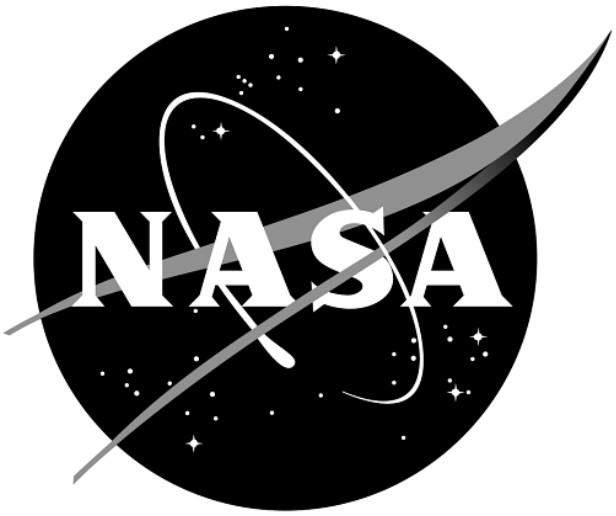
Plan Document

NASA Planetary Data System

PDS4 System

Build 5a Test Document



Change Log

Revision	Date	Description	Author
Draft		Initial draft release.	
1c	May 16, 2011	Modified many tests to work with build 1c of Harvest and Registry. Other minor revisions.	Richard Chen
1d	Oct 24, 2011	Updated for build 1d	Richard Chen
2a	Nov 11, 2011	Updated for build 2a	Richard Chen
2b	Feb 28, 2012	Updated for build 2b	Richard Chen
2b.1	Mar 7, 2012	Re-added HVT.T3, expanded SRCH.T5	Richard Chen
2c	Jul 17, 2012	Updated for build 2c	Richard Chen
3a	Oct 26, 2012	Added BNDL.T1 to .T4	Richard Chen
3b	Apr 09, 2013	Added AAFUNCTION.*	Richard Chen
3b.1	Aug 30, 2013	Incorporated JIRA resolutions	Richard Chen
3b.2	Sep 15, 2013	Cleaned up and removed not applicable test procedures	Richard Chen, Emily Law
4a	Dec. 05, 2013	Incorporated PDS4ORR-RFA1's reeendations by: • folding the test plan into this (test procedures and test results) document. • listing the requirements tested in each test case and their pass/fail status • adding version numbers in list of software components tested • indicating for each JIRA issue: the software build under which it was discovered, its severity, the test case demonstrating, and its description. • adding "pass", "fail", or "skip" to the requirements traceability matrix Added tests TPRT.1, SCMA.1 to test transport service and schema. Removed redundant tests AATESTME.*.	Richard Chen, Emily Law
4b	Apr 07, 2014	Added PRV.4, DSV.1	Richard Chen
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

Contents

1 Introduction

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

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

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

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

PDS previously maintained two separate documents:

- the Integration and Test Plan
- the Test Procedures and Report

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

1.1 Purpose

This Test Document 1) defines specific tests that ensure that the new system and the new standards called "PDS4" comply with requirements and meet customers' needs, and 2) reports results of the tests to verify and validate that the PDS4 system deployed for Build 5a 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.

1.2 Scope

For PDS4 Build 5a, the following software will be deployed at the EN:

- Ingest: Harvest 1.7.0, Catalog 1.8.0
- Portal: Data Set View 2.4.0
- Preparation: Core 1.6.0, Design (oXygen 14.1), Generate 0.7.2, Transform 1.0.0, Validate 1.6.0
- Registry: Core 1.7.0, Service 1.7.0, UI 1.7.0
- Report (Sawmill 8.5)
- Search: Core 1.5.0, Service 1.5.0, Search-UI 1.5.0, Product-Search-UI 1.5.0
- Storage 1.0.0, Product 1.0.0
- Security (OpenDS 2.2.0)
- Transport-Registry 1.1.0, Transport-OFSN 1.1.0, Transport-Proxy 1.1.0

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

1.3 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.

1.4 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 5a Integration testing is the execution and management of tests by the Engineering Node to ensure that the release of Build 5a 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.

1.5 Applicable Documents

1.5.1 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.

1.5.2 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.

2 Executive Summary

The testing documented herein substantiates that all tested tools and services meet Build 5a **requirements as specified in their Software Requirements and Design documents.**

# of tests performed	# of tests passed	# of tests failed	# of high priority anomalies
41	41	0	0

Build 5a closes JIRA issues PDS-85 (new option validate –f forces the use of the schema and schematron specified in the label). Build 5a opens JIRA issues PDS-312*, PDS-314*, PDS-315*, PDS-316*, PDS-317, PDS-319, PDS-321*, PDS-322, PDS-323*, PDS-324. Some (*) have already been closed. See the bottom of Section 4 below, Anomalies.

Section 3.2 has one sequence of four tests that represent the most likely operating scenario for PDS4 products: creation, validation, ingestion, search. The last test case AAFUNCTION.4 tests both product-search-ui, which searches for observational products, and search-ui, for context products. One request for improvement will likely be closed

Section 3.3 has one sequence of tests per software module. These tests cover level 4 and 5 requirements for completeness. The sequences:

- CTLG.* tested the updated catalog tool successfully. PDS-227 was closed, as reingestion of PDS3 catalog files PERSON and REF were determined to be acceptable.
- DSV.1 tested the Portal / Data Set View interface successfully.
- GEN.* tested general functionality successfully.
- HVT.* tested the Ingest/Harvest tool successfully. One request for improvement (PDS-166 in HVT.5: check if secondary members of a bundle match primary members) remains open.
- PRG.1 tested the Preparation/Generate tool successfully. Two requests for improvement (PDS-113 and -114: handle carets and add more looping constructs) remain open.
- PRT.1 tested the Preparation/Transform tool successfully. One new minor anomaly (PDS-313), that Transform converted only the first column of a PDS3 table, was created.
- PRV.* tested the updated Preparation/Validation tool succesfully. PDS-85, use the schema and schematron listed in the label, was implemented and closed. PRV.1 opened PDS-314, a bug that validate passed bad files if validating the directory, was fixed and already resolved. PRV.2 opened PDS-315, a bug that bad paths were missed, was fixed and resolved. PRV.3 opened PDS-316, a request for more warnings for options used with –I, has been implemented and resolved.
- REG.* tested the Registry successfully.
- RPT.1 tested the Report service successfully.
- SCMA.1 tested the PDS4 schema (v1.3.0.0) rather than software. These tests used the Validate tool and proceeded independently from the software build 5a.
- SEC.1 tested the Security service successfully.

- SRCH.* tested the Search service successfully, as well as the Portal/Data Set View service. SRCH.5's PDS-165 and PDS-258 remain open. SRCH.4 opened PDS-317, a request that registry-ui update the status of a package faster. SRCH.6 opened PDS-319, requesting a clarification of usage of :.
- TPRT.* tested the updated transport service successfully. TPRT.3 was rewritten to test every RETURN TYPE in the Transport REST interface. It opened PDS-322 for transport to include more PDS3 constructs, PDS-323 (a duplicate of PDS-296) to accept data_type ASCII_Date_Time, and PDS-324 to handle FITS and CDF files.

Section 4 lists all issues and their info: status, JIRA tracking number, severity, relevant test case, and description. Testing of Build 5a created 0 major anomalies, 4 minor ones, and 7 request for improvement. Overall, 10 issues remain open: 1 minor anomaly, 9 requests for improvement.

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

3 Test Procedures

The following section defines the tests and their results. All tests below have been run for build 5a (except those written for future builds) and will be run as necessary to re-test the system after software changes.

Section 3.2 below contains one sequence of tests that demonstrates how a bundle of products passes through the PDS4 software, especially the tools and services to support PDS4 data validation, registration, and search.

Section 3.3 contains tests that demonstrate the broader functionality of the PDS4 software.

3.1 Setup

The root URL for all software is https://pds-engineering.jpl.nasa.gov/development/pds4/5.0.0.

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

- **Harvest**, https://pds-engineering.jpl.nasa.gov/development/pds4/5.0.0/ingest/harvest
- **Registry**, https://pds-engineering.jpl.nasa.gov/development/pds4/5.0.0/registry
- **Search**, https://pds-engineering.jpl.nasa.gov/development/pds4/5.0.0/search
- **Validate**, https://pds-engineering.jpl.nasa.gov/development/pds4/5.0.0/preparation/validate
- an **XML editor**, e.g. Oxygen. This can be skipped, though not recommended.
- an XML-friendly web **browser**, e.g. firefox

The tests in Section 3.3 require the installation of the software above as well as:

- **Generate**, https://pds-engineering.jpl.nasa.gov/development/pds4/5.0.0/preparation/generate
- **Catalog**, https://pds-engineering.jpl.nasa.gov/development/pds4/5.0.0/ingest/catalog
- **Data Set View**, https://pds-engineering.jpl.nasa.gov/development/pds4/5.0.0/portal/ds-view
- **Storage**, https://pds-engineering.jpl.nasa.gov/development/pds4/5.0.0/storage
- **Transform**, https://pds-engineering.jpl.nasa.gov/development/pds4/5.0.0/preparation/transform
- **Transport**, https://pds-engineering.jpl.nasa.gov/development/pds4/5.0.0/transport
- **curl**, a command-line utility to access a URL, used here to manipulate a registry. The Registry Service Guide has more information. This is native to most versions of unix.

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

In the tests in the rest of this document, replace

testDir	directory where input files are extracted
binDir	directory where the PDS4 software are installed

harvest	If the registry is uncontrolled, do not replace. Else: harvest –u*username* –p*password* Also add "-k *keystorePassword*" depending on the registry configuration, especially if Harvest gives error "Keystore password must be specified"
curl	If the registry is uncontrolled, do not replace. Else: curl -u*username:password* –k
http://localhost:8080	Use the URL of the registry

The tests in Sections 3.2 and 3.3 require this:

Test Case ID	SETUP
Description	This is not a test. This sets up test data.
Test Steps	From https://pds-engineering.jpl.nasa.gov/content/build-5a-deliverables, get the latest "Test Data (.zip)", then • mkdir *testDir* • cd *testDir* • unzip PDS4test.build5a.zip

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

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

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

	cd *binDir*/registry-service/bin; ./registry-config

3.2 Testing of Bundle Processing

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

Test Case ID	AAFUNCTION.1
Description	Create a PDS4 Product Label using a design tool based on PDS's schema.
Requirements	PASS L5.PRP.DE.1: The tool shall initiate a design session as follows... PASS L5.PRP.DE.2: The tool shall accept the following as input for specifying a schema file... PASS L5.PRP.DE.3: The tool shall facilitate modification of a schema file as follows... PASS L5.PRP.DE.4: The tool shall provide standard editing features as follows... PASS L5.PRP.DE.5: The tool shall indicate when a schema is not valid. PASS L5.PRP.DE.6: The tool shall generate an XML instance file from a schema. PASS L5.PRP.DE.7: The tool shall export the schema for use outside the tool.
Success Criteria	Design tool produces a syntactically valid PDS Product Label else indicates where the label is invalid.
Test Steps	In general: • Consult Append D of the Data Providers' Handbook (DPH), Version 0.3.10
Test Results	Creation of a label-template (xml) from the master-schema (xsd).
Comments	Results met success criteria
Date of Testing	2014.10.16
Test Personnel	Richard Chen

Test Case ID	AAFUNCTION.2
Description	Validate PDS4 label
Requirements	PASS L5.PRP.VA.1: The tool shall accept the following as input for specifying the product(s) to be validated… PASS L5.PRP.VA.2: The tool shall traverse a directory tree and validate products PASS L5.PRP.VA.3: The tool shall validate aggregate products and all products referenced by such products. PASS L5.PRP.VA.5: The tool shall verify that a product label is well-formed XML. PASS L5.PRP.VA.6: The tool shall verify that a product label conforms to its associated schema file(s). PASS L5.PRP.VA.7: The tool shall accept the following as input for specifying the associated schema file(s)… PASS L5.PRP.VA.9: The tool shall indicate the schema(s) utilized during validation.
Success Criteria	Validation tool validates a file or all eligible products in a directory tree, indicates the schemas utilized during the validation, and ensures that a product label is well formed XML and conforms to its schemas. Also validate for content as well as syntax.
Test Steps	1. cd *testDir* 2. validate -t bundle_geo_ra -x PDS4_PDS_1100.xsd -S PDS4_PDS_1100.sch -e "*.xml"
Test Results	PDS Validate Tool Report Configuration: Version 1.6.0 Date 2014-10-22T06:09:18Z Parameters: Targets [file:*testDir*/bundle_geo_ra/] User Specified Schemas [PDS4_PDS_1301.xsd] User Specified Schematrons [PDS4_PDS_1301.sch] Severity Level WARNING Recurse Directories true

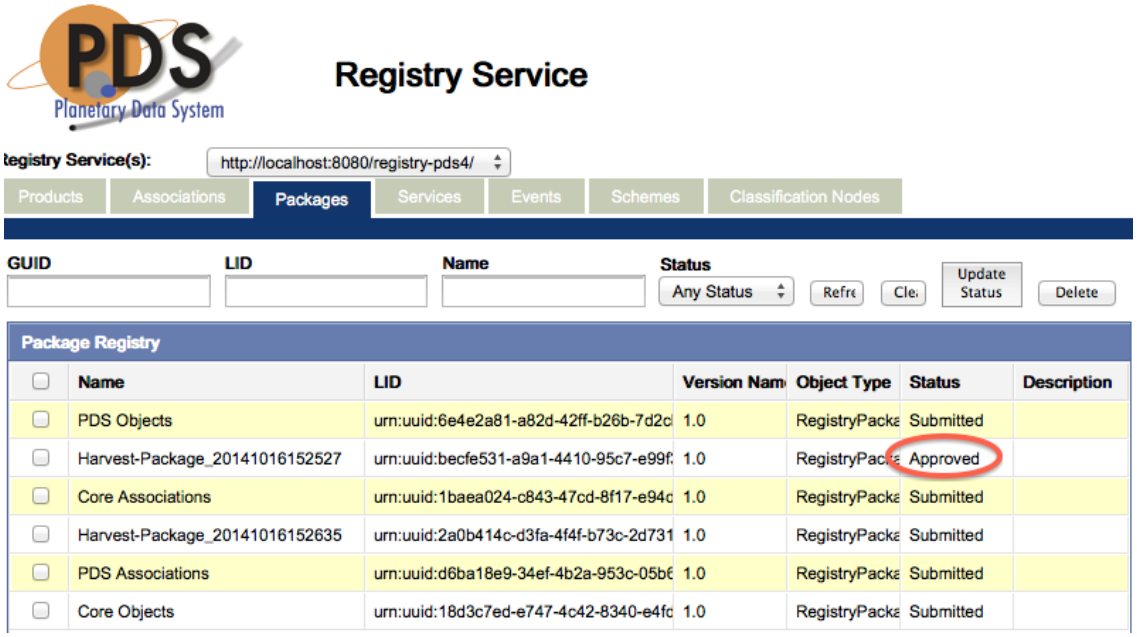
	File Filters Used [*.xml] Force Mode off Referential Integrity Check off Validation Details: PASS: file:*testDir*/bundle_geo_ra/bundle_1.xml PASS: file:*testDir*/bundle_geo_ra/context/context_collection_1.xml PASS: file:*testDir*/bundle_geo_ra/context/mars_planet.xml PASS: file:*testDir*/bundle_geo_ra/context/phoenix.xml PASS: file:*testDir*/bundle_geo_ra/context/phx.xml PASS: file:*testDir*/bundle_geo_ra/context/ra_phx.xml PASS: file:*testDir*/bundle_geo_ra/data_derived/data_derived_collection_1.xml PASS: file:*testDir*/bundle_geo_ra/data_derived/sol006.xml PASS: file:*testDir*/bundle_geo_ra/data_derived/sol007.xml [snip…] PASS: file:*testDir*/bundle_geo_ra/xml_schema/collection.xml PASS: file:*testDir*/bundle_geo_ra/xml_schema/PDS4_PDS_1301.xml Summary: 173 of 173 file(s) processed, 0 skipped 173 of 173 file(s) passed validation End of Report
Comments	Results met success criteria
Date of Testing	2014.10.22
Test Personnel	Richard Chen

Test Case ID	AAFUNCTION.3
Description	Harvest PDS4 labels. Harvest provides a command-line interface, accepts a configuration file, determines candidates for registration, captures metadata, and submits metadata to the Registry Service. Registry accepts the artifacts, assigns global unique IDs to the products. Registry relates artifacts via (LID-based) association
Requirements	PASS L5.HVT.1: The tool shall accept a configuration file specifying policy for tool behavior. PASS L5.HVT.2: The tool shall provide a command-line interface for execution. PASS L5.HVT.4: The tool shall recursively traverse the specified directory or directories… PASS L5.HVT.5: The tool shall determine candidate products for registration through a combination of the following… PASS L5.HVT.6: The tool shall capture metadata for a candidate product specified by the product type. PASS L5.HVT.7: The tool shall submit the associated metadata for a candidate product to the [Registry]. PASS L5.HVT.8: The tool shall track each product registration. PASS L5.REG.1: The service shall accept artifact registrations. PASS L5.REG.2: The service shall provide a means for relating artifact registrations. PASS L5.REG.4: The service shall accept metadata for a registered artifact in a defined format. PASS L5.REG.6: The service shall assign a global unique identifier to a registered artifact. PASS L5.REG.8: The service shall store metadata for a registered artifact in an underlying metadata store. PASS L5.SEC.1: The service shall authenticate a user given identifying credentials for that user.
Success Criteria	Harvest tool, based on criteria given in a user-edited configuration file, executed from the command line, discovers all matching artifacts and for each submits metadata to the Registry service. Tools to view the registry show the metadata of the matching artifacts, with appropriate metadata, including the guid, which is assigned by the Registry. Tools to view the registry show the associations.
Test Steps	1. cd *testDir* In the following commands, specify the absolute path, which must begin with harvest-policy-master.xml's policy/accessUrls/accessUrl/offset 2. harvest *testDir*/contextPDS4onlyPHX -c harvest-policy-master.xml -l h1.out -e "*.xml" 3. grep -v "SUCCESS|INFO" h1.out | uniq 4. harvest *testDir*/bundle_geo_ra -c harvest-policy-master.xml -l h2.out -e "*.xml" 5. grep -v "SUCCESS|INFO" h2.out | uniq The following set up search-core in the next test case. 6. Assuming *binDir*/harvest/bin/harvest points to registry.pds4, this has no data:

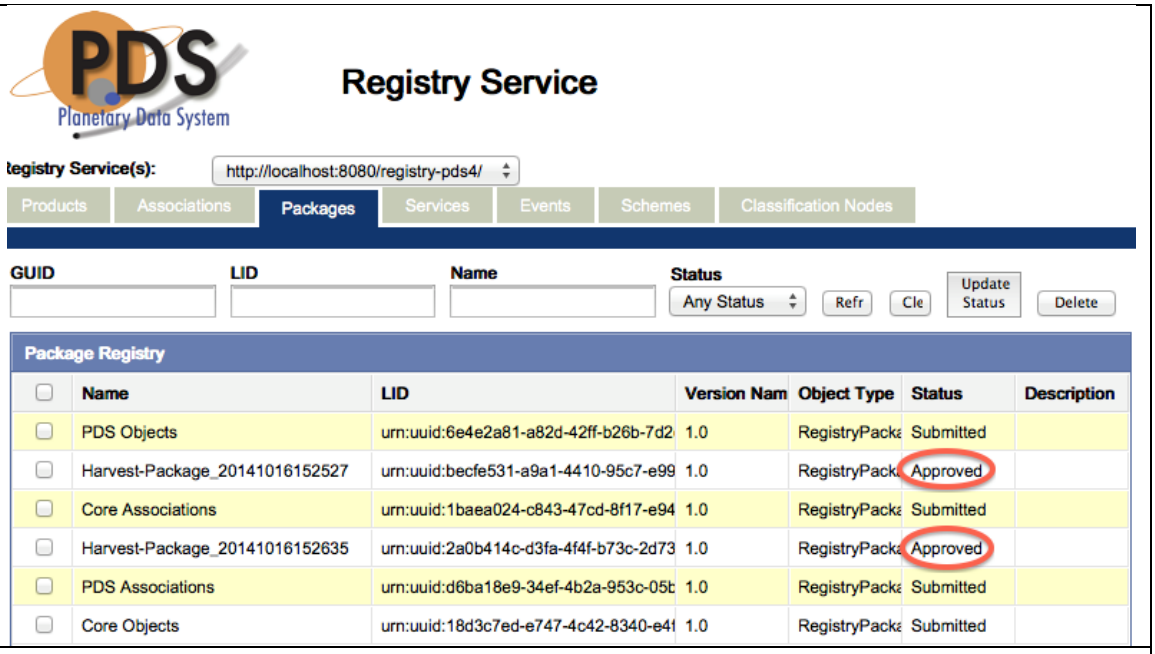
<table>
<tr><td></td><td>http://localhost:8080/registry-ui/
7. set Registry Service(s) to registry-pds4
8. Click tab “Packages”. Select one of the “Harvest-Package_*”, set Status to “Approved”, click “Update Status”.
9. Repeat for the other “Harvest-Package_*”</td></tr>
<tr><td>Test Results</td><td>Step 3: Without grep, the output file is very large
PDS Harvest Tool Log
Version Version 1.7.0
Time Thu, Oct 16 2014 at 03:25:27 PM
Target(s) [testDir/contextPDS4onlyPHX]
File Inclusions [*.xml]
Registry Location http://localhost:8080/registry-pds4
Registry Package Name Harvest-Package_20141016152527
Registration Package GUID urn:uuid:14a81695-9016-49f1-b9cd-329938c96dd8
Summary:
157 of 157 file(s) processed, 0 other file(s) skipped
0 error(s), 0 warning(s)
157 of 157 products registered.
163 of 163 ancillary products registered.
Product Types Registered:
150 Product_Context
1 Product_Bundle
6 Product_Collection
163 Product_File_Repository
163 of 163 associations registered.
End of Log
Step 5: Without grep, the output file is very large
PDS Harvest Tool Log
Version Version 1.7.0
Time Thu, Oct 16 2014 at 03:26:35 PM
Target(s) [testDir/bundle_geo_ra]
File Inclusions [*.xml]
Registry Location http://localhost:8080/registry-pds4
Registry Package Name Harvest-Package_20141016152635
Registration Package GUID urn:uuid:53e37f18-c08e-49f8-8bab-2724b7b38d6d
SKIP: [testDir/bundle_geo_ra/context/mars_planet.xml] Not a primary member.
SKIP: [testDir/bundle_geo_ra/context/phx.xml] Not a primary member.
SKIP: [testDir/bundle_geo_ra/context/ra_phx.xml] Not a primary member.
Summary:
168 of 168 file(s) processed, 3 other file(s) skipped
0 error(s), 0 warning(s)
168 of 168 products registered.
334 of 334 ancillary products registered.
Product Types Registered:
4 Product_Document
38 Product_Browse
120 Product_Observational
1 Product_Context
1 Product_Bundle
4 Product_Collection
334 Product_File_Repository
334 of 334 associations registered.
End of Log
Step 7:</td></tr>
</table>


