | I | pass | HVT.6 | Develop cability to deploy Test vs Operations Registry environments |
| regAp#16 | I | pass | HVT.3 | Design and Implement capability to handle archive\_status |
| regAp#20 | I | skip | hidden | Update Schema Generator for handling special cases where ancestor classes are needed |
| regAp#21 | D | skip | hidden | Unable to build application due to file size limit |
| regAp#22 | I | skip | docs | Enhance documentation for PDS4 Attribute Search deployment and customization |
| regAp#3 | D | skip | cost | pds-app-registry doesn't build on Windows |
| regAp#30 | I | skip | docs | Design and document Registry cluster expansion approach |
| regAp#38 | I | skip | hidden | Complete revised trade study on Solr vs ElasticSearch |
| regAp#5 | D | skip | hidden | registry installation's documentation may be insufficient |
| regAp#54 | R | pass | HVT.7 | The service should be scalable to enable publishing and management of up to 100 million registrations |
| regAp#55 | R | pass | HVT.1 | The service shall allow for queries for registered artifacts |
| regAp#56 | R | pass | HVT.1 | The service shall assign a global unique identifier to a registered artifact |
| regAp#57 | R | pass | HVT.1 | The service shall accept artifact registrations. |
| regAp#58 | R | pass | HVT.1 | The service shall provide a means identifying relationships between artifact registrations |
| regAp#59 | R | pass | HVT.1 | The service shall maintain configuration regarding the classes of artifacts to be registered |
| regAp#6 | I | pass | HVT.4 | Develop PDS4 Attribute Search capability |
| regAp#65 | R | pass | HVT.1 | The service shall provide a staging capability for artifacts staged for release |
| regAp#66 | R | skip | notyet | The service shall require user authorization for updating registry metadata |
| regAp#67 | R | pass | HVT.10 | The service shall require a subset of file system metadata in order to support data metrics generation |
| regAp#68 | R | skip | notyet | The service shall require checksums as metadata for registry artifact to enable system-wide integrity checking |
| regAp#69 | R | pass | HVT.6 | The service shall enable replication of registry contents with another instance of the service |
| regAp#7 | I | pass | HVT.4 | Develop Customization capability for PDS4 Attribute Search |
| regAp#70 | R | pass | HVT.9 | The service shall allow deletion of registered artifacts |
| regAp#71 | R | pass | HVT.9 | The service shall allow updates to registered artifacts |
| regAp#72 | R | pass | HVT.1 | The service shall store metadata for a registered artifact in an underlying metadata store |
| regAp#73 | R | pass | HVT.9 | The service shall require a logical identifier and version be provided for all registered artifacts |
| regAp#74 | R | pass | HVT.8 | The service shall validate metadata for a registered artifact |
| regAp#75 | R | pass | HVT.1 | The service shall accept metadata for a registered artifact in a defined format |
| regAp#8 | I | skip | notyet | Design and implement Multi-Node Deployment capability |
| regAp#9 | I | skip | notyet | Design and implement Security and Authorization component |
| val#149 | D | fail | VAL.8 | Update software to check number of records specified in label matches the records in the table |
| val#15 | R | pass | VAL.7 | Verify that all name/type attribute values correspond to names denoted context products |
| val#177 | D | pass | VAL.16 | Software raises a field\_value\_overlap error on Table\_Binary Packed data fields |
| val#196 | R | skip | notyet | Add new functionality to validate TIFF products used as observational products are uncompressed TIFF |
| val#203 | D | skip | cost | Assembly plugin non-fatal errors on Windows |
| val#206 | D | pass | VAL.12 | Validate incorrectly fails ASCII\_Integer field that is space-padded (empty) in Table\_Character |
| val#209 | I | pass | VAL.16 | Packed\_Data\_Fields and bit fields do not validate as expected |
| val#214 | D | pass | CCB138 | validate outputs an extra '.' |
| val#215 | I | fail | VAL.9 | Throw warning when data exists after number of records |
| val#219 | D | skip | cost | validate v1.22.3 has large performance degradation on products with many tables |
| val#220 | D | pass | VAL.14 | Incorrect validation of number of records |
| val#222 | I | fail | VAL.9 | Reduce error messages for overlapping fields |
| val#233 | D | pass | VAL.15 | Product validation does not detect the number of table records correctly for Table + Array object |
| val#234 | D | pass | VAL.17 | Validate gives incorrect records mismatch WARNING for interleaved data objects |
| val#239 | R | skip | notyet | The tool shall verify bundle directories adhere directory naming standards |
| val#24 | R | skip | cost | Update context check to retrieve and use latest context products from EN Registry |
| val#243 | D | pass | VAL.18 | validate 1.24.0-SNAPSHOT chokes on a probably good file |
| val#247 | R | skip | notyet | The tool shall accept a pre-defined subset of inputs for specifying the associated schema file(s) as described in this issue |
| val#248 | R | skip | notyet | The tool shall verify that a digital objects which comprise observational data may be used in one and only one product |
| val#45 | R | skip | notyet | Check that referenced context products are valid |
| val#50 | R | pass | VAL.7 | Add new target-manifest flag for user to provide a manifest (file) of file/directory paths to validate |
| val#63 | I | pass | VAL.8 | Validate Table\_Character groups and their specified lengths match the specified group\_length |

Components not tested: pds4-jparser (internal to the software), transfer (no changes), pds-site-app (already operational), pds-api\* (not ready), pds-wds\* (not ready)

## Miscellaneous

### Test Data

https://pds-engineering.jpl.nasa.gov/content/build\_11.0\_deliverables has this document as well as test data PDS4test.build11.0.tgz.

### Test Environment

Build 11.0 integration and test environment encompasses the following:

|  |  |  |  |
| --- | --- | --- | --- |
| **Host** | **OS** | **RAM** | **Software** |
| RC’s laptop | macOS 10.14.6 | 32GB | all |
| pds-int | CentOS Linux 7 | 8GB | harvest lddtool registry-manager validate pds-deep-archive |

### Configuration Management

The PDS Configuration Management process will uniquely identify the build 11.0 and other releases. It will be followed and maintained by the Operations Team, which will act as the configuration management process engineer.

### Acronyms

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