Registry Service
Planetary Data System
Registry Service(s):
http://localhost:8080/registry-pds4/
Products
Associations
Packages
Services
Events
Schemes
Classification Nodes
GUID
LID
Name
Object Type
Any Object Type
Status
Any Status
Product Registry
Name
LID
Version Nar
Object Type
Status
sol099b
urn:nasa:pds:phx_ra:data_derived:sol099b:sol099b.
1.0
Product_File_Repository
Submitted
Phoenix Robotic Arm Derived Product: sol117
urn:nasa:pds:phx_ra:data_derived:sol117
1.0
Product_Observational
Submitted
sol031
urn:nasa:pds:phx_ra:data_derived:sol031:sol031.xn
1.0
Product_File_Repository
Submitted
sol045b
urn:nasa:pds:phx_ra:data_derived:sol045b:sol045b.
1.0
Product_File_Repository
Submitted
Imaging Online Data Volumes
urn:nasa:pds:context:resource:resource.phx-m-rac-
1.0
Product_Context
Submitted
pit_test_icy_soil_pic1
urn:nasa:pds:phx_ra:data_test:pit_test_icy_soil_pic1
1.0
Product_Browse
Submitted
Imaging Planetary Image Atlas
urn:nasa:pds:context:resource:resource.phx-m-rac-
1.0
Product_Context
Submitted
Phoenix Robotic Arm Derived Product: sol033a
urn:nasa:pds:phx_ra:data_derived:sol033a
1.0
Product_Observational
Submitted
Phoenix Robotic Arm Derived Product: sol093
urn:nasa:pds:phx_ra:data_derived:sol093
1.0
Product_Observational
Submitted
data_derived_collection_inventory_1
urn:nasa:pds:phx_ra:data_derived:data_derived_col
1.0
Product_File_Repository
Submitted
Phoenix Robotic Arm Derived Product: sol068a
urn:nasa:pds:phx_ra:data_derived:sol068a
1.0
Product_Observational
Submitted
ra_instrument
urn:nasa:pds:phx_ra:document:ra_instrument:ra_ins
1.0
Product_File_Repository
Submitted
pit_test_icy_soil_pic4
urn:nasa:pds:phx_ra:data_test:pit_test_icy_soil_pic4
1.0
Product_File_Repository
Submitted
sol057a
urn:nasa:pds:phx_ra:data_derived:sol057a:sol057a.
1.0
Product_File_Repository
Submitted
pit_test_duricrust_dig1_pic7
urn:nasa:pds:phx_ra:data_test:pit_test_duricrust_dig
1.0
Product_Browse
Submitted
sol148c
urn:nasa:pds:phx_ra:data_derived:sol148c:sol148c.
1.0
Product_File_Repository
Submitted
PDS4_resource_PHX-M-TEGA-2-EGAEDR-V1.0__
urn:nasa:pds:context:resource:resource.phx-m-tega
1.0
Product_File_Repository
Submitted
PDS4_resource_PHX-M-TEGA-4-SCRDR-V1.0__PI
urn:nasa:pds:context:resource:resource.phx-m-tega
1.0
Product_File_Repository
Submitted
Phoenix Robotic Arm Derived Product: sol062
urn:nasa:pds:phx_ra:data_derived:sol062
1.0
Product_Observational
Submitted
PDS4_resource_PHX-M-SSI-5-IOF-SCI-V1.0__DVC
urn:nasa:pds:context:resource:resource.phx-m-ssi-
1.0
Product_File_Repository
Submitted
Name
LID
Version Nar
Object Type
Status
1
of 42
Total Records: 822
Show:
20 records

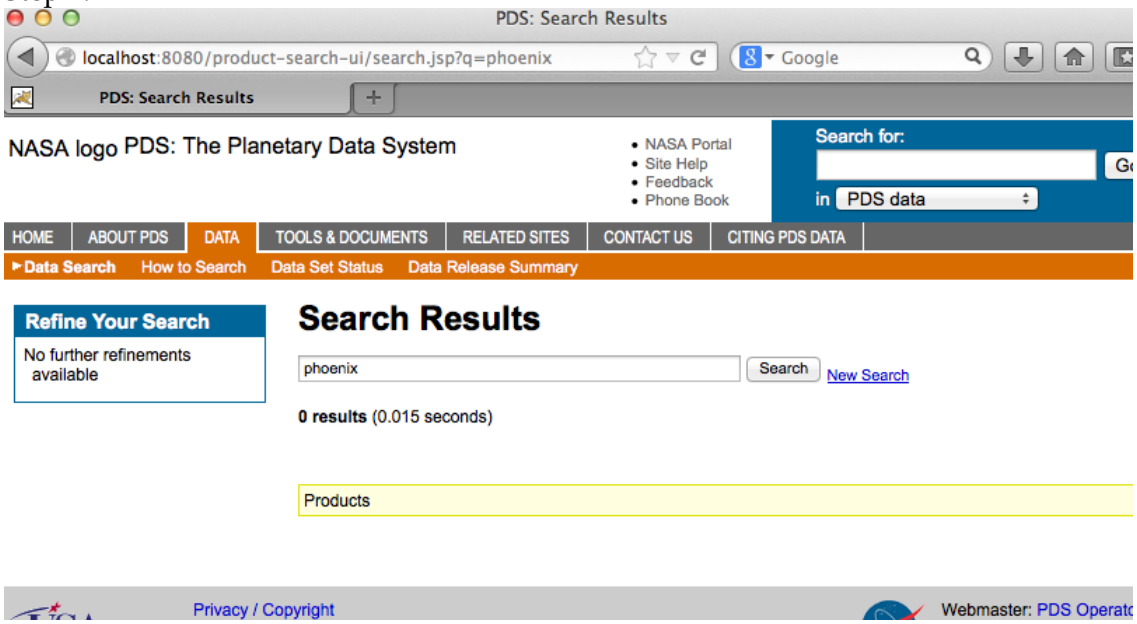
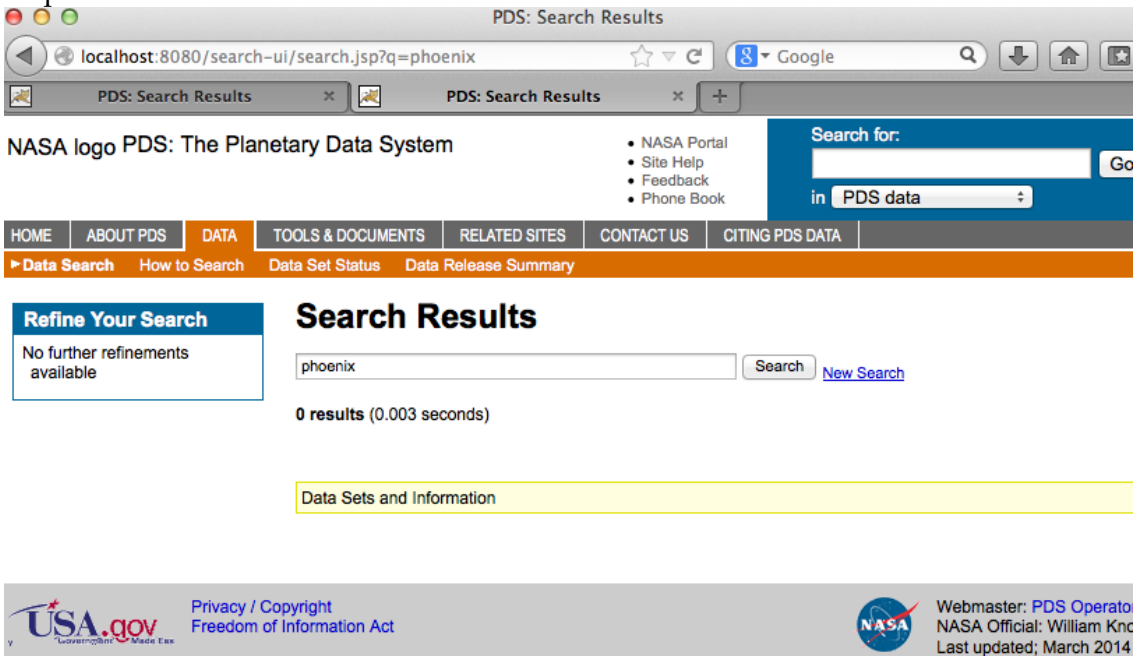
Step 8:


Registry Service
Planetary Data System
Registry Service(s):
http://localhost:8080/registry-pds4/
Products
Associations
Packages
Services
Events
Schemes
Classification Nodes
GUID
LID
Name
Status
Any Status
Refre
Cle
Update Status
Delete
Package Registry
Name
LID
Version Nam
Object Type
Status
Description
PDS Objects
urn:uuid:6e4e2a81-a82d-42ff-b26b-7d2c
1.0
RegistryPacka
Submitted
Harvest-Package_20141016152527
urn:uuid:becfe531-a9a1-4410-95c7-e99f
1.0
RegistryPack
Approved
Core Associations
urn:uuid:1baea024-c843-47cd-8f17-e94c
1.0
RegistryPacka
Submitted
Harvest-Package_20141016152635
urn:uuid:2a0b414c-d3fa-4f4f-b73c-2d731
1.0
RegistryPacka
Submitted
PDS Associations
urn:uuid:d6ba18e9-34ef-4b2a-953c-05b6
1.0
RegistryPacka
Submitted
Core Objects
urn:uuid:18d3c7ed-e747-4c42-8340-e4fc
1.0
RegistryPacka
Submitted

Step 9:

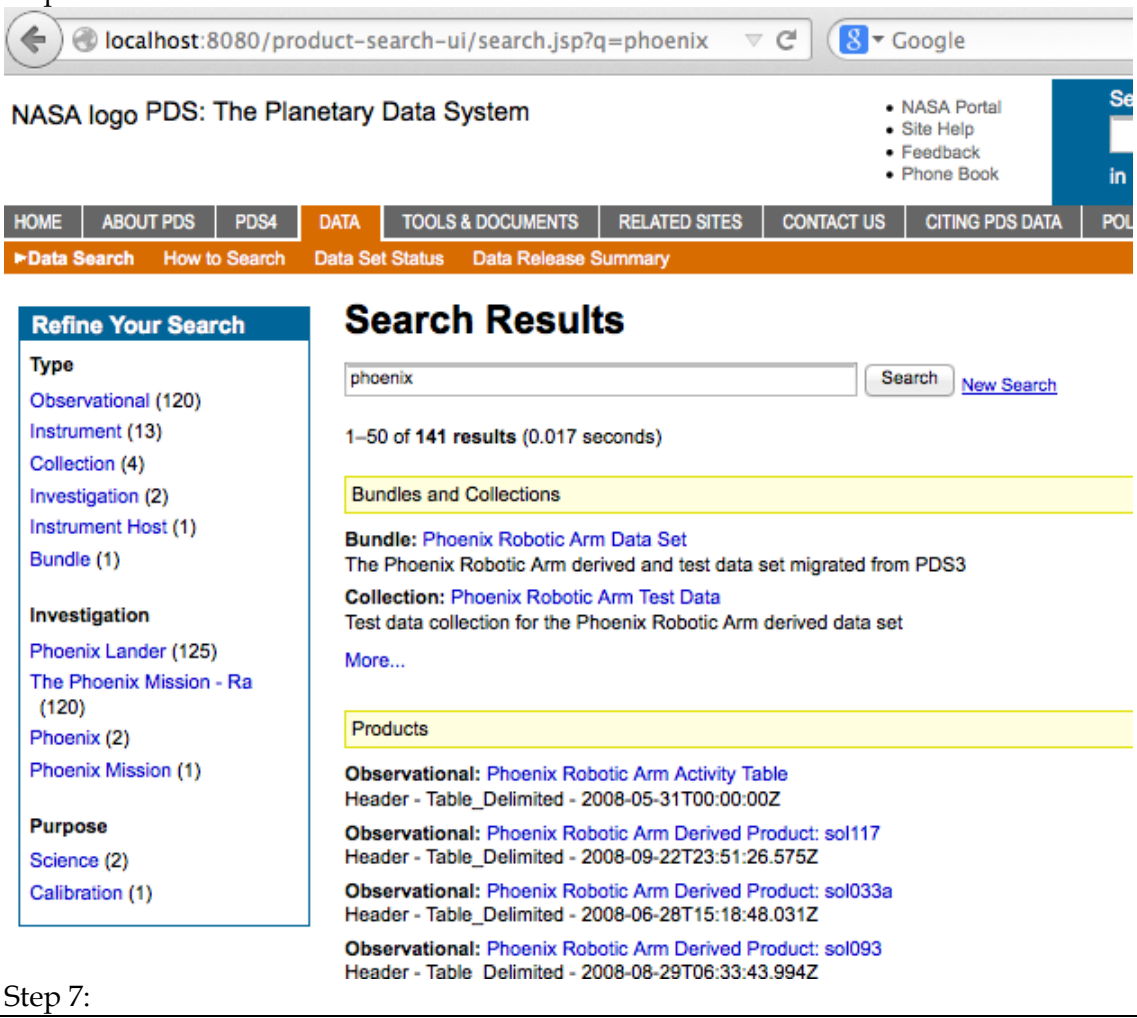
	
Comments	Results met success criteria. In the product bundle, the 3 SKIPs are for files deemed secondary in their respective collections via their lidvids. https://oodt.jpl.nasa.gov/jira/browse/PDS-312, created and resolved during testing of build 5a, reported that http://localhost:8080/registry-ui required an extra click, but the behavior was unreproducable.
Date of Testing	2014.10.16
Test Personnel	Richard Chen

Test Case ID	AAFUNCTION.4
Description	Search for PDS4 data at the product level and the context level.
Requirements	PASS L5.SCH.1: The service shall provide a user interface for entering of queries and display of search results… PASS L5.SCH.5: The service shall provide the capability to retrieve metadata associated with registered artifacts for the purpose of generating search indexes. PASS L5.SCH.6: The service shall support searching by accepting criteria as a sequence of open text keywords. PASS L5.SCH.8: The service shall support narrowing of additional index results based on specifications of terms and/or values on indexes. PASS L5.SCH.10: The service shall provide results to a search as a sequence of matching URIs to resources that contain search desiderata. PASS L5.SCH.11: The service shall annotate each URI of a result with metadata describing the URI. PASS L5.SCH.12: The service shall support configuration on the kinds of indexes maintained on indexed data
Success Criteria	After configuration (e.g. regenerating search indices), Search returns the data harvested in the previous step.
Test Steps	Build the search index 1. In a browser, http://localhost:8080/product-search-ui 2. Beneath "Data Search" in the middle of the page, type "phoenix" 3. In a browser, http://localhost:8080/search-ui 4. Beneath "Data Search" in the middle of the page, type "phoenix" 5. search-core -H *binDir*/search-service/pds -p *binDir*/search-core/conf/defaults/pds/pds4/core.properties 6. Repeat step 2

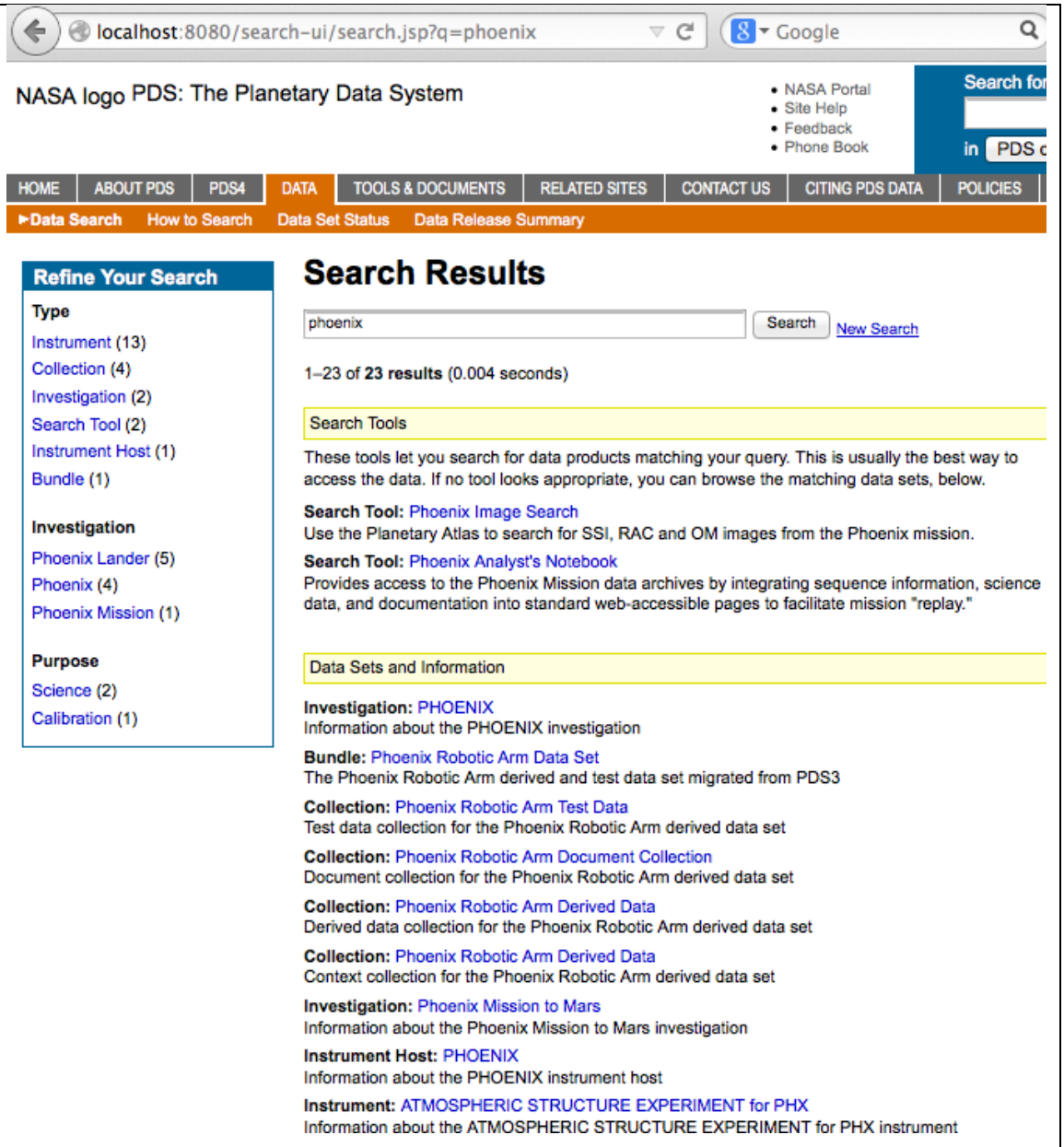
	7. Repeat step 4
Test Results	Step 2:  Step 4:  Step 5: Processing config: bundle.xml Processing config: collection.xml Processing config: context.xml Processing config: observational.xml PDS Search Core Run Log Version Version 1.5.0 Time Thu, Oct 16 2014 at 03:49:26 PM Severity Level INFO Search Home /PDS4tools/search-service/pds Search Service URL http://localhost:8080/search-service Search Core Properties /PDS4tools/search-core/conf/defaults/pds/pds4/core.properties SUCCESS: Completed extraction: bundle.xml SUCCESS: Completed extraction: collection.xml SUCCESS: Completed extraction: context.xml SUCCESS: Completed extraction: observational.xml SUCCESS: Completed extracting data from data source.

INFO: Running Solr Indexer to create new solr documents for indexing ...
SUCCESS: Completed transforming data into Solr Lucene index
INFO: Running Solr Post to Post Data To Search Service ...
INFO: Cleaning Search Service Index
INFO: Posting: /PDS4tools/search-service/pds/index/solr_index.xml.0
INFO: Posting: /PDS4tools/search-service/pds/index/search-tools.xml
INFO: Optimizing Search Service index.
SUCCESS: Completed posting data to the Search Service
Summary:
==========
The Numbers:
-- Number of Warnings: 0
-- Number of Errors: 0
-- Bad Registries: []
-- Number of Missing Associations: 0
-- Association Cache Hits: 0
-- Number of products: 283
==========
Processing Time:
-- bundle.xml: 0 h, 0 m, 4 s
-- context.xml: 0 h, 0 m, 3 s
-- collection.xml: 0 h, 0 m, 1 s
-- observational.xml: 0 h, 1 m, 25 s
==========
Total Processing Time: 0 h, 1 m, 35 s
End of Log

Step 6:



Step 7:

	
Comments	Results met success criteria.
Date of Testing	2014.10.16
Test Personnel	Richard Chen

3.3 Testing for Complete Coverage of PDS4 Level 5 Requirements

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

Test Case ID	CTLG.1
Description	Compare PDS3 data against other PDS3 data, both file to file and directory to directory

Requirements	PASS 4.2.4: PDS will provide a mechanism to upgrade products or data sets which do not meet usability requirements (e.g., data sets from old missions)
Success Criteria	Tool reports differences.
Test Steps	1. cd *testDir* 2. catalog -mcompare testCatalog/CORPWS_0164 testCatalog/CORPWS_0180 Compare two files with one difference. Note: catalog used to crash with the –c option 3. catalog -c testCatalog/config
Test Results	Step 2: PDS Catalog Ingest Tool Report Configuration: Version Version 1.8.0 Date Tue, Oct 14 2014 at 05:52:42 PM Parameters: Mode compare Target(s) Source = file:*testDir*/testCatalog/CORPWS_0164/ Target = file:*testDir*/testCatalog/CORPWS_0180/ Directory Recursion true Severity Level WARNING Compare Details: SAME: file:*testDir*/testCatalog/CORPWS_0180/INSTHOST.CAT SAME: file:*testDir*/testCatalog/CORPWS_0180/KEYDS.CAT SAME: file:*testDir*/testCatalog/CORPWS_0180/LRFULLDS.CAT SAME: file:*testDir*/testCatalog/CORPWS_0180/MISSION.CAT SAME: file:*testDir*/testCatalog/CORPWS_0180/PERSON.CAT SAME: file:*testDir*/testCatalog/CORPWS_0180/PROJREF.CAT SAME: file:*testDir*/testCatalog/CORPWS_0180/RAWDS.CAT SAME: file:*testDir*/testCatalog/CORPWS_0180/REF.CAT SAME: file:*testDir*/testCatalog/CORPWS_0180/RPWSINST.CAT DIFFERENT: file:*testDir*/testCatalog/CORPWS_0180/VOLDESC.CAT line 23: Element "DATA_SET_ID" has different value than source. Source: line 23 of file:*testDir*/testCatalog/CORPWS_0164/VOLDESC.CAT 23c23 < CO-V/E/J/S/SS-RPWS-4-SUMM-KEY60S-V1.0 --- > {CO-V/E/J/S/SS-RPWS-4-SUMM-KEY60S-V1.0, CO-V/E/J/S/SS-RPWS-2-REFDR-ALL-V1.0, CO-V/E/J/S/SS-RPWS-3-RDR-LRFULL-V1.0, CO-V/E/J/S/SS-RPWS-2-REFDR-WBRFULL-V1.0, CO-V/E/J/S/SS-RPWS-2-REFDR-WFRFULL-V1.0} line 16: Element "DESCRIPTION" has different value than source. Source: line 16 of file:*testDir*/testCatalog/CORPWS_0164/VOLDESC.CAT 19c19 < (SCET) dates 2011-05-27 (147) through 2011-06-12 (163). --- > (SCET) dates 2012-11-26 (331) through 2012-12-23 (358). line 9: Element "VOLUME_NAME" has different value than source. Source: line 9 of file:*testDir*/testCatalog/CORPWS_0164/VOLDESC.CAT 10c10 < VOLUME 164: CASSINI RADIO AND PLASMA WAVE STANDARD PRODUCTS --- > VOLUME 180: CASSINI RADIO AND PLASMA WAVE STANDARD PRODUCTS line 15: Element "PUBLICATION_DATE" has different value than source. Source: line 15 of file:*testDir*/testCatalog/CORPWS_0164/VOLDESC.CAT 15c15 < 2011-12-22 --- > 2013-03-28 line 11: Element "VOLUME_ID" has different value than source. Source: line 11 of file:*testDir*/testCatalog/CORPWS_0164/VOLDESC.CAT 11c11 < CORPWS_0164 --- > CORPWS_0180 line 74: Element "DATA_SET_ID" has different value than source. Source: line 70 of file:*testDir*/testCatalog/CORPWS_0164/VOLDESC.CAT

	70c74 < CO-V/E/J/S/SS-RPWS-4-SUMM-KEY60S-V1.0 --- > {CO-V/E/J/S/SS-RPWS-4-SUMM-KEY60S-V1.0, CO-V/E/J/S/SS-RPWS-2-REFDR-ALL-V1.0, CO-V/E/J/S/SS-RPWS-3-RDR-LRFULL-V1.0, CO-V/E/J/S/SS-RPWS-2-REFDR-WBRFULL-V1.0, CO-V/E/J/S/SS-RPWS-2-REFDR-WFRFULL-V1.0} line 80: Pointer "DATA_SET_CATALOG" has different value than source. Source: line 71 of file:*testDir*/testCatalog/CORPWS_0164/VOLDESC.CAT 71c80 < KEYDS.CAT --- > {KEYDS.CAT, RAWDS.CAT, LRFULLDS.CAT, WBFULLDS.CAT, WFFULLDS.CAT} line 86: Pointer "REFERENCE_CATALOG" has different value than source. Source: line 72 of file:*testDir*/testCatalog/CORPWS_0164/VOLDESC.CAT 72c86 < {REF.CAT} --- > {REF.CAT, PROJREF.CAT} SAME: file:*testDir*/testCatalog/CORPWS_0180/WBFULLDS.CAT SAME: file:*testDir*/testCatalog/CORPWS_0180/WFFULLDS.CAT Summary: 12 of 12 validated, 0 skipped 11 of 12 passed End of Report Step 3: PDS Catalog Ingest Tool Report Configuration: Version Version 1.8.0 Date Tue, Oct 14 2014 at 05:55:28 PM Parameters: Mode compare Target(s) Source = file:*testDir*/testCatalog/CORPWS_0164/RAWDS.CAT Target = file:*testDir*/testCatalog/CORPWSrawX.CAT Directory Recursion true Severity Level WARNING Compare Details: DIFFERENT: file:*testDir*/testCatalog/CORPWSrawX.CAT line 56: Element "DATA_SET_DESC" has different value than source. Source: line 56 of file:*testDir*/testCatalog/CORPWS_0164/RAWDS.CAT 126,130c126,130 < kernels can be used with the SPICE toolkit to convert from the < spacecraft frame to virtually any frame which may be of use in < analyzing these data. However, for many purposes, the wave < amplitudes are extremely useful and may be entirely adequate with no < coordinate transformations at all. --- > kernels EXTRAWORDHERE can be used with the SPICE toolkit to convert > from the spacecraft frame to virtually any frame which may be of > use in analyzing these data. However, for many purposes, the > wave amplitudes are extremely useful and may be entirely adequate > with no coordinate transformations at all. Summary: 1 of 1 validated, 0 skipped 0 of 1 passed End of Report
Comments	Results met success criteria.
Date of Testing	2014.10.14
Test Personnel	Richard Chen

Test Case ID	CTLG.2
Description	Validate a submission of PDS3 data.

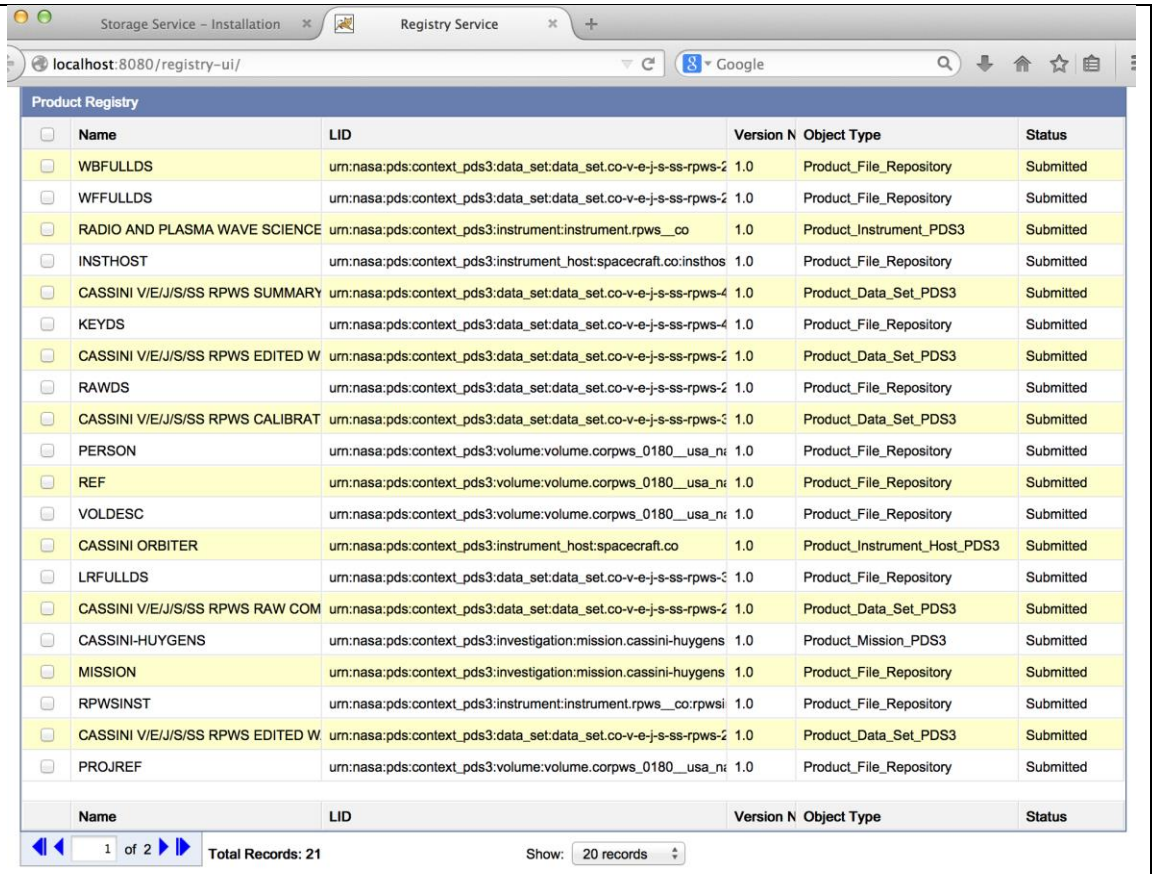
Requirements	PASS 4.2.4: PDS will provide a mechanism to upgrade products or data sets which do not meet usability requirements (e.g., data sets from old missions)
Success Criteria	Tool flags invalid language constructs.
Test Steps	1. catalog -mvalidate -d testCatalog/pdsdd.full -t testCatalog/LRO_diviner
Test Results	Step 1: PDS Catalog Ingest Tool Report Configuration: Version Version 1.8.0 Date Tue, Oct 14 2014 at 05:56:36 PM Parameters: Mode validate Target file:*testDir*/testCatalog/LRO_diviner/ Directory Recursion true Dictionary File(s) [testCatalog/pdsdd.full] Severity Level WARNING Aliasing Enabled false Validation Details: PASS: file:*testDir*/testCatalog/LRO_diviner/dsmap.cat PASS: file:*testDir*/testCatalog/LRO_diviner/dsmap_polar.cat PASS: file:*testDir*/testCatalog/LRO_diviner/gdrds.cat PASS: file:*testDir*/testCatalog/LRO_diviner/inst.cat PASS: file:*testDir*/testCatalog/LRO_diviner/insthost.cat PASS: file:*testDir*/testCatalog/LRO_diviner/mission.cat PASS: file:*testDir*/testCatalog/LRO_diviner/person.cat PASS: file:*testDir*/testCatalog/LRO_diviner/prpds.cat PASS: file:*testDir*/testCatalog/LRO_diviner/rdrds.cat PASS: file:*testDir*/testCatalog/LRO_diviner/ref.cat FAIL: file:*testDir*/testCatalog/LRO_diviner/voldesc.cat Begin Fragment: file:*testDir*/testCatalog/LRO_diviner/INSTHOST.CAT WARNING The label fragment, "INSTHOST.CAT", should not contain a PDS_VERSION_ID. End Fragment: file:*testDir*/testCatalog/LRO_diviner/INSTHOST.CAT Begin Fragment: file:*testDir*/testCatalog/LRO_diviner/INST.CAT WARNING The label fragment, "INST.CAT", should not contain a PDS_VERSION_ID. End Fragment: file:*testDir*/testCatalog/LRO_diviner/INST.CAT Begin Fragment: file:*testDir*/testCatalog/LRO_diviner/PERSON.CAT WARNING The label fragment, "PERSON.CAT", should not contain a PDS_VERSION_ID. End Fragment: file:*testDir*/testCatalog/LRO_diviner/PERSON.CAT Begin Fragment: file:*testDir*/testCatalog/LRO_diviner/MISSION.CAT WARNING The label fragment, "MISSION.CAT", should not contain a PDS_VERSION_ID. ERROR line 40: Found a reference, "SAYLOR2006A", which is not defined in a REFERENCE_KEY_ID within the label. ERROR line 40: Found a reference, "SAYLOR2006B", which is not defined in a REFERENCE_KEY_ID within the label. End Fragment: file:*testDir*/testCatalog/LRO_diviner/MISSION.CAT Begin Fragment: file:*testDir*/testCatalog/LRO_diviner/REF.CAT WARNING The label fragment, "REF.CAT", should not contain a PDS_VERSION_ID. End Fragment: file:*testDir*/testCatalog/LRO_diviner/REF.CAT Begin Fragment: file:*testDir*/testCatalog/LRO_diviner/GDRDS.CAT WARNING The label fragment, "GDRDS.CAT", should not contain a PDS_VERSION_ID. End Fragment: file:*testDir*/testCatalog/LRO_diviner/GDRDS.CAT Referential Integrity Details: FAIL: Reference Parent File(s): [ref.cat] Begin checking children dsmap.cat: "REFERENCE_KEY_ID = SEIDELMANNETAL2002" is not found in a(n) "ref.cat". dsmap.cat: "REFERENCE_KEY_ID = SNYDER1987" is not found in a(n) "ref.cat". dsmap_polar.cat: "REFERENCE_KEY_ID = SEIDELMANNETAL2002" is not found in a(n) "ref.cat". dsmap_polar.cat: "REFERENCE_KEY_ID = SNYDER1987" is not found in a(n) "ref.cat". End checking children PASS: Instrument Host Parent File(s): [insthost.cat] Begin checking children End checking children PASS: Data Set Parent File(s): [gdrds.cat, prpds.cat, rdrds.cat] Begin checking children

	End checking children PASS: Mission Parent File(s): [mission.cat] Begin checking children End checking children PASS: Personnel Parent File(s): [person.cat] Begin checking children End checking children PASS: Instrument Parent File(s): [inst.cat] Begin checking children End checking children New Standard Values: Referential Integrity Summary: 6 of 6 referential integrity check(s) made, 0 skipped 5 of 6 passed New Standard Values Summary: 0 new standard value(s) found Summary: 11 of 11 validated, 0 skipped 10 of 11 passed End of Report
Comments	Results met success criteria. All warnings and errors are either expected or carried over from PDS3 and do not affect meeting success criteria.
Date of Testing	2014.10.14
Test Personnel	Richard Chen

Test Case ID	CTLG.3
Description	Ingest valid PDS3 files into the PDS4 registry service
Requirements	PASS 4.2.4: PDS will provide a mechanism to upgrade products or data sets which do not meet usability requirements (e.g., data sets from old missions)
Success Criteria	Catalog successfully ingests the PDS3 files into the registry else indicates where the input is invalid. Tools to view the registry show the metadata of the PDS3 files
Test Steps	The catalog ingest requires access to a storage service. In its own terminal window: • storage-service stop # warning message if storage-service was not running • cd *binDir*/storage-service • rm -r archive/ catalog/ logs/ run/ • storage-service start Also clean database as described in RESETREGISTRY in Section 3.1 Nominal case, including multiple REF.CATs: 1. catalog testCatalog/CORPWS_0180 -m ingest -s http://localhost:9000 -T http://localhost:8080/product -v 1 -r c1.out 2. In a browser: http://localhost:8080/registry-ui to see registrations 3. To test the product service, copy a productID from c1.out, e.g. the first one: curl -X GET -o x.cat -v "http://localhost:8080/product/data?productID=*productID*" 4. diff x.cat testCatalog/CORPWS_0180/INSTHOST.CAT When >1 voldesc lists the same catalog files (e.g. mission.cat), do not re-register them. 5. catalog testCatalog/CORPWS_0164 -m ingest -s http://localhost:9000 -T http://localhost:9999 -r c3.out 6. See registration of only voldesc: http://localhost:8080/registry-ui Give good error messages if file listed in voldesc is missing

	7. catalog testCatalog/MPC_review -m ingest -s http://localhost:9000 -T http://localhost:9999 Nicely ignore dsmap catalog files. 8. catalog testCatalog/LRO_diviner -m ingest -s http://localhost:9000 -T http://localhost:9999 -r c6.out Quit and give a nice error message when the mode is not specified. 9. catalog testCatalog/CORPWS_0180
Test Results	Step 1: multiple REF.CATs no longer kill ingest. Ignore the command line warnings about "attempt to overwrite". The contents of c1.out: PDS Catalog Ingest Tool Report Configuration: Version Version 1.8.0 Date Thu, Oct 30 2014 at 02:45:16 PM Parameters: Mode ingest Target file:*testDir*/testCatalog/CORPWS_0180/ Directory Recursion true Severity Level INFO Report File c1.out Ingest Details: PASS: file:*testDir*/testCatalog/CORPWS_0180/INSTHOST.CAT INFO: Successfully registered a product. LIDVID - urn:nasa:pds:context_pds3:instrument_host:spacecraft.co::1.0 INFO: Product GUID - urn:uuid:fd6cbf80-99e1-4dcf-a7bc-86b62919a868 INFO: Successfully delivered a catalog file to the storage service. productID - 0a145d24-607e-11e4-b0bf-1fc0cef253b2 INFO: Successfully ingested a file object. GUID - urn:uuid:f502aa71-ce49-42dd-a802-a384391f471d PASS: file:*testDir*/testCatalog/CORPWS_0180/KEYDS.CAT INFO: Successfully registered a product. LIDVID - urn:nasa:pds:context_pds3:data_set:data_set.co-v-e-j-s-ss-rpws-4-summ-key60s-v1.0::1.0 INFO: Product GUID - urn:uuid:70d667bc-eb78-45a2-a40a-02cc9e158ae4 INFO: Successfully delivered a catalog file to the storage service. productID - 0a5f96f5-607e-11e4-b0bf-1fc0cef253b2 INFO: Successfully ingested a file object. GUID - urn:uuid:07f71327-9f1b-4727-b9eb-008d51990410 PASS: file:*testDir*/testCatalog/CORPWS_0180/LRFULLDS.CAT INFO: Successfully registered a product. LIDVID - urn:nasa:pds:context_pds3:data_set:data_set.co-v-e-j-s-ss-rpws-3-rdr-lrfull-v1.0::1.0 INFO: Product GUID - urn:uuid:779360c5-3e68-43a8-a41e-aebf65f105de INFO: Successfully delivered a catalog file to the storage service. productID - 0a808c76-607e-11e4-b0bf-1fc0cef253b2 INFO: Successfully ingested a file object. GUID - urn:uuid:53bfd706-d4c0-423a-a1f2-67738fbd6517 PASS: file:*testDir*/testCatalog/CORPWS_0180/MISSION.CAT INFO: Successfully registered a product. LIDVID - urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens::1.0 INFO: Product GUID - urn:uuid:c0a73d1d-848b-4d6a-ab0b-61e8dbdb885f INFO: Successfully delivered a catalog file to the storage service. productID - 0aa181f7-607e-11e4-b0bf-1fc0cef253b2 INFO: Successfully ingested a file object. GUID - urn:uuid:3b117860-95a9-4cb8-9273-b28eead6eafe PASS: file:*testDir*/testCatalog/CORPWS_0180/PERSON.CAT WARNING: This file is not required to ingest into the registry. INFO: Successfully delivered a catalog file to the storage service. productID - 0acf21a8-607e-11e4-b0bf-1fc0cef253b2 INFO: Successfully ingested a file object. GUID - urn:uuid:2df05c9a-ea89-46d4-a384-f147d3a5782c PASS: file:*testDir*/testCatalog/CORPWS_0180/PROJREF.CAT WARNING: This file is not required to ingest into the registry. INFO: Successfully delivered a catalog file to the storage service. productID - 0adf2739-607e-11e4-b0bf-1fc0cef253b2 INFO: Successfully ingested a file object. GUID - urn:uuid:7fb82b8a-1103-45f7-9937-8771b177fb98 PASS: file:*testDir*/testCatalog/CORPWS_0180/RAWDS.CAT INFO: Successfully registered a product. LIDVID - urn:nasa:pds:context_pds3:data_set:data_set.co-v-e-j-s-ss-rpws-2-refdr-all-v1.0::1.0 INFO: Product GUID - urn:uuid:5e951e99-f9a8-4c04-9e07-a03f4d59ff9d INFO: Successfully delivered a catalog file to the storage service. productID - 0af40eca-607e-11e4-b0bf-1fc0cef253b2 INFO: Successfully ingested a file object. GUID - urn:uuid:bc5cf1c1-d6b7-410f-a662-889e7127c769 PASS: file:*testDir*/testCatalog/CORPWS_0180/REF.CAT

	WARNING: This file is not required to ingest into the registry. INFO: Successfully delivered a catalog file to the storage service. productID - 0b06855b-607e-11e4-b0bf-1fc0cef253b2 INFO: Successfully ingested a file object. GUID - urn:uuid:78590918-e3ad-45c7-90ae-34f35290319a PASS: file:*testDir*/testCatalog/CORPWS_0180/RPWSINST.CAT INFO: Successfully registered a product. LIDVID - urn:nasa:pds:context_pds3:instrument:instrument.rpws__co::1.0 INFO: Product GUID - urn:uuid:2d326c84-5a96-46ae-a291-b75506a23052 INFO: Successfully delivered a catalog file to the storage service. productID - 0b1be21c-607e-11e4-b0bf-1fc0cef253b2 INFO: Successfully ingested a file object. GUID - urn:uuid:12c14858-8896-4665-90c7-5319d50bebd3 PASS: file:*testDir*/testCatalog/CORPWS_0180/VOLDESC.CAT INFO: Successfully registered a product. LIDVID - urn:nasa:pds:context_pds3:volume:volume.corpws_0180__usa_nasa_pds_corpws_0xxx::1.0 INFO: Product GUID - urn:uuid:d1a0eae5-def0-4d26-b4ab-2ccd57069312 INFO: Successfully delivered a catalog file to the storage service. productID - 0b3165ed-607e-11e4-b0bf-1fc0cef253b2 INFO: Successfully ingested a file object. GUID - urn:uuid:7cff4a23-afdc-4a88-b49b-45c1149b7320 PASS: file:*testDir*/testCatalog/CORPWS_0180/WBFULLDS.CAT INFO: Successfully registered a product. LIDVID - urn:nasa:pds:context_pds3:data_set:data_set.co-v-e-j-s-ss-rpws-2-refdr-wbrfull-v1.0::1.0 INFO: Product GUID - urn:uuid:d682017a-99d9-40eb-b657-d2c3bc02b291 INFO: Successfully delivered a catalog file to the storage service. productID - 0b469b9e-607e-11e4-b0bf-1fc0cef253b2 INFO: Successfully ingested a file object. GUID - urn:uuid:0b1c786a-ce99-4a77-8ccc-03b38600ea30 PASS: file:*testDir*/testCatalog/CORPWS_0180/WFFULLDS.CAT INFO: Successfully registered a product. LIDVID - urn:nasa:pds:context_pds3:data_set:data_set.co-v-e-j-s-ss-rpws-2-refdr-wfrfull-v1.0::1.0 INFO: Product GUID - urn:uuid:4d7c7988-9c3e-452a-a34f-7375def19f0b INFO: Successfully delivered a catalog file to the storage service. productID - 0b5fc8ef-607e-11e4-b0bf-1fc0cef253b2 INFO: Successfully ingested a file object. GUID - urn:uuid:93bb69ee-147b-405d-a2ee-8f96c2738378 Summary: 12 of 12 file(s) ingested, 0 skipped Number of successful file object ingestion: 12 Number of successful storage service ingestion: 12 Number of successful registry ingestion: 9 Name of the registry package: Catalog-Package_CORPWS_0180_20141030144517 End of Report Step 2:



Step 3:

```
* About to connect() to localhost port 8080 (#0)
*   Trying ::1...
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
  0     0    0     0    0     0      0      0 --:--:-- --:--:-- --:--:--     0* connected
* Connected to localhost (::1) port 8080 (#0)
> GET /product/data?productID=0b5fc8ef-607e-11e4-b0bf-1fc0cef253b2 HTTP/1.1
> User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8z zlib/1.2.5
> Host: localhost:8080
> Accept: */*
>
< HTTP/1.1 200 OK
< Server: Apache-Coyote/1.1
< Content-Disposition: attachment; filename="WFFULLDS.CAT"
< Content-Type: application/vnd.ms-pki.seccat
< Content-Length: 21954
< Date: Thu, 30 Oct 2014 22:27:40 GMT
<
{ [data not shown]
100 21954  100 21954    0     0  1660k      0 --:--:-- --:--:-- --:--:-- 1949k
* Connection #0 to host localhost left intact
* Closing connection #0
```

Step 4 shows no differences

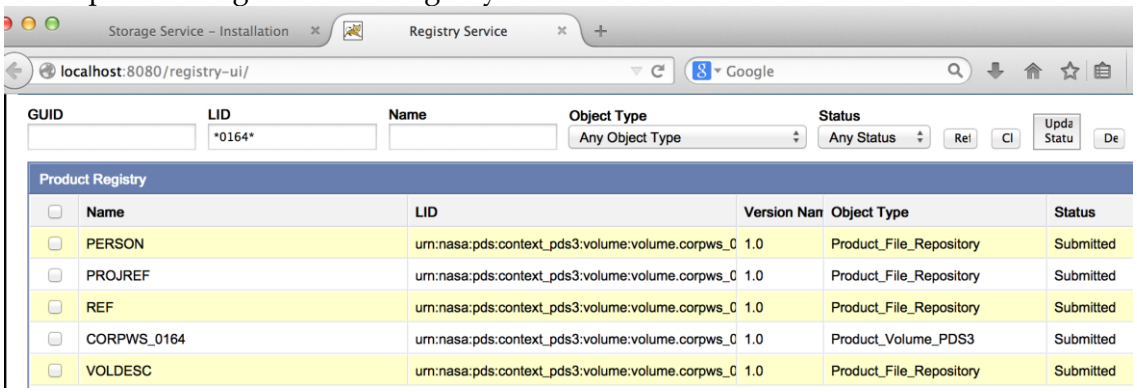
Step 5:

```
PDS Catalog Ingest Tool Report

Configuration:
Version             Version 1.8.0
Date                Wed, Oct 15 2014 at 02:42:00 AM
Parameters:
Mode                ingest
Target              file:testDir/testCatalog/CORPWS_0164/
Directory Recursion   true
Severity Level        WARNING
Report File           c3.out
```

Ingest Details:
PASS: file:*testDir*/testCatalog/CORPWS_0164/INSTHOST.CAT
PASS: file:*testDir*/testCatalog/CORPWS_0164/KEYDS.CAT
PASS: file:*testDir*/testCatalog/CORPWS_0164/LRFULLDS.CAT
PASS: file:*testDir*/testCatalog/CORPWS_0164/MISSION.CAT
PASS: file:*testDir*/testCatalog/CORPWS_0164/PERSON.CAT
WARNING: This file is not required to ingest into the registry.
PASS: file:*testDir*/testCatalog/CORPWS_0164/PROJREF.CAT
WARNING: This file is not required to ingest into the registry.
PASS: file:*testDir*/testCatalog/CORPWS_0164/RAWDS.CAT
PASS: file:*testDir*/testCatalog/CORPWS_0164/REF.CAT
WARNING: This file is not required to ingest into the registry.
PASS: file:*testDir*/testCatalog/CORPWS_0164/RPWSINST.CAT
PASS: file:*testDir*/testCatalog/CORPWS_0164/VOLDESC.CAT
PASS: file:*testDir*/testCatalog/CORPWS_0164/WBFULLDS.CAT
PASS: file:*testDir*/testCatalog/CORPWS_0164/WFFULLDS.CAT
Summary:
4 of 12 file(s) ingested, 0 skipped
Number of successful file object ingestion: 4
Number of successful storage service ingestion: 4
Number of successful registry ingestion: 1
Name of the registry package: Catalog-Package_CORPWS_0164_20141015024201
End of Report

Step 6: 5 extra records: the voldesc file, the CORPWS_0164 product, and the three files not required to ingest into the registry.



Step 5: Poor error message fixed

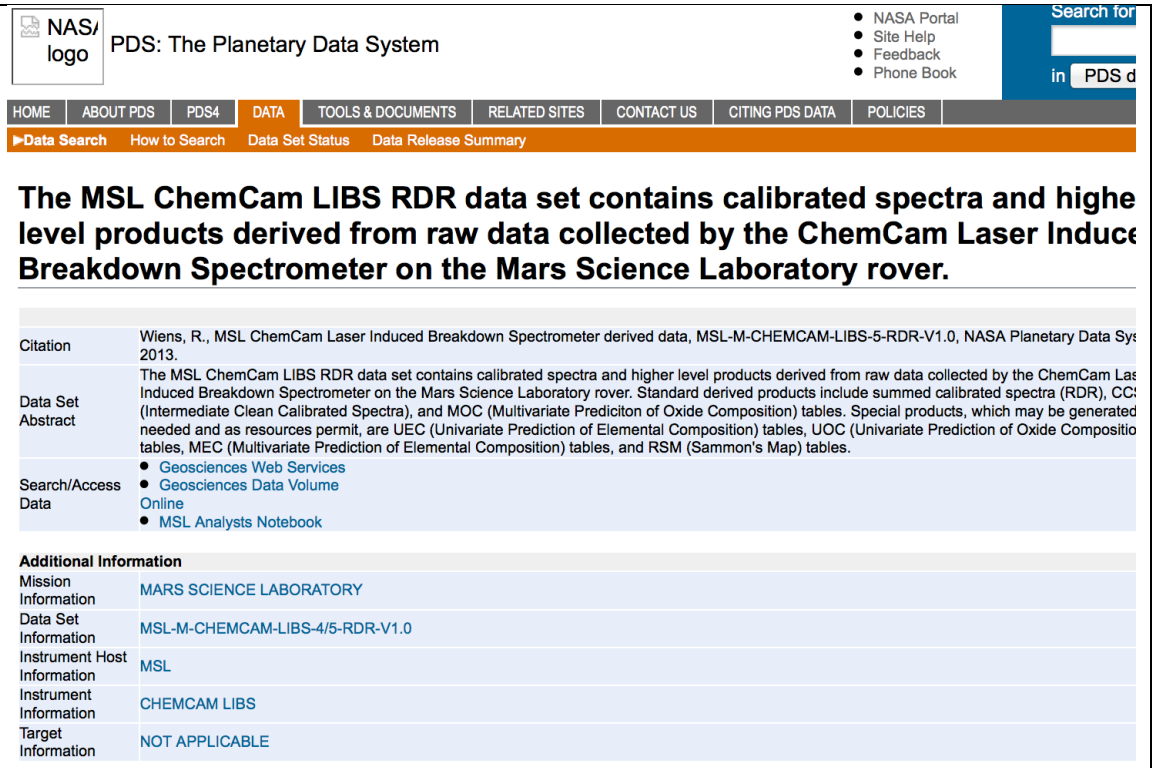
WARNING: *testDir*/testCatalog/MPC_review/asteroid.cat is missing.
WARNING: *testDir*/testCatalog/MPC_review/comet.cat is missing.
WARNING: *testDir*/testCatalog/MPC_review/satellite.cat is missing.
Oct 15, 2014 2:51:09 AM org.apache.oodt.cas.filemgr.datatransfer.RemoteDataTransferFactory <init>
INFO: RemoteDataTransfer enabled: using chunk size: [1024]
Oct 15, 2014 2:51:09 AM org.apache.oodt.cas.filemgr.datatransfer.RemoteDataTransferer setFileManagerUrl
INFO: Remote Data Transfer to: [http://localhost:9000] enabled
Error: Failed to get a product by name. productName = SBN_0178:asteroid.cat
Error: Catalog file (asteroid.cat) is missing in the archive volume and can't get it from the storage service.

Step 7: similar to step 1's output. Used to die upon hitting dsmap.cat. c6.out::

PDS Catalog Ingest Tool Report
Configuration:
Version Version 1.8.0
Date Wed, Oct 15 2014 at 02:54:34 AM
Parameters:
Mode ingest
Target file:*testDir*/testCatalog/LRO_diviner/
Directory Recursion true
Severity Level WARNING
Report File c6.out
Ingest Details:
PASS: file:*testDir*/testCatalog/LRO_diviner/dsmap.cat
WARNING: This file is not required to ingest into the registry.
PASS: file:*testDir*/testCatalog/LRO_diviner/dsmap_polar.cat
WARNING: This file is not required to ingest into the registry.
PASS: file:*testDir*/testCatalog/LRO_diviner/gdrds.cat

	PASS: file:*testDir*/testCatalog/LRO_diviner/inst.cat PASS: file:*testDir*/testCatalog/LRO_diviner/insthost.cat PASS: file:*testDir*/testCatalog/LRO_diviner/mission.cat PASS: file:*testDir*/testCatalog/LRO_diviner/person.cat WARNING: This file is not required to ingest into the registry. PASS: file:*testDir*/testCatalog/LRO_diviner/prpds.cat PASS: file:*testDir*/testCatalog/LRO_diviner/rdrds.cat PASS: file:*testDir*/testCatalog/LRO_diviner/ref.cat WARNING: This file is not required to ingest into the registry. PASS: file:*testDir*/testCatalog/LRO_diviner/voldesc.cat Summary: 11 of 11 file(s) ingested, 0 skipped Number of successful file object ingestion: 11 Number of successful storage service ingestion: 11 Number of successful registry ingestion: 7 Name of the registry package: Catalog-Package_LRODLR_1001_20141015025435 End of Report Step 8: Exception: No mode specified. 'm' flag must be specified.
Comments	Results met success criteria.
Date of Testing	2014.10.30
Test Personnel	Richard Chen

Test Case ID	DSV.1
Description	Use Data Set View (not Search) to browse products
Requirements	PASS L5.SCH.1: The service shall provide a user interface for entering of queries and display of search results
Success Criteria	Access any registered, individual PDS3 data set (a context product)
Test Steps	The registry must have data, and Harvest must have gotten absolute paths as inputs. Test cases SRCH.3, SRCH.5, or SRCH.6 leave PDS3 context products in the registry. 1. In a browser, http://localhost:8080/ds-view/query?identifier=MSL-M-CHEMCAM-LIBS-4/5-RDR-V1.0&resclass=data.dataset
Test Results	Step 1:

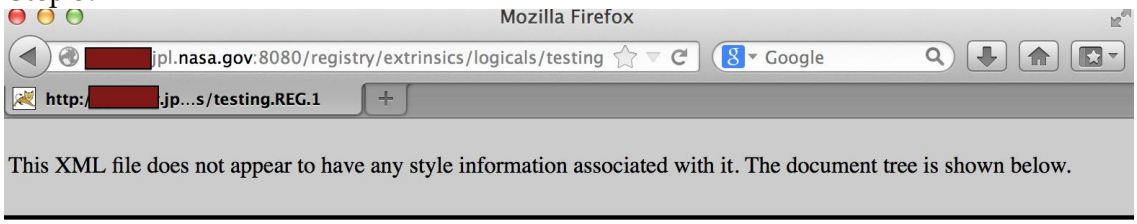
	
Comments	Results met success criteria.
Date of Testing	2014.10.21
Test Personnel	Richard Chen

Test Case ID	GEN.1
Description	Run components distributed over multiple machines on any PDS-supported platforms.
Requirements	PASS L5.GEN.1: The system shall operate in a distributed environment. PASS L5.GEN.2: Components shall run on any PDS-supported platform.
Success Criteria	Services produce identical results independent of machine and platform.
Test Steps	This is from test REG.1 below but posts to a different machine 1. http://xxxx.jpl.nasa.gov:8080/registry-pds4/extrinsics/logicals/testing.REG.1 in a browser shows no current product has lid “testing.REG.1”, 2. curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.1b.xml http://xxxx.jpl.nasa.gov:8080/registry-pds4/extrinsics 3. Repeat step 1 to see the lid 4. curl -X DELETE --verbose http://xxxx.jpl.nasa.gov:8080/registry-pds4/extrinsics/testing.REG.1.v1.0 5. Repeat step 1 to ensure lid no longer exists
Test Results	Step 1:

Step 2:

```
* About to connect() to xxxx.jpl.nasa.gov port 8080 (#0)
*   Trying 128.149.xx.xx...
* connected
* Connected to pdsdev.jpl.nasa.gov (128.149.xx.xx) port 8080 (#0)
> POST /registry-pds4/extrinsics HTTP/1.1
> User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8z zlib/1.2.5
> Host: xxxx.jpl.nasa.gov:8080
> Accept: */*
> Content-type:application/xml
> Content-Length: 629
* upload completely sent off: 629 out of 629 bytes
< HTTP/1.1 201 Created
< Server: Apache-Coyote/1.1
< Location: http://xxxx.jpl.nasa.gov:8080/registry-pds4/extrinsics/testing.REG.1.v1.0
< Content-Type: application/xml
< Transfer-Encoding: chunked
< Date: Mon, 20 Oct 2014 23:14:05 GMT
* Connection #0 to host pdsdev.jpl.nasa.gov left intact
testing.REG.1.v1.0* Closing connection #0
```

Step 3:




```
- <ns2:response>
  - <ns2:results>
    - <ns2:extrinsicObject versionName="1.0" description="Stolen from http://pdscm/2010/registry/registry-service
      /operate/index.html with attribute lid above changed for uniqueness" status="Submitted" objectType="Product"
      name="Product 1234 v1" lid="testing.REG.1" home="http://localhost:8080/registry" guid="testing.REG.1.v1.0">
      - <ns2:slot name="last-name" id="195">
          <ns2:value>Doe</ns2:value>
        </ns2:slot>
      - <ns2:slot name="first-name" id="196">
          <ns2:value>John</ns2:value>
        </ns2:slot>
      - <ns2:slot name="phone" id="197">
          <ns2:value>(818)777-7777</ns2:value>
          <ns2:value>(818)888-8888</ns2:value>
        </ns2:slot>
      </ns2:extrinsicObject>
    </ns2:results>
  </ns2:response>
```

Step 4:

```
* About to connect() to xxxx.jpl.nasa.gov port 8080 (#0)
*   Trying 128.149.xx.xx...
* connected
```

	* Connected to xxxx.jpl.nasa.gov (128.149.xx.xx) port 8080 (#0) > DELETE /registry-pds4/extrinsics/testing.REG.1.v1.0 HTTP/1.1 > User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8z zlib/1.2.5 > Host: xxxx.jpl.nasa.gov:8080 > Accept: */* < HTTP/1.1 200 OK < Server: Apache-Coyote/1.1 < Content-Type: application/xml < Content-Length: 0 < Date: Mon, 20 Oct 2014 23:17:54 GMT * Connection #0 to host pdsdev.jpl.nasa.gov left intact * Closing connection #0 Step 5 same as step 1
Comments	Results met success criteria. I'm lucky in that the server seems to be running an old version of the registry, since the new one no longer allows curl –X DETELE
Date of Testing	2014.10.20
Test Personnel	Richard Chen

Test Case ID	GEN.2
Description	Authorize only authenticated users access to a controlled capacity.
Requirements	PASS L5.GEN.10: Components shall control access to interfaces that alter content. PASS L5.SEC.1: The service shall authenticate a user given identifying credentials for that user. PASS L5.SEC.3: The service shall authorize an authenticated user for access to a controlled capability.
Success Criteria	Registration fails when given invalid credentials.
Test Steps	1. curl -X POST -H "Content-type:application/xml" -v -d @zztestRegistry/test.REG.1b.xml http://pds-gamma.jpl.nasa.gov/services/registry-pds3
Test Results	Step 1: * About to connect() to pds-gamma.jpl.nasa.gov port 80 (#0) * Trying 128.149.124.6... * connected * Connected to pds-gamma.jpl.nasa.gov (128.149.124.6) port 80 (#0) > POST /services/registry-pds3 HTTP/1.1 > User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8z zlib/1.2.5 > Host: pds-gamma.jpl.nasa.gov > Accept: */* > Content-type:application/xml > Content-Length: 629 * upload completely sent off: 629 out of 629 bytes < HTTP/1.1 403 Forbidden < Date: Sat, 18 Oct 2014 19:19:49 GMT < Content-Length: 224 < Connection: close < Content-Type: text/html; charset=iso-8859-1 <!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML 2.0//EN"> <html><head> <title>403 Forbidden</title> </head><body> Forbidden You don't have permission to access /services/registry-pds3 on this server. </body></html> * Closing connection #0
Comments	Results met success criteria.
Date of Testing	2014.10.18

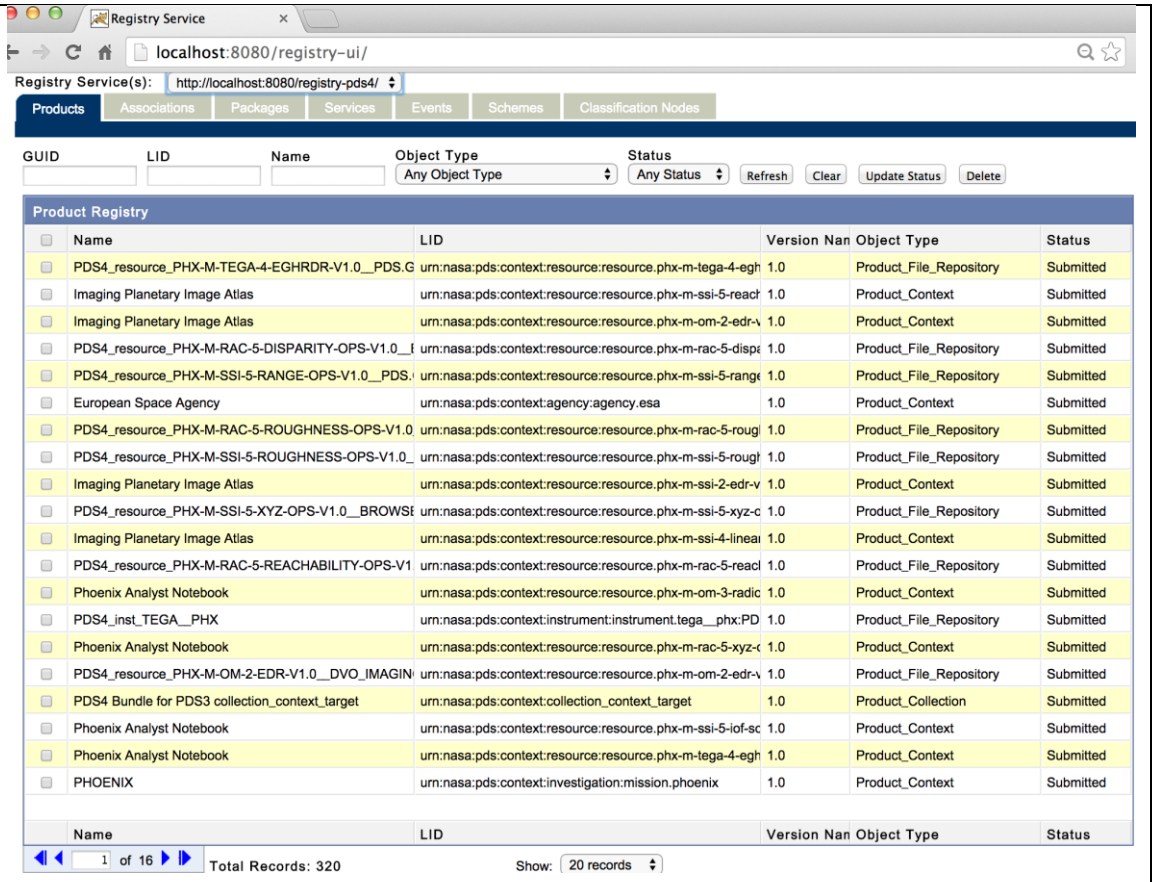
Test Personnel	Richard Chen

Test Case ID	GEN.4 *not ready for build 5a. This is reserved for future testing
Description	Services provide an interface to enable monitoring of health.
Requirements	SKIP L5.GEN.8: Services shall provide an interface to enable monitoring of the service's health.
Success Criteria	The interface correctly reflects the services' health.
Test Steps	
Test Results	
Comments	
Date of Testing	
Test Personnel	

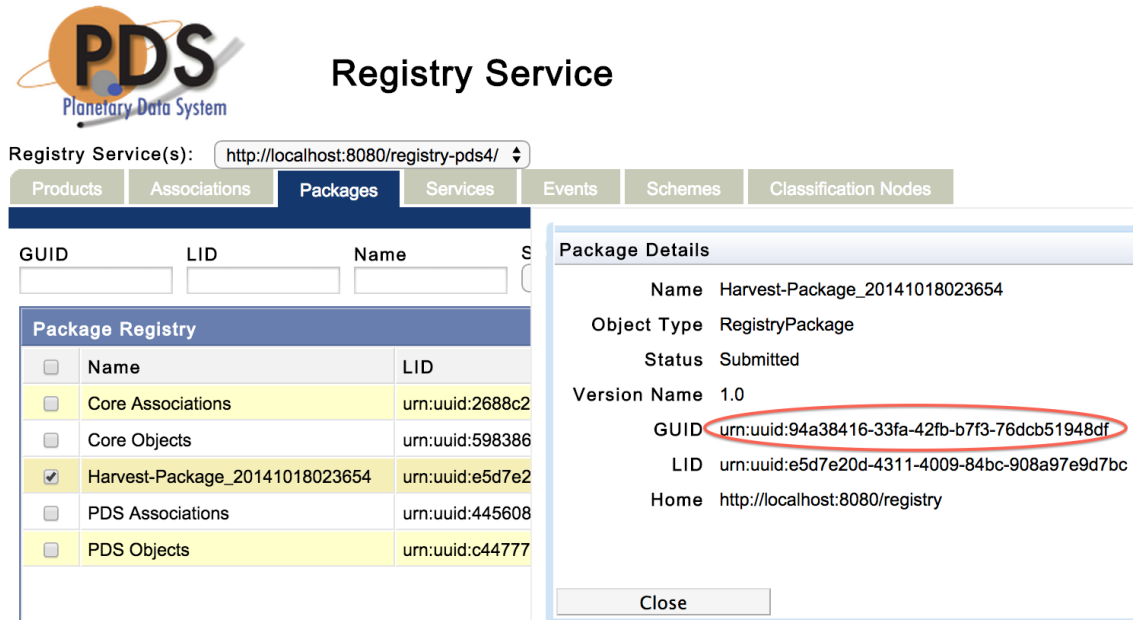
Test Case ID	GEN.7
Description	Document components' capabilities, dependencies, interfaces, installation, operation
Requirements	PASS L5.GEN.11: Components shall provide documentation detailing their capabilities, dependencies, interfaces, installation and operation
Success Criteria	Documentation of components show capabilities, dependencies, interfaces, installation and operation.
Test Steps	Examine such documentation, currently accessible from https://pds-engineering.jpl.nasa.gov/development/pds4/5.0.0
Test Results	Documents were available and examined.
Comments	Results met success criteria.
Date of Testing	2014.10.18
Test Personnel	Richard Chen

Test Case ID	HVT.1
Description	Provide a command-line interface, accept a configuration file, recursively traverse directories, determine candidates for registration, capture metadata, submit metadata to the Registry Service, track each artifact registration.
Requirements	PASS L5.HVT.1: The tool shall accept a configuration file specifying policy for tool behavior. PASS L5.HVT.2: The tool shall provide a command-line interface for execution. PASS L5.HVT.4: The tool shall recursively traverse the specified directory or directories… PASS L5.HVT.5: The tool shall determine candidate products for registration through a combination of the following… PASS L5.HVT.6: The tool shall capture metadata for a candidate product specified by the product type. PASS L5.HVT.7: The tool shall submit the associated metadata for a candidate product to the [Registry]. PASS L5.HVT.8: The tool shall track each product registration. PASS L5.GEN.7: Tools shall generate a report detailing results from a single execution of the tool.
Success Criteria	Harvest tool, executed from the command line, discovers all matching artifacts and for each submits metadata, based on both identifying and artifact-specific metadata, to the Registry service. A matching artifact resides in the directory tree of the target directory

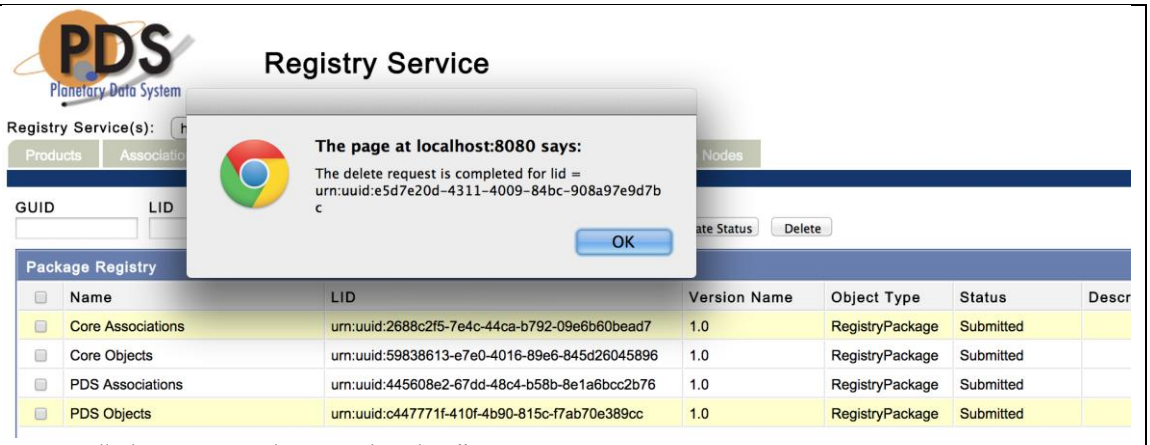
	or is listed in a manifest file in the target directory, and it matches the criteria given in the user-edited configuration file and if previously registered, has been since modified. Tools to view the registry should show the matching artifacts, with appropriate metadata, and not show the non-matching artifacts.
Test Steps	The harvesting in this test is redundant to tests AAFUNCTION.*. The deleting (not a core function) is different, so if desired: 1. Clean database as described in RESETREGISTRY in Section 3.1 2. cd *testDir*; harvest *testDir*/contextPDS4onlyPHX -c harvest-policy-master.xml -l h.out -e "*.xml" 3. In browser, check for harvested files. http://localhost:8080/registry-ui/ 4. Click "Packages", select "Harvest-Package_...". If verification desired, click on that line, and compare the GUID with Step 2's output. 5. Click "Delete" 6. In browser, http://localhost:8080/registry-ui/
Test Results	Step 2: The output file is large, so filter with • grep -v "SUCCESS|INFO" h.out | uniq PDS Harvest Tool Log Version Version 1.7.0 Time Sat, Oct 18 2014 at 02:36:54 AM Target(s) [*testDir*/contextPDS4onlyPHX] File Inclusions [*.xml] Registry Location http://localhost:8080/registry-pds4 Registry Package Name Harvest-Package_20141018023654 Registration Package GUID urn:uuid:94a38416-33fa-42fb-b7f3-76dcb51948df Summary: 157 of 157 file(s) processed, 0 other file(s) skipped 0 error(s), 0 warning(s) 157 of 157 products registered. 163 of 163 ancillary products registered. Product Types Registered: 150 Product_Context 1 Product_Bundle 6 Product_Collection 163 Product_File_Repository 163 of 163 associations registered. End of Log Step 3:


Registry Service
localhost:8080/registry-ui/
Registry Service(s): http://localhost:8080/registry-pds4/
Products
Associations
Packages
Services
Events
Schemes
Classification Nodes
GUID
LID
Name
Object Type
Any Object Type
Status
Any Status
Refresh
Clear
Update Status
Delete
Product Registry
Name
LID
Version Nan
Object Type
Status
Total Records: 320
Show: 20 records

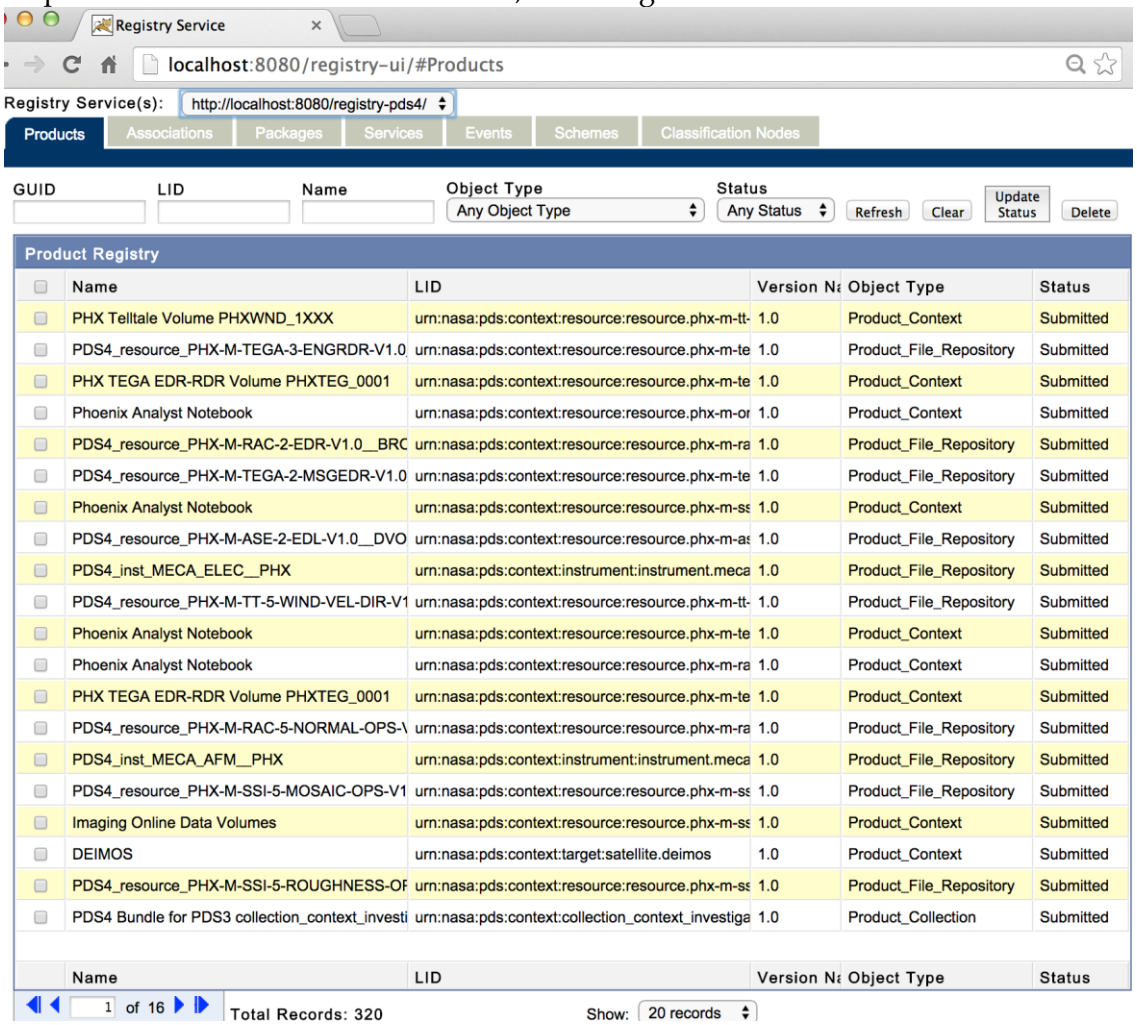
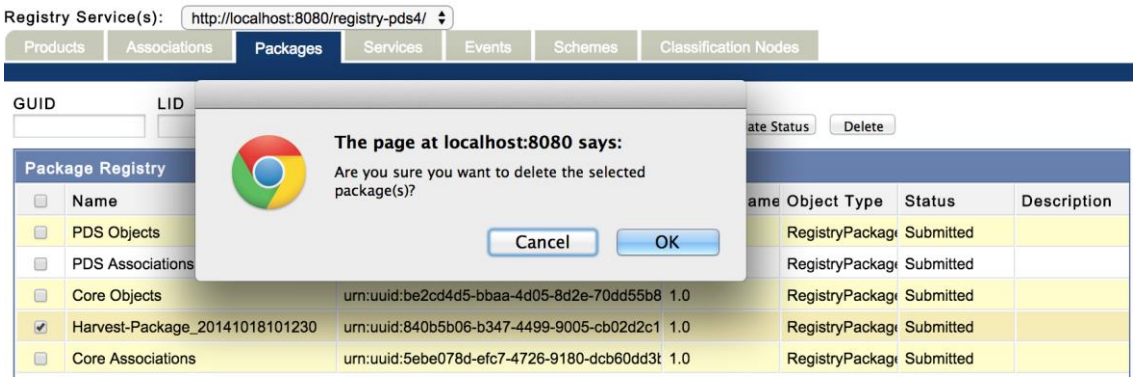
Step 4:


PDS
Planetary Data System
Registry Service
Registry Service(s): http://localhost:8080/registry-pds4/
Products
Associations
Packages
Services
Events
Schemes
Classification Nodes
GUID
LID
Name
Package Registry
Name
LID
Core Associations
Core Objects
Harvest-Package_20141018023654
PDS Associations
PDS Objects
Package Details
Name Harvest-Package_20141018023654
Object Type RegistryPackage
Status Submitted
Version Name 1.0
GUID urn:uuid:94a38416-33fa-42fb-b7f3-76dcb51948df
LID urn:uuid:e5d7e20d-4311-4009-84bc-908a97e9d7bc
Home http://localhost:8080/registry
Close

Step 5:

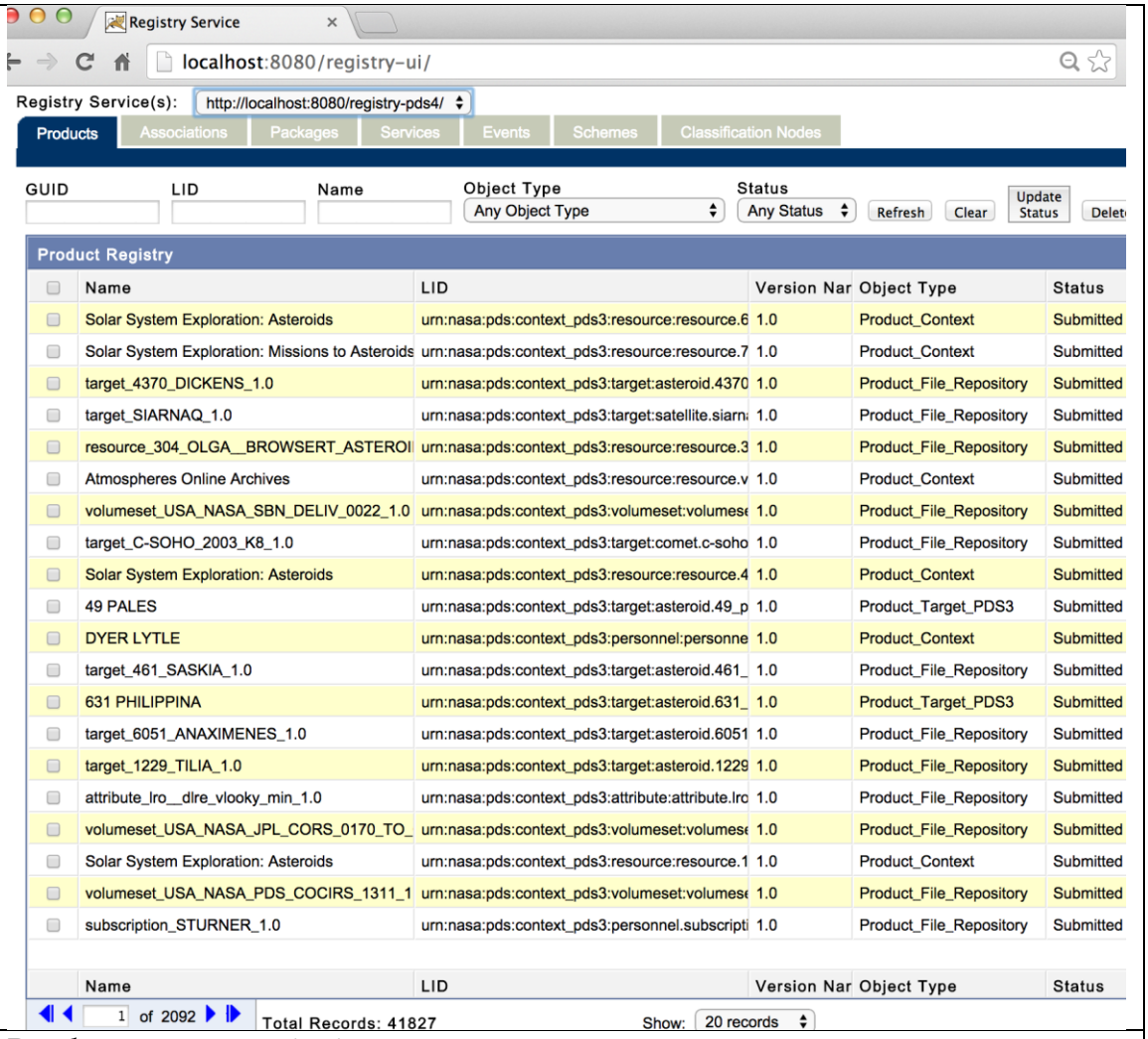
	 Step 6: "There is no data to display"
Comments	Results met success criteria.
Date of Testing	2014.10.18
Test Personnel	Richard Chen

Test Case ID	HVT.2
Description	Execute from a scheduler, accept a configuration file, recursively traverse directories, determine candidates for registration, capture metadata, submit metadata to the Registry Service.
Requirements	PASS L5.HVT.1: The tool shall accept a configuration file specifying policy for tool behavior. PASS L5.HVT.2: The tool shall execute from a scheduler… PASS L5.HVT.4: The tool shall recursively traverse the specified directory or directories… PASS L5.HVT.5: The tool shall determine candidate products for registration through a combination of the following… PASS L5.HVT.6: The tool shall capture metadata for a candidate product specified by the product type. PASS L5.HVT.7: The tool shall submit the associated metadata for a candidate product to the [Registry]. PASS L5.HVT.8: The tool shall track each product registration.
Success Criteria	Harvest tool, executed from a scheduler, discovers all matching artifacts and for each submits metadata, based on both identifying and artifact-specific metadata, to the Registry service. A matching artifact resides in the directory tree of the target directory or is listed in a manifest file in the target directory, and it matches the criteria given in the user-edited configuration file and if previously registered, has been since modified. Tools to view the registry should show the matching artifacts, with appropriate metadata, and not show the non-matching artifacts.
Test Steps	1. Clean database as described in RESETREGISTRY in Section 3.1 2. cd *testDir/*; mkdir x; mv contextPDS4onlyPHX/* x 3. harvest *testDir*/contextPDS4onlyPHX -c harvest-policy-master.xml -l log.txt -P 9001 -w 120 4. In browser, http://localhost:8080/registry-ui/ shows no data In a different terminal window 5. harvest-ctrl --url http://localhost:9001/xmlrpc --operation --isRunning 6. cd *testDir*; mv x/* contextPDS4onlyPHX; rmdir x 7. In browser, after at most 120 seconds note changing Num Records. http://localhost:8080/registry-ui/ After Num Records stops increasing 8. harvest-ctrl --url http://localhost:9001/xmlrpc --operation --stop 9. grep "products registered" log.txt 10. On http://localhost:8080/registry-ui/#Packages, delete Harvest-Package_*; if verification desired, check GUID against Registration Package GUID in log.txt

	11. Check Num Records is original value: http://localhost:8080/registry-ui
Test Results	Step 5: Yes Step 7: Same Num Records as in HVT.1, assuming both started with 0 records  Step 8: Crawl Daemon: [http://localhost:9001/xmlrpc]: shutdown successful Step 9: 0 of 0 new products registered. 0 of 0 new ancillary products registered. 157 of 157 new products registered. 163 of 163 new ancillary products registered. 157 of 157 products registered. 163 of 163 ancillary products registered. Step 11:  Step 12: "There is no data to display" (same as HVT.1's step 6)

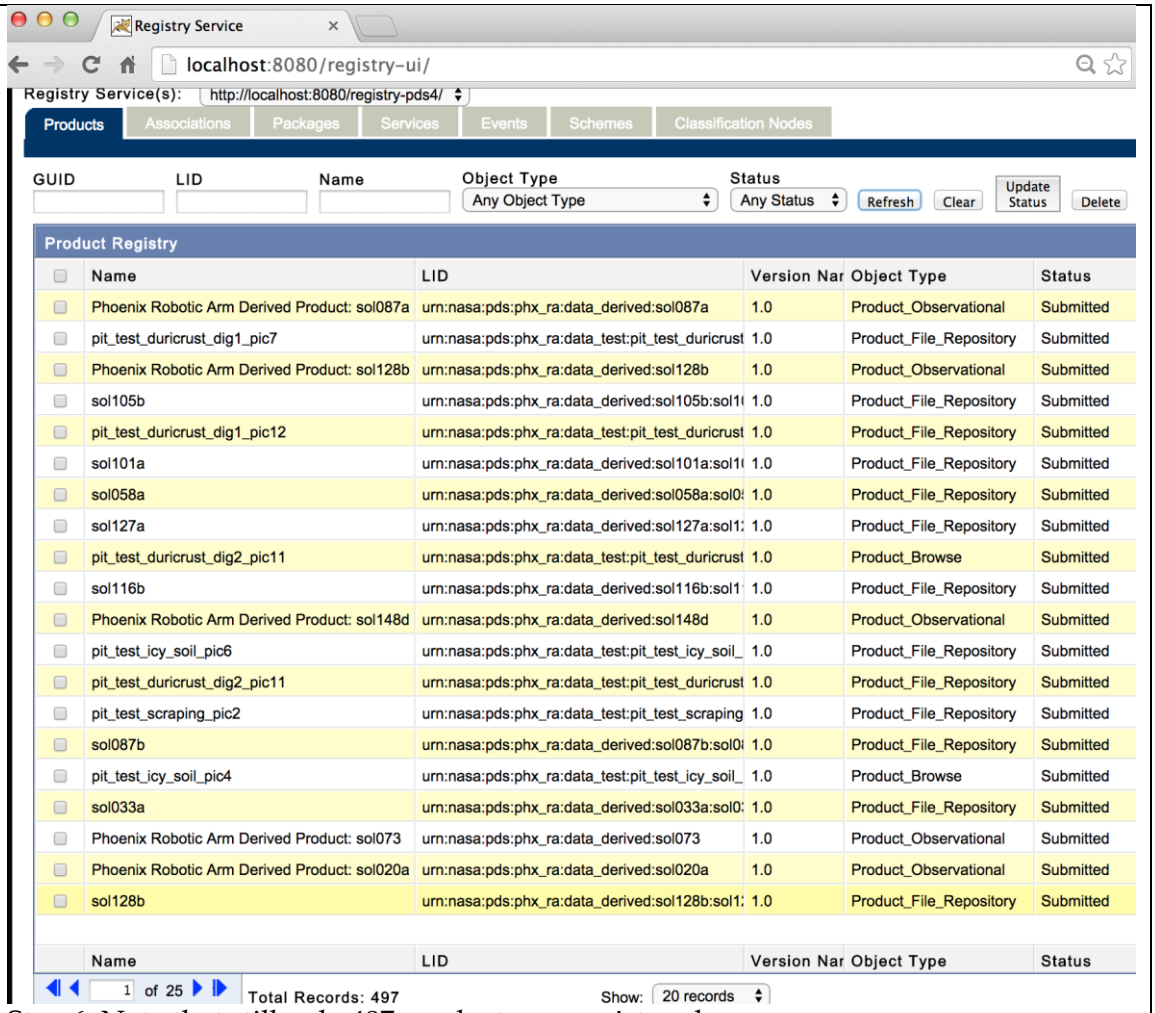
Comments	Results met success criteria.
Date of Testing	2014.10.18
Test Personnel	Richard Chen

Test Case ID	HVT.3
Description	Harvest a large number of files.
Requirements	PASS. No specific functional requirement. This is a performance test case.
Success Criteria	Harvest completes in a reasonable amount of time per product.
Test Steps	1. Clean database as described in RESETREGISTRY in Section 3.1 2. cd *testDir* 3. modify *binDir*/harvest/bin/harvest to use registry-pds3 instead of -pds4 4. harvest *testDir*/contextPDS3 -c harvest-policy-master.xml -l h.out -e "*.xml" 5. Check for harvested files. http://localhost:8080/registry-ui/
Test Results	Step 4: The bottom of h.out should have: Summary: 23721 of 23721 file(s) processed, 0 other file(s) skipped 0 error(s), 2814 warning(s) 20907 of 23721 products registered. 20920 of 20920 ancillary products registered. Product Types Registered: 4229 Product_Target_PDS3 2230 Product_Data_Set_PDS3 2154 Product_Attribute_Definition 621 Product_Instrument_PDS3 69 Product_Mission_PDS3 1461 Product_Subscription_PDS3 81 Product_Class_Definition 7038 Product_Context 196 Product_Instrument_Host_PDS3 13 Product_Collection 2814 Product_Volume_Set_PDS3 1 Product_Bundle 20920 Product_File_Repository 20920 of 20920 associations registered. End of Log Step 5:

	
Comments	Results met success criteria.
Date of Testing	2014.10.19
Test Personnel	Richard Chen

Test Case ID	HVT.5
Description	Harvest skips candidate products not matching configuration file. Harvest also checks for previous registrations and skips those.
Requirements	PASS L5.HVT.1: The tool shall accept a configuration file specifying policy for tool behavior. PASS L5.HVT.5: The tool shall determine candidate products for registration through a combination of the following… PASS L5.HVT.8: The tool shall track each product registration.
Success Criteria	Tools to view the registry should show only matching products and not the others.
Test Steps	Run harvest with config file that does not accept Product_Document 1. Clean database as described in RESETREGISTRY in Section 3.1 2. harvest *testDir*/bundle_geo_ra –c harvestPolicyNoDoc.xml –l h.out -e "*.xml" 3. grep -v "SUCCESS|INFO" h.out | uniq 4. In browser, check that no Product_Document was registered: http://localhost:8080/registry-ui Repeat to show nothing more gets registered. 5. harvest *testDir*/bundle_geo_ra –c harvestPolicyNoDoc.xml –l h.out -e "*.xml" 6. http://localhost:8080/registry-ui Run harvest with config file that accepts Product_Document

	7. harvest *testDir*/bundle_geo_ra –c harvest-policy-master.xml –l h.out -e "*.xml" 8. grep -v "SUCCESS|INFO" h.out | uniq 9. http://localhost:8080/registry-ui. Set "Object Type" to "Product_Document". Hit "Refresh"
Test Results	Step 3: Note the SKIPs of Product_Document: PDS Harvest Tool Log Version Version 1.7.0 Time Sat, Oct 18 2014 at 11:18:01 AM Target(s) [*testDir*/bundle_geo_ra] File Inclusions [*.xml] Registry Location http://localhost:8080/registry-pds4 Registry Package Name Harvest-Package_20141018111801 Registration Package GUID urn:uuid:da70c020-38fa-4d94-9d5c-9c34d69e873d SKIP: [*testDir*/bundle_geo_ra/document/activity_table_desc.xml] 'Product_Document' is not an object type found in the policy file. SKIP: [*testDir*/bundle_geo_ra/document/ra_dataset.xml] 'Product_Document' is not an object type found in the policy file. SKIP: [*testDir*/bundle_geo_ra/document/ra_instrument.xml] 'Product_Document' is not an object type found in the policy file. SKIP: [*testDir*/bundle_geo_ra/document/readme.xml] 'Product_Document' is not an object type found in the policy file. SKIP: [*testDir*/bundle_geo_ra/context/mars_planet.xml] Not a primary member. SKIP: [*testDir*/bundle_geo_ra/context/phx.xml] Not a primary member. SKIP: [*testDir*/bundle_geo_ra/context/ra_phx.xml] Not a primary member. Summary: 166 of 166 file(s) processed, 7 other file(s) skipped 0 error(s), 0 warning(s) 166 of 166 products registered. 331 of 331 ancillary products registered. Product Types Registered: 38 Product_Browse 120 Product_Observational 1 Product_XML_Schema 1 Product_Context 1 Product_Bundle 5 Product_Collection 331 Product_File_Repository 331 of 331 associations registered. End of Log Step 4: Note that 497 products are registered

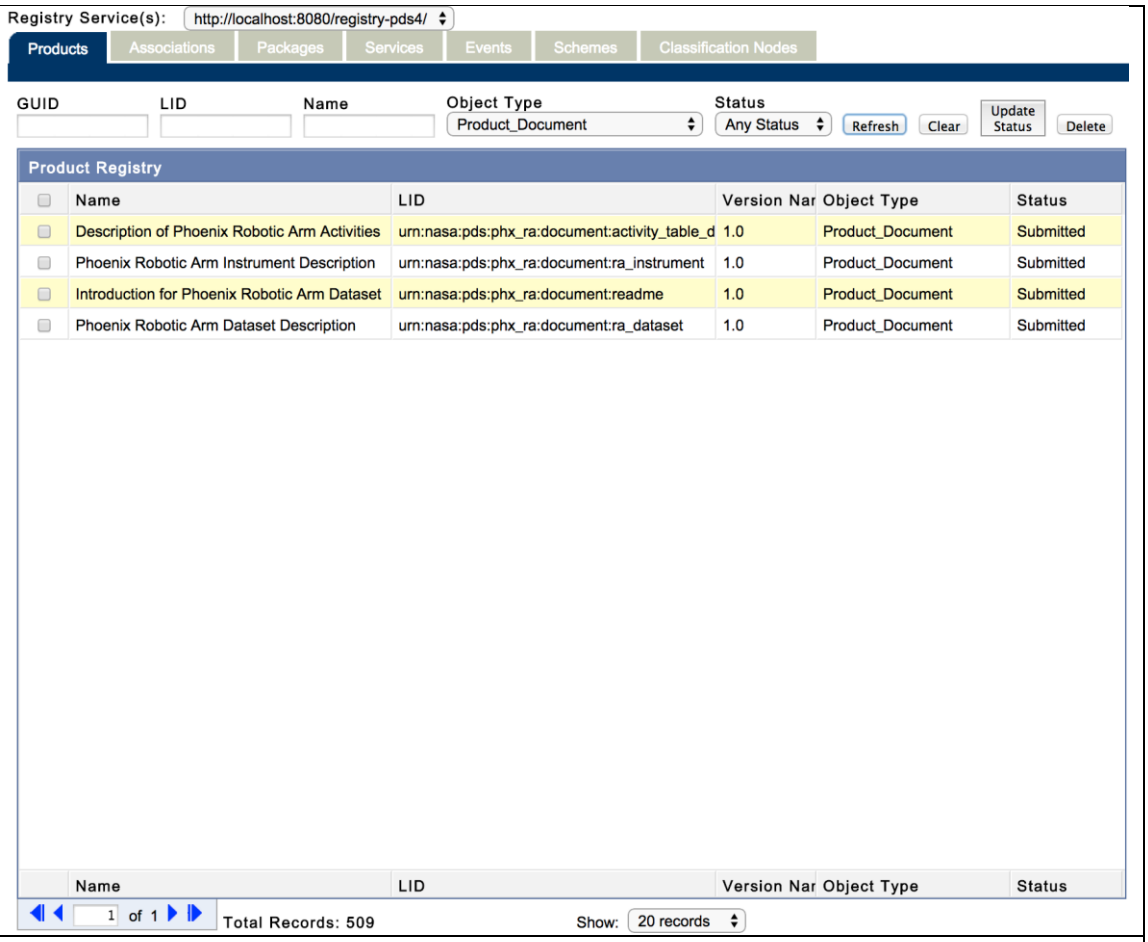


Step 6: Note that still only 497 products are registered

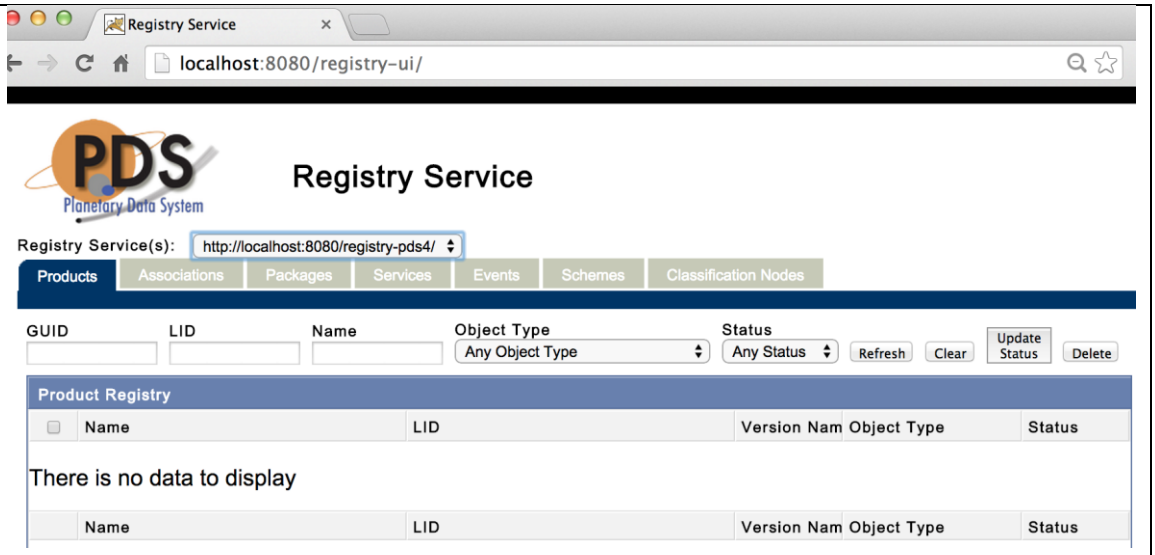
Step 8: Many WARNINGs for "Product already exists", and at the bottom:

Summary:
170 of 170 file(s) processed, 3 other file(s) skipped
0 error(s), 166 warning(s)
4 of 170 products registered.
8 of 8 ancillary products registered.
Product Types Registered:
4 Product_Document
8 Product_File_Repository
8 of 8 associations registered.
End of Log

Step 9: Note that 1) 509 products are registered and 2) there are 4 Product Documents

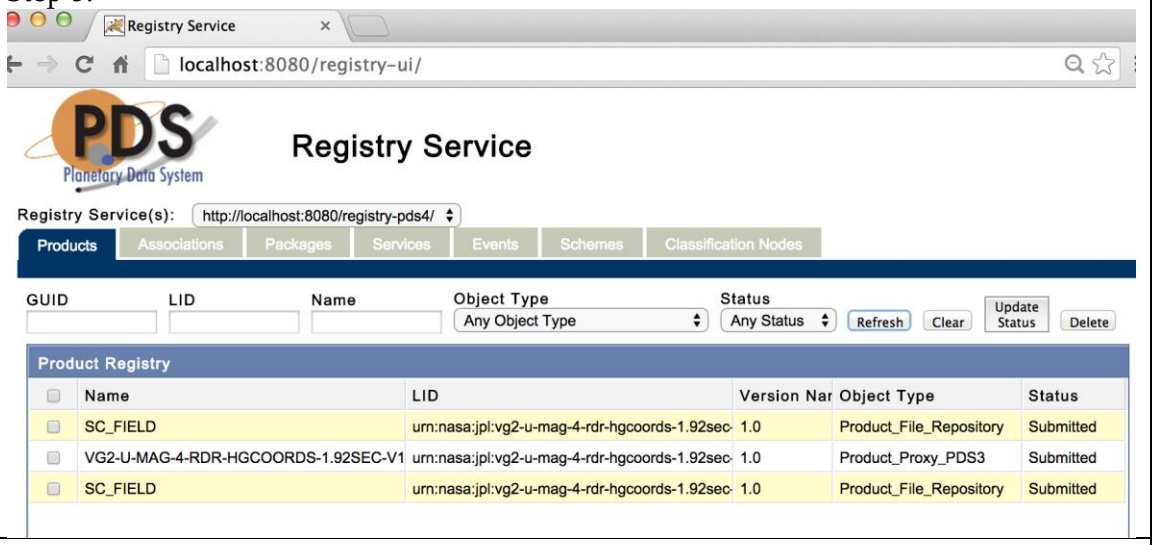
	
Comments	Results met success criteria. https://oodt.jpl.nasa.gov/jira/browse/PDS-166, created during testing of build 3b, requests an improvement: check if secondary members match primary members.
Date of Testing	2014.10.18
Test Personnel	Richard Chen

Test Case ID	HVT.6
Description	Harvest PDS3 products, not just catalog files.
Requirements	PASS 4.2.4: PDS will provide a mechanism to upgrade products or data sets which do not meet usability requirements (e.g., data sets from old missions)
Success Criteria	The registry shows the harvested PDS3 products.
Test Steps	1. Clean database as described in RESETREGISTRY in Section 3.1 2. In browser, http://localhost:8080/registry-ui/ shows no data 3. cd *testDir* 4. harvest -c testHarv/harvPDS3.xml 5. http://localhost:8080/registry-ui/ shows the harvested product and 2 files
Test Results	Step 2:



Step 4: Note that harvest previously quit if DATA_SET_ID had >1 value

PDS Harvest Tool Log
Version Version 1.7.0
Time Sat, Oct 18 2014 at 11:47:48 AM
Target(s) [*testDir*/testHarv]
Target Type PDS3
File Inclusions [*.LBL]
Severity Level INFO
Registry Location http://localhost:8080/registry-pds4
Registry Package Name Harvest-Package_20141018114748
Registration Package GUID urn:uuid:352ef710-e3c3-4169-a224-9d2464fdde44
INFO: XML extractor set to the following default namespace: http://pds.nasa.gov/pds4/pds/v1
INFO: [*testDir*/testHarv/SC_FIELD.LBL] Begin processing.
INFO: [*testDir*/testHarv/SC_FIELD.LBL] Creating logical identifier.
INFO: [*testDir*/testHarv/SC_FIELD.LBL] Created the following logical identifier: urn:nasa:jpl:vg2-u-mag-4-rdr-hgcoords-1.92sec-v1.0:mag:sc_field
INFO: [*testDir*/testHarv/SC_FIELD.LBL] Created title: VG2-U-MAG-4-RDR-HGCOORDS-1.92SEC-V1.0 SC_FIELD
SUCCESS: [*testDir*/testHarv/SC_FIELD.LBL] Successfully registered product: urn:nasa:jpl:vg2-u-mag-4-rdr-hgcoords-1.92sec-v1.0:mag:sc_field::1.0
INFO: [*testDir*/testHarv/SC_FIELD.LBL] Product has the following GUID: urn:uuid:986a17cc-0566-4247-bb3b-570da938db18
INFO: [*testDir*/testHarv/SC_FIELD.LBL] Capturing file object metadata for SC_FIELD.LBL
INFO: [*testDir*/testHarv/SC_FIELD.LBL] Capturing file object metadata for SC_FIELD.DAT
SUCCESS: [*testDir*/testHarv/SC_FIELD.LBL] Successfully registered product: urn:nasa:jpl:vg2-u-mag-4-rdr-hgcoords-1.92sec-v1.0:mag:sc_field:sc_field.lbl::1.0
INFO: [*testDir*/testHarv/SC_FIELD.LBL] Product has the following GUID: urn:uuid:beffde78-e6d2-4f4d-bc85-6fa1a71c445c
SUCCESS: [*testDir*/testHarv/SC_FIELD.LBL] Successfully registered product: urn:nasa:jpl:vg2-u-mag-4-rdr-hgcoords-1.92sec-v1.0:mag:sc_field:sc_field.dat::1.0
INFO: [*testDir*/testHarv/SC_FIELD.LBL] Product has the following GUID: urn:uuid:066b7087-8aa0-4a5a-a9fb-cdfd833d9612
SUCCESS: [*testDir*/testHarv/SC_FIELD.LBL] Successfully registered association to urn:nasa:jpl:vg2-u-mag-4-rdr-hgcoords-1.92sec-v1.0:mag:sc_field:sc_field.lbl::1.0
INFO: [*testDir*/testHarv/SC_FIELD.LBL] Association has the following GUID: urn:uuid:016fb9a2-9764-4aec-9b62-ee8273d95117
SUCCESS: [*testDir*/testHarv/SC_FIELD.LBL] Successfully registered association to urn:nasa:jpl:vg2-u-mag-4-rdr-hgcoords-1.92sec-v1.0:mag:sc_field:sc_field.dat::1.0
INFO: [*testDir*/testHarv/SC_FIELD.LBL] Association has the following GUID: urn:uuid:30cb1267-3af9-4f3b-9d99-9e9fe2068366
Summary:
1 of 1 file(s) processed, 0 other file(s) skipped
0 error(s), 0 warning(s)
1 of 1 products registered.
2 of 2 ancillary products registered.
Product Types Registered:
2 Product_File_Repository
1 Product_Proxy_PDS3
2 of 2 associations registered.End of Log

	Step 5: 
Comments	Results met success criteria.
Date of Testing	2014.10.18
Test Personnel	Richard Chen

Test Case ID	PRG.1
Description	Generate a PDS4 label from a PDS3 label or a PDS-specific DOM object.
Requirements	PASS L4.PRP.2 : The system shall provide a tool that assists users in the generation of PDS product labels.
Success Criteria	Generate produces a syntactically valid PDS Product Label else indicates where the input is invalid.
Test Steps	Some files in *testDir*/testHarvest/ come from PDS3 labels. Generate automatically and compare. Step 3 would be better with an xml diff. 1. cd *testDir*/ 2. generate -p testPrep/gendoc.lbl -t testPrep/gendoc.vm 3. diff testPrep/gendoc.xml testPrep/gendoc.lbl.xml 4. rm testPrep/gendoc.lbl.xml 5. generate -p testPrep/gen_ELE_MOM.LBL -t testPrep/gen_data.vm 6. diff -w testPrep/gen_ELE_MOM.lbl.xml testPrep/gen_ele_baseline.xml 7. rm testPrep/gen_ELE_MOM.LBL.xml
Test Results	Step 2: New PDS4 Label: *testDir*/testPrep/gendoc.lbl.xml Step 3: These differences are from a looping request folded into JIRA issue PDS-113. 17,34c17 < <Band_Bin_Set> < <Band_Bin> < 0.374 < <width>0.0155</width> < </Band_Bin> < <Band_Bin> < 0.384 < <width>0.0115</width> < </Band_Bin> < <Band_Bin> < 0.394 < <width>0.0114</width>

	< </Band_Bin> < <Band_Bin> < 0.404 < <width>0.0112</width> < </Band_Bin> < </Band_Bin_Set> --- > <Band_Bin_Set/> Step 5: Note that generate used to (erroneously) require –d or –o New PDS4 Label: *testDir*/testPrep/gen_ELE_MOM.LBL.xml Step 6: The only differences are carriage returns and an empty element. 1c1,6 < <Product_Observational xmlns="http://pds.nasa.gov/schema/pds4/pds/v06" xmlns:dph="http://pds.nasa.gov/schema/pds4/dph/v01" xmlns:pds="http://pds.nasa.gov/schema/pds4/pds/v06" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://pds.nasa.gov/schema/pds4/dph/v01 http://pds.jpl.nasa.gov/repository/pds4/examples/dph_examples_6h/dph_example_archive_VG2PLS /schemas/Product_TableChar_tailored_0600h.xsd" xsi:type="dph:Product_Table_Character"> --- > <Product_Observational xmlns="http://pds.nasa.gov/schema/pds4/pds/v06" > xmlns:dph="http://pds.nasa.gov/schema/pds4/dph/v01" > xmlns:pds="http://pds.nasa.gov/schema/pds4/pds/v06" > xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" > xsi:schemaLocation="http://pds.nasa.gov/schema/pds4/dph/v01 http://pds.jpl.nasa.gov/repository/pds4/examples/dph_examples_6h/dph_example_archive_VG2PLS /schemas/Product_TableChar_tailored_0600h.xsd" > xsi:type="dph:Product_Table_Character"> 72c77,78 < <Node_Area/> --- > <Node_Area> > </Node_Area>
Comments	Generate converts most constructs in a PDS3 label into a PDS4 label. Results met success criteria. https://oodt.jpl.nasa.gov/jira/browse/PDS-113 and https://oodt.jpl.nasa.gov/jira/browse/PDS-114, created during testing of build 2c, request new features: handle carets in PDS3 labels and add more looping constructs.
Date of Testing	2014.10.19
Test Personnel	Richard Chen

Test Case ID	PRT.1
Description	Transform PDS4 images into other formats. Transform is built upon a Java API.
Requirements	PASS L4.PRP.4: The system shall provide a tool for transforming PDS products as follows… PASS L5.GEN.4: Tools shall have an application programming interface.
Success Criteria	Input and output images look the same.
Test Steps	1. cd *testDir*/ 2. transform testPrep/tfm_i943630r.xml -o ./ -f jpg 3. transform testPrep/tfm_FF01.LBL -o ./ -f bmp 4. transform testPrep/tfm_ELE_MOM.LBL -f pds4-label 5. diff tfm_ele_mom.xml testPrep/tfm_ELE_MOM.xml
Test Results	Step 2: PDS Transform Tool Log Version Version 1.0.0

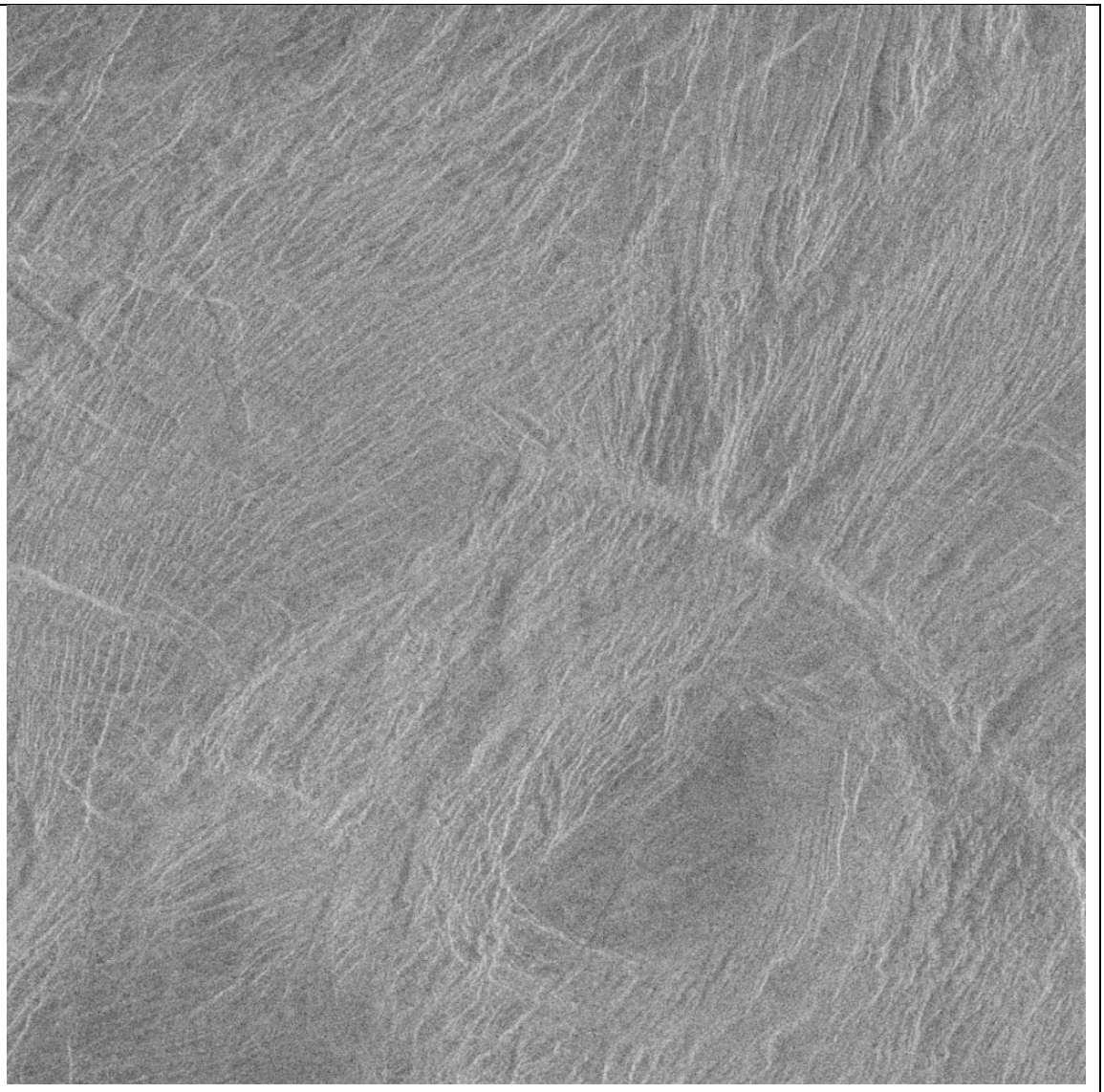
Time Sun, Oct 19 2014 at 03:02:40 AM
Target [testPrep/tfm_i943630r.xml]
Output Directory .
Format Type jpg
INFO: [testPrep/tfm_i943630r.xml] Transforming image file:tfm_i943630r.raw
INFO: [testPrep/tfm_i943630r.xml] Successfully transformed image file 'tfm_i943630r.raw' to the following output: ./tfm_i943630r.jpg

tfm_i943630r.jpg:

Step 3:

0) INP = testPrep/tfm_FF01.LBL
1) OUT = ./TFM_FF01.bmp
2) FORMAT = bmp
3) RI = true
4) OFORM = BYTE
Image write Done
PDS Transform Tool Log
Version Version 1.0.0
Time Sun, Oct 19 2014 at 03:05:46 AM
Target [testPrep/tfm_FF01.LBL]
Output Directory .
Format Type bmp
INFO: [testPrep/tfm_FF01.LBL] Transforming image file:testPrep/TFM_FF01.IMG
INFO: [testPrep/tfm_FF01.LBL] Successfully transformed image file 'testPrep/TFM_FF01.IMG' to the following output: ./TFM_FF01.bmp

TFM_FF01.bmp:

	 Step 4: PDS Transform Tool Log Version Version 1.0.0 Time Sun, Oct 19 2014 at 03:07:31 AM Target [testPrep/tfm_ELE_MOM.LBL] Output Directory *testDir* Format Type pds4-label INFO: [testPrep/tfm_ELE_MOM.LBL] Transforming label file:testPrep/tfm_ELE_MOM.LBL INFO: [testPrep/tfm_ELE_MOM.LBL] Successfully transformed PDS3 label 'testPrep/tfm_ELE_MOM.LBL' to a PDS4 label ' *testDir*/tfm_ele_mom.xml'
Comments	Results met success criteria. https://oodt.jpl.nasa.gov/jira/browse/PDS-313, created during testing of build 5a, shows that transform –f pds4-label incorrectly transforms a 3-column table, i.e. only the first column is transformed.
Date of Testing	2014.10.19
Test Personnel	Richard Chen

Test Case ID	PRV.1
Description	Accept a file or a directory name for product(s) to be validated. If directory, be able to traverse the tree to find products. Indicate the schemas utilized during validation. Validate is built upon a Java API.
Requirements	PASS L5.PRP.VA.1: The tool shall accept the following as input for specifying the product(s) to be validated… PASS L5.PRP.VA.2: The tool shall traverse a directory tree and validate products discovered within that tree. PASS L5.PRP.VA.5: The tool shall verify that a product label is well-formed XML. PASS L5.PRP.VA.6: The tool shall verify that a product label conforms to its associated schema file(s). PASS L5.PRP.VA.9: The tool shall indicate the schema(s) utilized during validation. PASS L5.GEN.4: Tools shall have an application programming interface. PASS L5.GEN.7: Tools shall generate a report detailing results from a single execution of the tool.
Success Criteria	Validation tool validates a file or all eligible products in a directory tree. When validating a product, a label, or a schema, indicates which schemas it utilized during the validation. Ensures that a product label is well-formed XML and conforms to its schemas.
Test Steps	1. cd *testDir/* 2. validate bundle_clem/data/collection_1.0.xml 3. validate bundle_clem/data/collection_1.0.xml -m0300a 4. validate bundle_clem/data/collection_1.0.xml -f Some files need a local data dictionary. See those errors. 5. validate bundle_clem -m0300a -e "*.xml" If step 5 had errors, clear those errors. 6. validate bundle_clem -m0300a -e "*.xml" -x bundle_clem/XML_Schema/PDS4_PDS_0300a.xsd bundle_clem/XML_Schema/imaging_dictionary.xsd If step 5 had no errors, validate one file to get errors, and see difference in output 7. validate bundle_clem/data/bi00_35n/bi03n003.xml -m0300a
Test Results	Step 2: Product_Collection was not required in 0300a but now is. PDS Validate Tool Report Configuration: Version 1.6.0 Date 2014-10-21T22:11:21Z Core Schemas [PDS4_PDS_1301.xsd] Core Schematrons [PDS4_PDS_1301.sch] Model Version 1301 Parameters: Targets [file:*testDir*/bundle_clem/data/collection_1.0.xml] Severity Level WARNING Recurse Directories true File Filters Used [*.xml, *.XML] Force Mode off Referential Integrity Check off Validation Details: FAIL: file:*testDir*/bundle_clem/data/collection_1.0.xml ERROR line 4, 284: cvc-elt.1.a: Cannot find the declaration of element 'Product_Collection'. Summary: 1 of 1 file(s) processed, 0 skipped 0 of 1 file(s) passed validation End of Report Step 3: PDS Validate Tool Report Configuration: Version 1.6.0 Date 2014-10-21T22:13:06Z Core Schemas [PDS4_OPS_0300a.xsd] Core Schematrons [PDS4_OPS_0300a.sch] Model Version 0300a Parameters: Targets [file:*testDir*/bundle_clem/data/collection_1.0.xml] Severity Level WARNING

Recurse Directories true
File Filters Used [*.xml, *.XML]
Force Mode off
Referential Integrity Check off
Validation Details:
PASS: file:*testDir*/bundle_clem/data/collection_1.0.xml
Summary:
1 of 1 file(s) processed, 0 skipped
1 of 1 file(s) passed validation
End of Report

Step 4:

PDS Validate Tool Report
Configuration:
Version 1.6.0
Date 2014-10-21T22:14:07Z
Parameters:
Targets [file:*testDir*/bundle_clem/data/collection_1.0.xml]
Severity Level WARNING
Recurse Directories true
File Filters Used [*.xml, *.XML]
Force Mode on
Referential Integrity Check off
Validation Details:
PASS: file:*testDir*/bundle_clem/data/collection_1.0.xml
Summary:
1 of 1 file(s) processed, 0 skipped
1 of 1 file(s) passed validation
End of Report

Step 5: the files with locally defined keywords fail (see "img:").

PDS Validate Tool Report
Configuration:
Version 1.6.0
Date 2014-10-21T22:16:45Z
Core Schemas [PDS4_OPS_0300a.xsd]
Core Schematrons [PDS4_OPS_0300a.sch]
Model Version 0300a
Parameters:
Targets [file:*testDir*/bundle_clem/]
Severity Level WARNING
Recurse Directories true
File Filters Used [*.xml]
Force Mode off
Referential Integrity Check off
Validation Details:
PASS: file:*testDir*/bundle_clem/bundle_1.xml
PASS: file:*testDir*/bundle_clem/data/collection_1.0.xml
FAIL: file:*testDir*/bundle_clem/data/bi00_35n/bi03n003.xml
ERROR line 71, 42: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Imaging_Instrument_Parameters'.
ERROR line 77, 21: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Geometry'.
ERROR line 86, 64: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Cartography'.
FAIL: file:*testDir*/bundle_clem/data/bi00_35n/bi03n009.xml
ERROR line 71, 42: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Imaging_Instrument_Parameters'.
ERROR line 77, 21: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Geometry'.
ERROR line 86, 64: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Cartography'.
FAIL: file:*testDir*/bundle_clem/data/bi35_70n/bi38n065.xml
ERROR line 71, 42: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Imaging_Instrument_Parameters'.
ERROR line 77, 21: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Geometry'.
ERROR line 86, 64: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Cartography'.
FAIL: file:*testDir*/bundle_clem/data/bi35_70n/bi38n075.xml
ERROR line 71, 42: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be

found for element 'img:Imaging_Instrument_Parameters'.
ERROR line 77, 21: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Geometry'.
ERROR line 86, 64: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Cartography'.
FAIL: file:*testDir*/bundle_clem/data/bi70_35s/bi38s245.xml
ERROR line 71, 42: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Imaging_Instrument_Parameters'.
ERROR line 77, 21: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Geometry'.
ERROR line 86, 64: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Cartography'.
FAIL: file:*testDir*/bundle_clem/data/bi70_35s/bi38s255.xml
ERROR line 71, 42: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Imaging_Instrument_Parameters'.
ERROR line 77, 21: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Geometry'.
ERROR line 86, 64: cvc-complex-type.2.4.c: The matching wildcard is strict, but no declaration can be found for element 'img:Cartography'.
PASS: file:*testDir*/bundle_clem/document/collection_1.0.xml
PASS: file:*testDir*/bundle_clem/document/volinfo.xml
PASS: file:*testDir*/bundle_clem/miscellaneous/transfer_manifest.xml
PASS: file:*testDir*/bundle_clem/XML_Schema/collection_1.0.xml
PASS: file:*testDir*/bundle_clem/XML_Schema/imaging_dictionary.xml
PASS: file:*testDir*/bundle_clem/XML_Schema/PDS4_PDS_0300a.xml
Summary:
14 of 14 file(s) processed, 0 skipped
8 of 14 file(s) passed validation
End of Report

Step 6:

PDS Validate Tool Report
Configuration:
Version 1.6.0
Date 2014-10-21T22:59:05Z
Core Schematrons [PDS4_OPS_0300a.sch]
Model Version 0300a
Parameters:
Targets [file:*testDir*/bundle_clem/]
User Specified Schemas [bundle_clem/XML_Schema/PDS4_PDS_0300a.xsd, bundle_clem/XML_Schema/imaging_dictionary.xsd]
Severity Level WARNING
Recurse Directories true
File Filters Used [*.xml]
Force Mode off
Referential Integrity Check off
Validation Details:
PASS: file:*testDir*/bundle_clem/bundle_1.xml
PASS: file:*testDir*/bundle_clem/data/collection_1.0.xml
PASS: file:*testDir*/bundle_clem/data/bi00_35n/bi03n003.xml
PASS: file:*testDir*/bundle_clem/data/bi00_35n/bi03n009.xml
PASS: file:*testDir*/bundle_clem/data/bi35_70n/bi38n065.xml
PASS: file:*testDir*/bundle_clem/data/bi35_70n/bi38n075.xml
PASS: file:*testDir*/bundle_clem/data/bi70_35s/bi38s245.xml
PASS: file:*testDir*/bundle_clem/data/bi70_35s/bi38s255.xml
PASS: file:*testDir*/bundle_clem/document/collection_1.0.xml
PASS: file:*testDir*/bundle_clem/document/volinfo.xml
PASS: file:*testDir*/bundle_clem/miscellaneous/transfer_manifest.xml
PASS: file:*testDir*/bundle_clem/XML_Schema/collection_1.0.xml
PASS: file:*testDir*/bundle_clem/XML_Schema/imaging_dictionary.xml
PASS: file:*testDir*/bundle_clem/XML_Schema/PDS4_PDS_0300a.xml
Summary:
14 of 14 file(s) processed, 0 skipped
14 of 14 file(s) passed validation
End of Report

Step 7: not run because step 5 ran correctly. This used to demonstrate PDS-314.

Comments	Results met success criteria.

	https://oodt.jpl.nasa.gov/jira/browse/PDS-314, created during build 5a, asks why step 5 succeeds and step 7 fails. It has already been resolved.
Date of Testing	2014.10.17
Test Personnel	Richard Chen

Test Case ID	PRV.2
Description	Verify that a referenced file exists.
Requirements	PASS L5.PRP.VA.10: The tool shall verify that a file exists when referenced from a product label.
Success Criteria	Validation tool succeeds if referenced file exists, throws an error if not
Test Steps	1. mv bundle_clem/data/collection_1.0.tab . 2. validate bundle_clem/data/collection_1.0.xml -m0300a 3. mv collection_1.0.tab bundle_clem/data/ 4. validate bundle_clem/data/collection_1.0.xml -m0300a References also consider <directory_path_name>, which can be absolute, relative, and with or without a trailing '/'. 5. diff testPrep/product_document/Product_Doc_bad.xml testPrep/product_document/Product_Doc_good.xml 6. validate -t testPrep/product_document/Product_Doc_bad.xml 7. 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 1.6.0 Date 2014-10-21T23:05:51Z Core Schemas [PDS4_OPS_0300a.xsd] Core Schematrons [PDS4_OPS_0300a.sch] Model Version 0300a Parameters: Targets [file:*testDir*/bundle_clem/data/collection_1.0.xml] Severity Level WARNING Recurse Directories true File Filters Used [*.xml, *.XML] Force Mode off Referential Integrity Check off Validation Details: FAIL: file:*testDir*/bundle_clem/data/collection_1.0.xml ERROR line 103: URI reference does not exist: file:*testDir*/bundle_clem/data/collection_1.0.tab Summary: 1 of 1 file(s) processed, 0 skipped 0 of 1 file(s) passed validation End of Report Step 4: the referenced file was restored in step 3 PDS Validate Tool Report Configuration: Version 1.6.0 Date 2014-10-21T23:06:53Z Core Schemas [PDS4_OPS_0300a.xsd] Core Schematrons [PDS4_OPS_0300a.sch] Model Version 0300a Parameters: Targets [file:*testDir*/bundle_clem/data/collection_1.0.xml] Severity Level WARNING Recurse Directories true File Filters Used [*.xml, *.XML] Force Mode off Referential Integrity Check off Validation Details:

	PASS: file:*testDir*/bundle_clem/data/collection_1.0.xml Summary: 1 of 1 file(s) processed, 0 skipped 1 of 1 file(s) passed validation End of Report Step 5: the first difference (trailing /) doesn't matter. The second does. 94c94 < <directory_path_name>meca_rdr_sis_files/</directory_path_name> --- > <directory_path_name>meca_rdr_sis_files</directory_path_name> 103c103 < <directory_path_name>/replaceWithFullPath</directory_path_name> --- > <directory_path_name> *testDir*/testPrep/product_document/meca_rdr_sis_files</directory_path_name> Step 6: _bad.xml should fail because of a non-existent path. PDS Validate Tool Report Configuration: Version 1.6.0 Date 2014-10-22T05:31:11Z Core Schemas [PDS4_PDS_1301.xsd] Core Schematrons [PDS4_PDS_1301.sch] Model Version 1301 Parameters: Targets [file:*testDir*/testPrep/product_document/Product_Doc_bad.xml] Severity Level WARNING Recurse Directories true File Filters Used [*.xml, *.XML] Force Mode off Referential Integrity Check off Validation Details: FAIL: file:*testDir*/testPrep/product_document/Product_Doc_bad.xml ERROR line 97: URI reference does not exist: file:/replaceWithFullPath/image002.gif Summary: 1 of 1 file(s) processed, 0 skipped 0 of 1 file(s) passed validation End of Report Step 7: non-existent path has been replaced by a real path PDS Validate Tool Report Configuration: Version 1.6.0 Date 2014-10-22T05:32:14Z Core Schemas [PDS4_PDS_1301.xsd] Core Schematrons [PDS4_PDS_1301.sch] Model Version 1301 Parameters: Targets [file:*testDir*/testPrep/product_document/Product_Doc_good.xml] Severity Level WARNING Recurse Directories true File Filters Used [*.xml, *.XML] Force Mode off Referential Integrity Check off Validation Details: PASS: file:*testDir*/testPrep/product_document/Product_Doc_good.xml Summary: 1 of 1 file(s) processed, 0 skipped 1 of 1 file(s) passed validation End of Report
Comments	Results met success criteria. https://oodt.jpl.nasa.gov/jira/browse/PDS-315, created in build 5a, notes that validate no longer catches a non-existent path in XML tag directory_path_name. This issue has already been resolved.
Date of Testing	2014.10.22
Test Personnel	Richard Chen

Test Case ID	PRV.3
Description	Validate aggregate products' integrity of LID references. This differs from validating a directory by 1) hierarchically validating based on bundle.xml's lid_reference and/or collection.tab's inventory, and 2) validating only the references, not other syntax.
Requirements	PASS L5.PRP.VA.3: The tool shall validate aggregate products and all products referenced by such products.
Success Criteria	Find no bugs in bundle_geo_ra/. Find some bugs in bundleLID/.
Test Steps	1. cd *testDir/* 2. validate -i -t bundle_geo_ra 3. validate -i -t bundleLID where bundleLID/ == bundle_geo_ra/ with some files removed except: a) data_test/data_test_collection_1.xml has another collection's logical_identifier, b) context/context_collection_1.xml has a typo in its logical_identifier, and c) data_derived/sol149b.xml has another product's logical_identifier. So… 4. validate –i -t bundle_geo_ra/bundle_1.xml Integrity checking only 1 file is illogical since references point to other files
Test Results	Step 2: PDS Validate Tool Report Begin gathering LIDVIDs, bundle and collection members from the given target: file:*testDir*/bundle_geo_ra/ Finished gathering LIDVIDs, bundle and collection members from the given target: file:*testDir*/bundle_geo_ra/ PDS Validate Tool Report Configuration: Version 1.6.0 Date 2014-10-22T06:07:34Z Core Schemas [PDS4_PDS_1301.xsd] Core Schematrons [PDS4_PDS_1301.sch] Model Version 1301 Parameters: Targets [file:*testDir*/bundle_geo_ra/] Severity Level WARNING Recurse Directories true File Filters Used [*.xml] Force Mode off Referential Integrity Check on Validation Details: PASS: file:*testDir*/bundle_geo_ra/bundle_1.xml PASS: file:*testDir*/bundle_geo_ra/context/context_collection_1.xml PASS: file:*testDir*/bundle_geo_ra/context/mars_planet.xml PASS: file:*testDir*/bundle_geo_ra/context/phoenix.xml PASS: file:*testDir*/bundle_geo_ra/context/phx.xml PASS: file:*testDir*/bundle_geo_ra/context/ra_phx.xml PASS: file:*testDir*/bundle_geo_ra/data_derived/data_derived_collection_1.xml PASS: file:*testDir*/bundle_geo_ra/data_derived/sol006.xml PASS: file:*testDir*/bundle_geo_ra/data_derived/sol007.xml [snip…] PASS: file:*testDir*/bundle_geo_ra/xml_schema/collection.xml PASS: file:*testDir*/bundle_geo_ra/xml_schema/PDS4_PDS_1301.xml Summary: 173 of 173 file(s) processed, 0 skipped 173 of 173 file(s) passed validation End of Report Step 3: Begin gathering LIDVIDs, bundle and collection members from the given target: file:*testDir*/bundleLID/ Finished gathering LIDVIDs, bundle and collection members from the given target: file:*testDir*/bundleLID/ PDS Validate Tool Report Configuration: Version 1.6.0

	Date 2014-10-22T06:14:52Z Core Schemas [PDS4_PDS_1301.xsd] Core Schematrons [PDS4_PDS_1301.sch] Model Version 1301 Parameters: Targets [file:*testDir*/bundleLID/] Severity Level WARNING Recurse Directories true File Filters Used [*.xml, *.XML] Force Mode off Referential Integrity Check on Validation Details: PASS: file:*testDir*/bundleLID/bundle_1.xml WARNING The member 'urn:nasa:pds:phx_ra:data_derived' is referenced in multiple products: [file:*testDir*/bundleLID/data_derived/data_derived_collection_1.xml, file:*testDir*/bundleLID/data_test/data_test_collection_1.xml] WARNING The member 'urn:nasa:pds:phx_ra:data_test' could not be found in any product within the given target. WARNING The member 'urn:nasa:pds:phx_ra:context' could not be found in any product within the given target. PASS: file:*testDir*/bundleLID/context/context_collection_1.xml WARNING The lidvid 'urn:nasa:pds:phx_ra:context_typo::1.0' is not a member of any bundle within the given target. PASS: file:*testDir*/bundleLID/context/mars_planet.xml PASS: file:*testDir*/bundleLID/context/phoenix.xml PASS: file:*testDir*/bundleLID/context/phx.xml PASS: file:*testDir*/bundleLID/context/ra_phx.xml FAIL: file:*testDir*/bundleLID/data_derived/data_derived_collection_1.xml ERROR The member 'urn:nasa:pds:phx_ra:data_derived:sol149a::1.0' is referenced in multiple products: [file:*testDir*/bundleLID/data_derived/sol149a.xml, file:*testDir*/bundleLID/data_derived/sol149b.xml] WARNING The member 'urn:nasa:pds:phx_ra:data_derived:sol149b::1.0' could not be found in any product within the given target. PASS: file:*testDir*/bundleLID/data_derived/sol006.xml PASS: file:*testDir*/bundleLID/data_derived/sol149a.xml PASS: file:*testDir*/bundleLID/data_derived/sol149b.xml PASS: file:*testDir*/bundleLID/data_test/data_test_collection_1.xml PASS: file:*testDir*/bundleLID/data_test/duricrust/pit_test_duricrust.xml PASS: file:*testDir*/bundleLID/data_test/duricrust/pit_test_duricrust_dig1_pic1.xml PASS: file:*testDir*/bundleLID/data_test/duricrust/pit_test_duricrust_dig2_pic13.xml PASS: file:*testDir*/bundleLID/data_test/scraping/pit_test_scraping.xml PASS: file:*testDir*/bundleLID/data_test/scraping/pit_test_scraping_pic1.xml PASS: file:*testDir*/bundleLID/data_test/scraping/pit_test_scraping_pic2.xml Summary: 17 of 17 file(s) processed, 0 skipped 16 of 17 file(s) passed validation End of Report Step 4: Warning: Target must be a directory specification when performing integrity checking: file:*testDir*/bundle_geo_ra/bundle_1.xml
Comments	Results met success criteria. https://oodt.jpl.nasa.gov/jira/browse/PDS-316, created in Build 5a, requests more warnings for the use of other options with –i. This has already been resolved
Date of Testing	2014.10.21
Test Personnel	Richard Chen

Test Case ID	PRV.4
Description	Merge label fragments
Requirements	PASS L5.PRP.VA.4: The tool shall merge the contents of label fragments referenced by include elements with the contents of the parent label when validating a product.

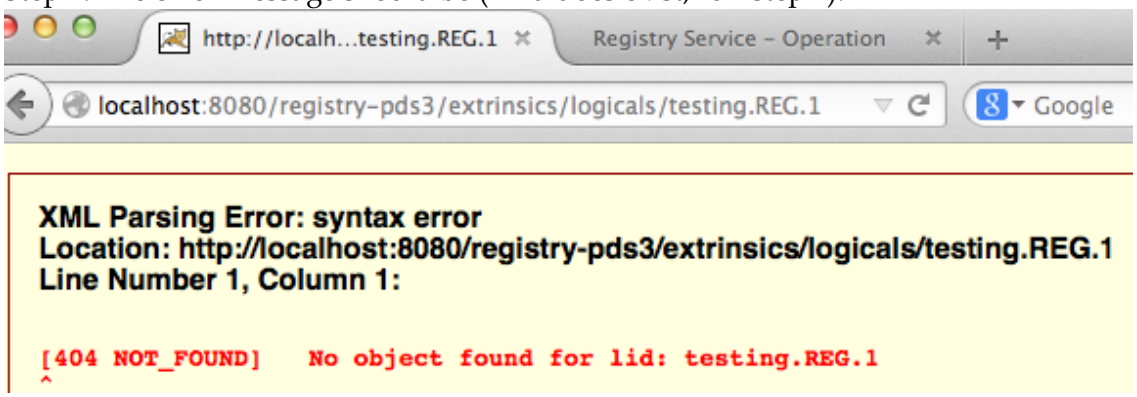
Success Criteria	After merging, resulting label validates as if the fragments were physically merged.
Test Steps	1. cd *testDir/* 2. validate -t testPrep/product_document/Product_Doc_part1.xml 3. mv testPrep/product_document/Product_Doc_part2.xml . Product_Doc_part1.xml includes _part2, so remove it and see the error 4. validate -t testPrep/product_document/Product_Doc_part1.xml 5. mv Product_Doc_part2.xml testPrep/product_document/
Test Results	Step 2: PDS Validate Tool Report Configuration: Version 1.6.0 Date 2014-10-22T06:49:35Z Core Schemas [PDS4_PDS_1301.xsd] Core Schematrons [PDS4_PDS_1301.sch] Model Version 1301 Parameters: Targets [file:*testDir*/testPrep/product_document/Product_Doc_part1.xml] Severity Level WARNING Recurse Directories true File Filters Used [*.xml, *.XML] Force Mode off Referential Integrity Check off Validation Details: PASS: file:*testDir*/testPrep/product_document/Product_Doc_part1.xml Summary: 1 of 1 file(s) processed, 0 skipped 1 of 1 file(s) passed validation End of Report Step 4: PDS Validate Tool Report Configuration: Version 1.6.0 Date 2014-10-22T06:51:42Z Core Schemas [PDS4_PDS_1301.xsd] Core Schematrons [PDS4_PDS_1301.sch] Model Version 1301 Parameters: Targets [file:*testDir*/testPrep/product_document/Product_Doc_part1.xml] Severity Level WARNING Recurse Directories true File Filters Used [*.xml, *.XML] Force Mode off Referential Integrity Check off Validation Details: FAIL: file:*testDir*/testPrep/product_document/Product_Doc_part1.xml WARNING line 96, 56: Include operation failed, reverting to fallback. Resource error reading file as XML (href='./Product_Doc_part2.xml'). Reason: *testDir*/testPrep/product_document/Product_Doc_part2.xml (No such file or directory) ERROR line 97, 47: cvc-complex-type.2.4.a: Invalid content was found starting with element 'somethingInvalid'. One of '{"http://pds.nasa.gov/pds4/pds/v1":comment, "http://pds.nasa.gov/pds4/pds/v1":directory_path_name, "http://pds.nasa.gov/pds4/pds/v1":document_standard_id}' is expected. ERROR line 89: URI reference does not exist: file:*testDir*/testPrep/product_document/image001.gif Summary: 1 of 1 file(s) processed, 0 skipped 0 of 1 file(s) passed validation End of Report
Comments	Results met success criteria.
Date of Testing	2014.10.22
Test Personnel	Richard Chen

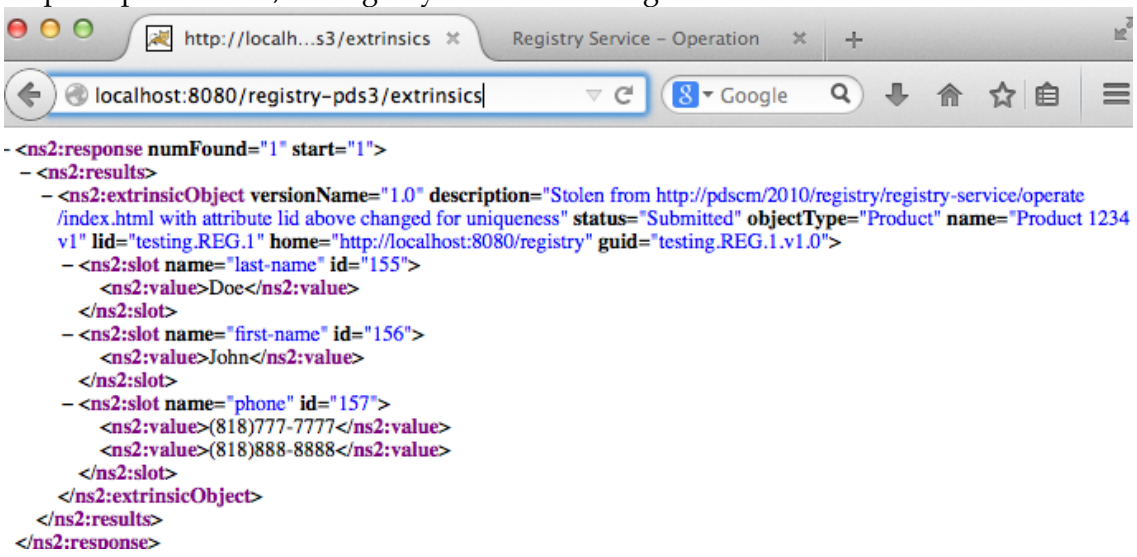
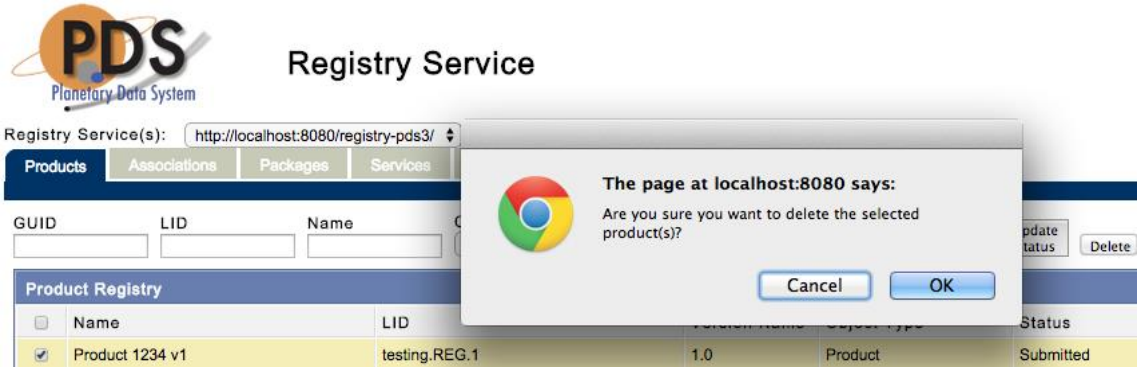
Test Case ID	PRV.5
Description	Validate schemas
Requirements	PASS L5.PRP.VA.8: The tool shall verify that a schema file is valid.
Success Criteria	Validation tool verifies whether a schema is well formed.
Test Steps	The validate tool does not accept a schema as its target, i.e. this does not work validate PDS4_PDS_1301.xsd However, validate, when validating a label file, does complain when the schema is bad 1. validate bundle_geo_ra/bundle_1.xml -x PDS4_PDS_1301.xsd -S PDS4_PDS_1301.sch 2. diff -C1 PDS4_PDS_1301.xsd testPrep/PDS4_PDS_1301.bad.xsd 3. validate bundle_geo_ra/bundle_1.xml -x testPrep/PDS4_PDS_1301.bad.xsd -S PDS4_PDS_1301.sch
Test Results	Step 1: a normal validation with a schema specified on the command line PDS Validate Tool Report Configuration: Version 1.6.0 Date 2014-10-22T06:54:33Z Parameters: Targets [file:*testDir*/bundle_geo_ra/bundle_1.xml] User Specified Schemas [PDS4_PDS_1301.xsd] User Specified Schematrons [PDS4_PDS_1301.sch] Severity Level WARNING Recurse Directories true File Filters Used [*.xml, *.XML] Force Mode off Referential Integrity Check off Validation Details: PASS: file:*testDir*/bundle_geo_ra/bundle_1.xml Summary: 1 of 1 file(s) processed, 0 skipped 1 of 1 file(s) passed validation End of Report Step 2: the first schema is good; the second has an important line commented out *** PDS4_PDS_1301.xsd 2014-10-17 16:26:42.000000000 -0700 --- testPrep/PDS4_PDS_1301.bad.xsd 2014-10-17 16:25:04.000000000 -0700 ********** *** 11,13 **** ! <xs:annotation> <xs:documentation>This XML schema file has been generated from the --- 11,13 ---- ! <!--xs:annotation--> <xs:documentation>This XML schema file has been generated from the Step 3: validate fails because of the schema's syntactic problems PDS Validate Tool Report Configuration: Version 1.6.0 Date 2014-10-22T06:56:52Z Parameters: Targets [file:*testDir*/bundle_geo_ra/bundle_1.xml] User Specified Schemas [testPrep/PDS4_PDS_1301.bad.xsd] User Specified Schematrons [PDS4_PDS_1301.sch] Severity Level WARNING Recurse Directories true Force Mode off Referential Integrity Check off Validation Details: FAIL: file:*testDir*/bundle_geo_ra/bundle_1.xml FATAL_ERROR line 15, 5: The element type "xs:schema" must be terminated by the matching end-tag "</xs:schema>".

	Summary: 1 of 1 file(s) processed, 0 skipped 0 of 1 file(s) passed validation End of Report
Comments	Results met success criteria.
Date of Testing	2014.10.22
Test Personnel	Richard Chen

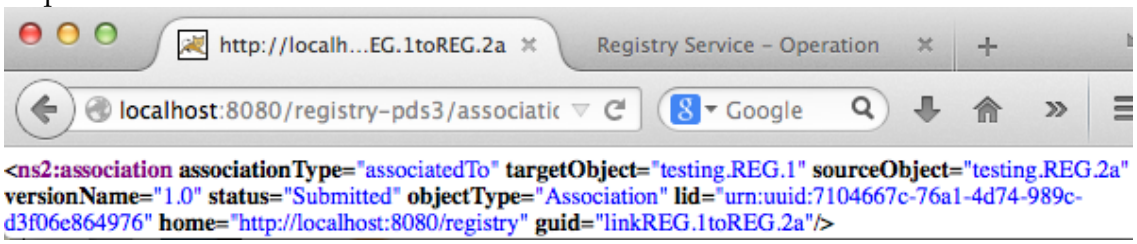
Test Case ID	PRV.6
Description	Accept schema file specified by file or directory
Requirements	PASS L5.PRP.VA.7: The tool shall accept the following as input for specifying the associated schema file(s)…
Success Criteria	Label file validates against the schema specified.
Test Steps	Step 4 of test PRV.1 and PRV.5 demonstrate this capability.
Test Results	Tested during PRV.1 and PRV.5
Comments	Results met success criteria.
Date of Testing	2014.10.17
Test Personnel	Richard Chen

Test Case ID	REG.1
Description	Validate and accept metadata to register an artifact or modify an artifact's registration, query for a registered artifact, delete a registered artifact. Use the REST-based API.
Requirements	PASS L5.REG.1: The service shall accept artifact registrations. PASS L5.REG.4: The service shall accept metadata for a registered artifact in a defined format. PASS L5.REG.5: The service shall validate metadata for a registered artifact. PASS L5.REG.13: The service shall allow deletion of registered artifacts. PASS L5.REG.14: The service shall allow queries for registered artifacts. PASS L5.GEN.3: The system shall generate metrics regarding performance and activity.
Success Criteria	Registry service validates and accepts metadata for an artifact in a defined format, consistent with the appropriate schema for the artifact. Registering an Inventory artifact should allow locating and auditing the artifact. Registering a Dictionary artifact should be reflected in the Information Model. Registering a Document artifact, e.g. a schema, should store the file and make the document available. Registering a Service artifact should document and promote the service. Query and delete artifacts or provide error messages for unrecognized artifacts.
Test Steps	Clean database as described in RESETREGISTRY in Section 3.1 1. cd *testDir* 2. http://localhost:8080/registry-pds3/extrinsics/logicals/testing.REG.1 in a browser shows no current product has lid "testing.REG.1", which input files test.REG.1[ab].xml have. 3. curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.1a.xml http://localhost:8080/registry-pds3/extrinsics attempts to register the bad input file 4. Repeat step 2 to ensure lid still does not exist. 5. curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.1b.xml http://localhost:8080/registry-pds3/extrinsics

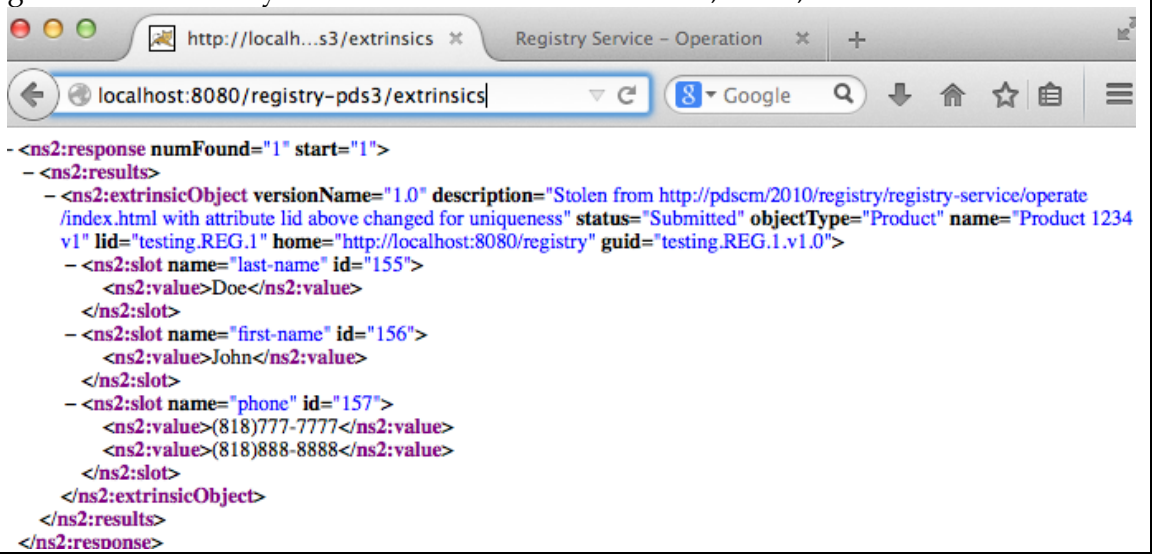
	registers a good input file 6. Repeat step 2 to see the lid 7. At http://localhost:8080/registry-ui/, select "Product 1234 v1", Delete, OK 8. Repeat step 2 to ensure lid no longer exists
Test Results	Step 2: The error message should be (if lid does exist, run step 7):  Step 3: * About to connect() to localhost port 8080 (#0) * Trying ::1... * connected * Connected to localhost (::1) port 8080 (#0) > POST /registry-pds3/extrinsics HTTP/1.1 > User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8z zlib/1.2.5 > Host: localhost:8080 > Accept: */* > Content-type:application/xml > Content-Length: 653 * upload completely sent off: 653 out of 653 bytes < HTTP/1.1 400 Bad Request < Server: Apache-Coyote/1.1 < Content-Type: text/html;charset=utf-8 < Content-Language: en < Content-Length: 990 < Date: Sun, 19 Oct 2014 06:25:57 GMT < Connection: close * Closing connection #0 <html><head><title>Apache Tomcat/7.0.56 - Error report</title><style><!--H1 {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;font-size:22px;} H2 {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;font-size:16px;} H3 {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;font-size:14px;} BODY {font-family:Tahoma,Arial,sans-serif;color:black;background-color:white;} B {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;} P {font-family:Tahoma,Arial,sans-serif;background:white;color:black;font-size:12px;}A {color : black;}A.name {color : black;}HR {color : #525D76;}--></style> </head><body> HTTP Status 400 - Bad Request <HR size="1" noshade="noshade"> type Status report message <u>Bad Request</u> description <u>The request sent by the client was syntactically incorrect.</u> <HR size="1" noshade="noshade"> Apache Tomcat/7.0.56 </body></html> Step 4: Same as step 2 Step 5: * About to connect() to localhost port 8080 (#0) * Trying ::1... * connected * Connected to localhost (::1) port 8080 (#0) > POST /registry-pds3/extrinsics HTTP/1.1 > User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8z zlib/1.2.5 > Host: localhost:8080 > Accept: */* > Content-type:application/xml > Content-Length: 629 * upload completely sent off: 629 out of 629 bytes < HTTP/1.1 201 Created < Server: Apache-Coyote/1.1

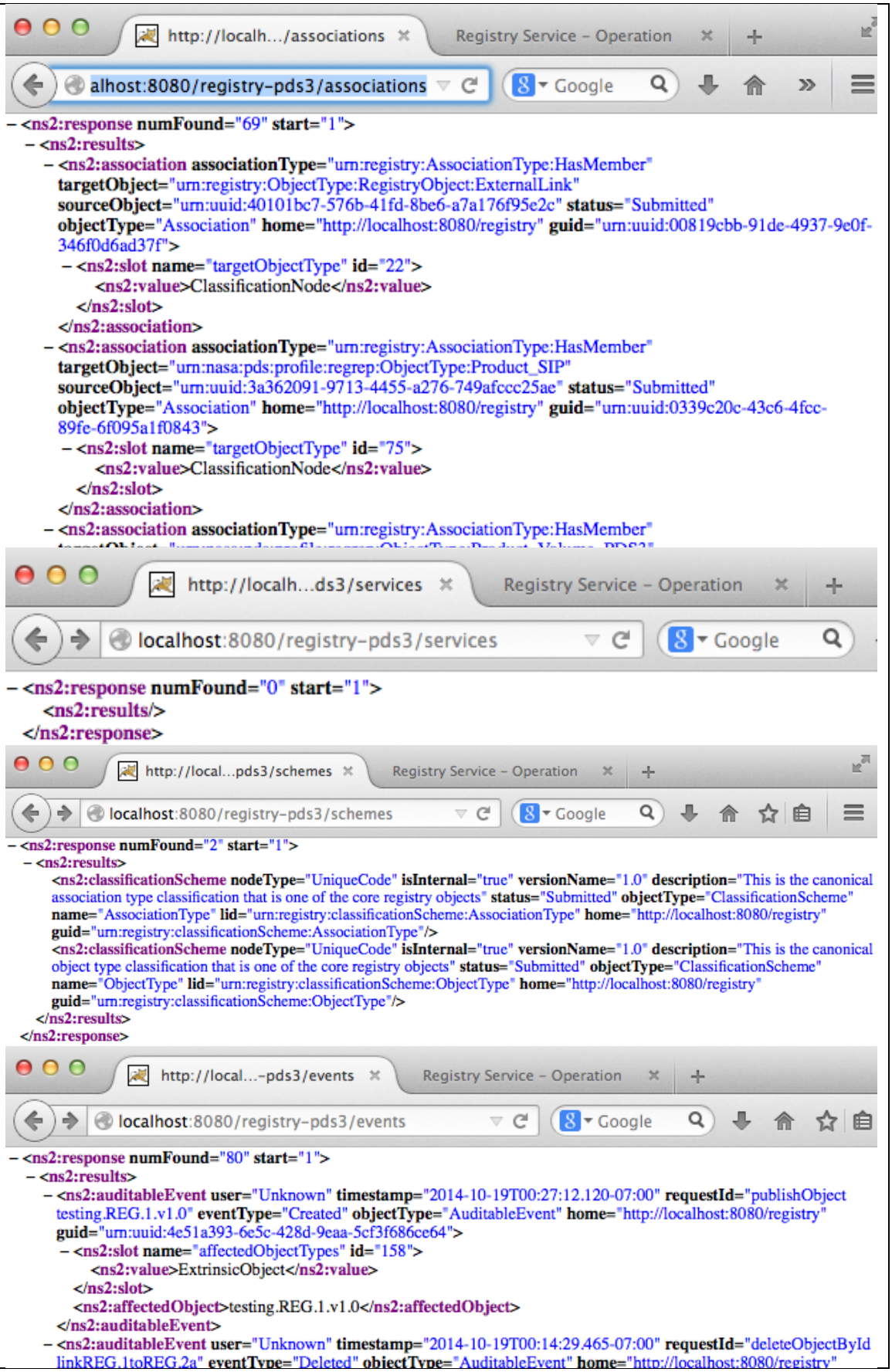
	< Location: http://localhost:8080/registry-pds3/extrinsics/testing.REG.1.v1.0 < Content-Type: application/xml < Transfer-Encoding: chunked < Date: Sun, 19 Oct 2014 06:22:43 GMT * Connection #0 to host localhost left intact testing.REG.1.v1.0* Closing connection #0 Step 6: Upon success, the registry service returns good xml. In firefox:  - <ns2:response numFound="1" start="1"> – <ns2:results> – <ns2:extrinsicObject versionName="1.0" description="Stolen from http://pdscm/2010/registry/registry-service/operate /index.html with attribute lid above changed for uniqueness" status="Submitted" objectType="Product" name="Product 1234 v1" lid="testing.REG.1" home="http://localhost:8080/registry" guid="testing.REG.1.v1.0"> – <ns2:slot name="last-name" id="155"> <ns2:value>Doe</ns2:value> </ns2:slot> – <ns2:slot name="first-name" id="156"> <ns2:value>John</ns2:value> </ns2:slot> – <ns2:slot name="phone" id="157"> <ns2:value>(818)777-7777</ns2:value> <ns2:value>(818)888-8888</ns2:value> </ns2:slot> </ns2:extrinsicObject> </ns2:results> </ns2:response> Step 7:  Step 8: Same as step 2
Comments	Results met success criteria.
Date of Testing	2014.10.18
Test Personnel	Richard Chen

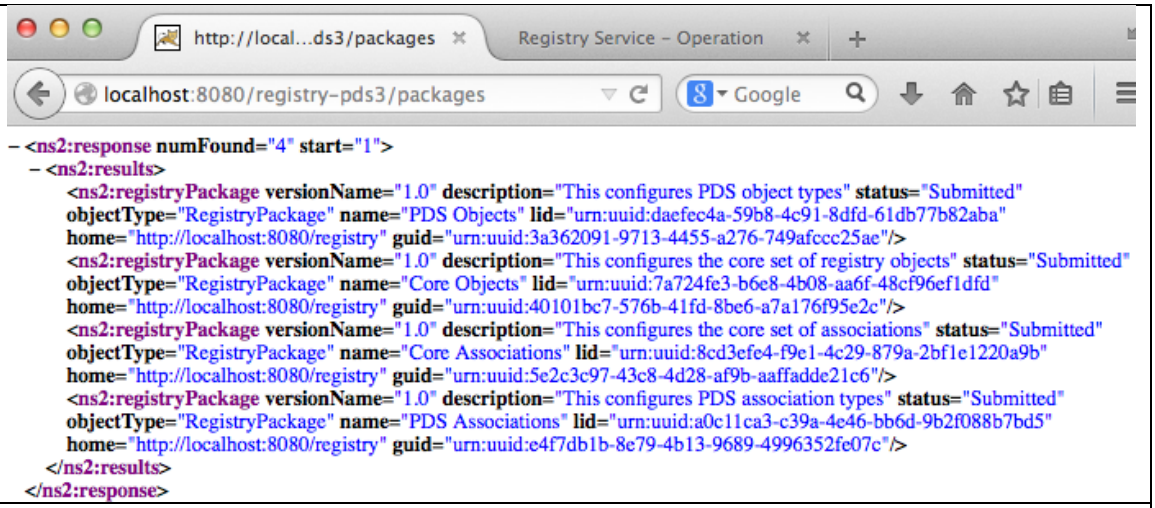
Test Case ID	REG.2
Description	Relate artifact registrations. Query and delete such associations.
Requirements	PASS L5.REG.2: The service shall provide a means for relating artifact registrations. PASS L5.REG.13: The service shall allow deletion of registered artifacts. PASS L5.REG.14: The service shall allow queries for registered artifacts.
Success Criteria	Registry service relates together multiple artifacts during their registrations, whether as a batch or as individual registrations. The associations are removed from the registry after deletion.
Test Steps	1. http://localhost:8080/registry-pds3/associations/linkREG.1toREG.2a shows no such associations 2. curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.2.xml http://localhost:8080/registry-

	pds3/associations adds 1 association (from a nonexistent sourceLid) to desired targetLid 3. Repeat step 1 to see the association. 4. curl -X DELETE -v http://localhost:8080/registry-pds3/associations/linkREG.1toREG.2a 5. Repeat step 1 to see no association
Test Results	Step 1: The error should look like  If not (i.e. if output looks like step 3's below), delete as is Test Step 4. Step 2: Benign output messages without "ERROR" * About to connect() to localhost port 8080 (#0) * Trying ::1... * connected * Connected to localhost (::1) port 8080 (#0) > POST /registry-pds3/associations HTTP/1.1 > User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8z zlib/1.2.5 > Host: localhost:8080 > Accept: */* > Content-type:application/xml > Content-Length: 225 * upload completely sent off: 225 out of 225 bytes < HTTP/1.1 201 Created < Server: Apache-Coyote/1.1 < Location: http://localhost:8080/registry-pds3/associations/linkREG.1toREG.2a < Content-Type: text/plain < Transfer-Encoding: chunked < Date: Sun, 19 Oct 2014 07:09:20 GMT * Connection #0 to host localhost left intact linkREG.1toREG.2a* Closing connection #0 Step 3:  Step 4: * About to connect() to localhost port 8080 (#0) * Trying ::1... * connected * Connected to localhost (::1) port 8080 (#0) > DELETE /registry-pds3/associations/linkREG.1toREG.2a HTTP/1.1 > User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8z zlib/1.2.5 > Host: localhost:8080 > Accept: */* < HTTP/1.1 200 OK < Server: Apache-Coyote/1.1 < Content-Length: 0

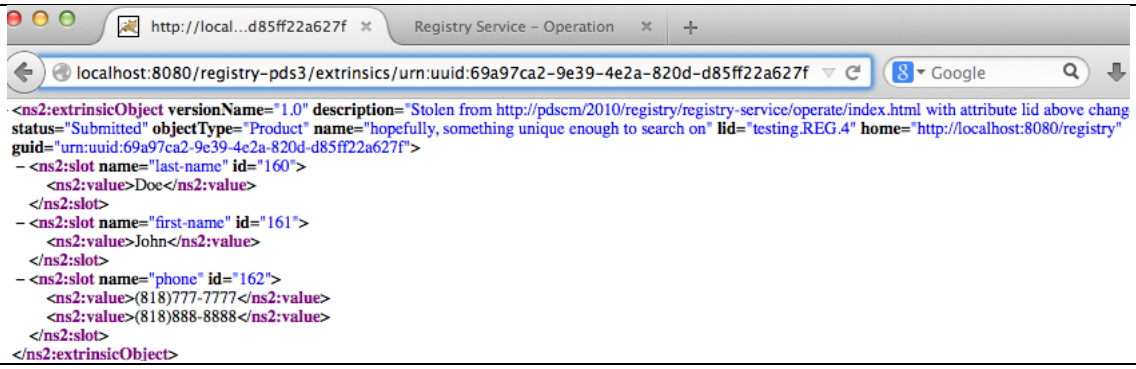
	< Date: Sun, 19 Oct 2014 07:14:29 GMT * Connection #0 to host localhost left intact * Closing connection #0 Step 5: same as step 1
Comments	Results met success criteria.
Date of Testing	2014.10.19
Test Personnel	Richard Chen

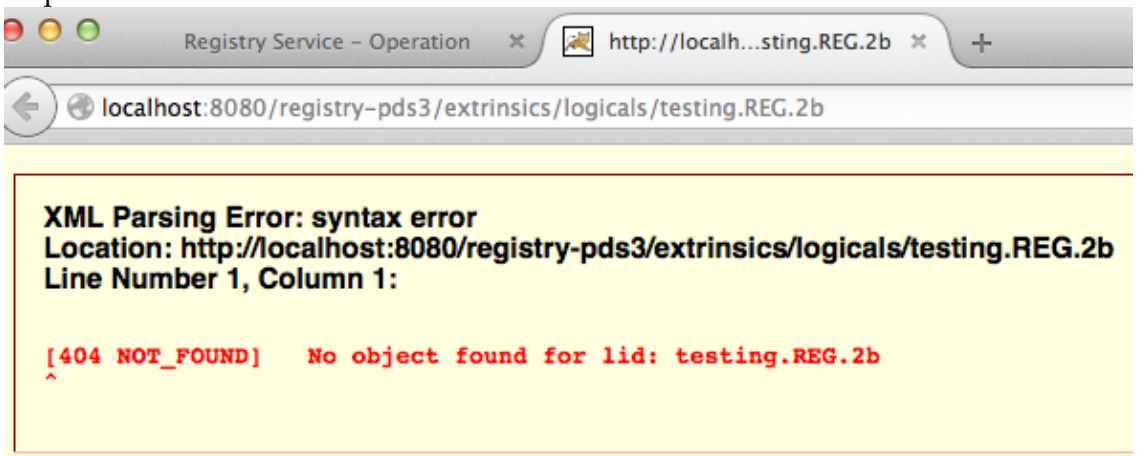
Test Case ID	REG.3
Description	Maintain policies for classes of artifacts, i.e. all classes of artifacts capture a base set of metadata, in the form of XML attributes: objectType, guid as well as metadata specific to each artifact class.
Requirements	PASS L5.REG.3: The system shall register products of a data delivery into an instance of the registry.
Success Criteria	Registry service defines separate policies for each class of artifact. Changes to the policies of a class can reflect in the validation of a registered artifact in that class.
Test Steps	In a browser, http://localhost:8080/registry-pds3/extrinsics (REG.1's steps 5 and 9 showsup here) http://localhost:8080/registry-pds3/associations (REG.2's step 2 shows up here) http://localhost:8080/registry-pds3/services http://localhost:8080/registry-pds3/schemes http://localhost:8080/registry-pds3/events http://localhost:8080/registry-pds3/packages
Test Results	Specific results will differ, but every item in every class has XML attributes objectType, guid. Each class may have others attributes such as lid, name, home.  - <ns2:response numFound="1" start="1"> – <ns2:results> – <ns2:extrinsicObject versionName="1.0" description="Stolen from http://pdscm/2010/registry/registry-service/operate /index.html with attribute lid above changed for uniqueness" status="Submitted" objectType="Product" name="Product 1234 v1" lid="testing.REG.1" home="http://localhost:8080/registry" guid="testing.REG.1.v1.0"> – <ns2:slot name="last-name" id="155"> <ns2:value>Doe</ns2:value> </ns2:slot> – <ns2:slot name="first-name" id="156"> <ns2:value>John</ns2:value> </ns2:slot> – <ns2:slot name="phone" id="157"> <ns2:value>(818)777-7777</ns2:value> <ns2:value>(818)888-8888</ns2:value> </ns2:slot> </ns2:extrinsicObject> </ns2:results> </ns2:response>

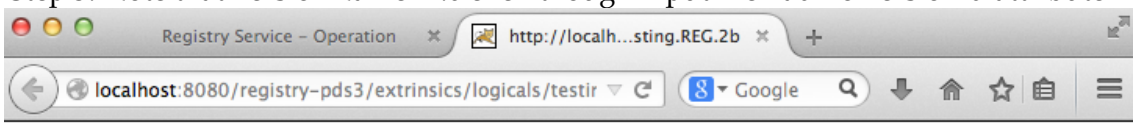

http://localh.../associations
Registry Service - Operation
alhost:8080/registry-pds3/associations
Google
- <ns2:response numFound="69" start="1">
- <ns2:results>
- <ns2:association associationType="urn:registry:AssociationType:HasMember"
targetObject="urn:registry:ObjectType:RegistryObject:ExternalLink"
sourceObject="urn:uuid:40101bc7-576b-41fd-8be6-a7a176f95e2c" status="Submitted"
objectType="Association" home="http://localhost:8080/registry" guid="urn:uuid:00819cbb-91de-4937-9e0f-346f0d6ad37f">
- <ns2:slot name="targetObjectType" id="22">
<ns2:value>ClassificationNode</ns2:value>
</ns2:slot>
</ns2:association>
- <ns2:association associationType="urn:registry:AssociationType:HasMember"
targetObject="urn:nasa:pds:profile:regrep:ObjectType:Product_SIP"
sourceObject="urn:uuid:3a362091-9713-4455-a276-749afccc25ae" status="Submitted"
objectType="Association" home="http://localhost:8080/registry" guid="urn:uuid:0339c20c-43c6-4fcc-89fe-6f095a1f0843">
- <ns2:slot name="targetObjectType" id="75">
<ns2:value>ClassificationNode</ns2:value>
</ns2:slot>
</ns2:association>
- <ns2:association associationType="urn:registry:AssociationType:HasMember"
http://localh...ds3/services
Registry Service - Operation
localhost:8080/registry-pds3/services
Google
- <ns2:response numFound="0" start="1">
<ns2:results/>
</ns2:response>
http://local...pds3/schemes
Registry Service - Operation
localhost:8080/registry-pds3/schemes
Google
- <ns2:response numFound="2" start="1">
- <ns2:results>
<ns2:classificationScheme nodeType="UniqueCode" isInternal="true" versionName="1.0" description="This is the canonical association type classification that is one of the core registry objects" status="Submitted" objectType="ClassificationScheme" name="AssociationType" lid="urn:registry:classificationScheme:AssociationType" home="http://localhost:8080/registry" guid="urn:registry:classificationScheme:AssociationType"/>
<ns2:classificationScheme nodeType="UniqueCode" isInternal="true" versionName="1.0" description="This is the canonical object type classification that is one of the core registry objects" status="Submitted" objectType="ClassificationScheme" name="ObjectType" lid="urn:registry:classificationScheme:ObjectType" home="http://localhost:8080/registry" guid="urn:registry:classificationScheme:ObjectType"/>
</ns2:results>
</ns2:response>
http://local...-pds3/events
Registry Service - Operation
localhost:8080/registry-pds3/events
Google
- <ns2:response numFound="80" start="1">
- <ns2:results>
- <ns2:auditableEvent user="Unknown" timestamp="2014-10-19T00:27:12.120-07:00" requestId="publishObject testing.REG.1.v1.0" eventType="Created" objectType="AuditableEvent" home="http://localhost:8080/registry" guid="urn:uuid:4e51a393-6e5c-428d-9eaa-5cf3f686ce64">
- <ns2:slot name="affectedObjectTypes" id="158">
<ns2:value>ExtrinsicObject</ns2:value>
</ns2:slot>
<ns2:affectedObject>testing.REG.1.v1.0</ns2:affectedObject>
</ns2:auditableEvent>
- <ns2:auditableEvent user="Unknown" timestamp="2014-10-19T00:14:29.465-07:00" requestId="deleteObjectById linkREG.1toREG.2a" eventType="Deleted" objectType="AuditableEvent" home="http://localhost:8080/registry"

	
Comments	Results met success criteria.
Date of Testing	2014.10.19
Test Personnel	Richard Chen

Test Case ID	REG.4
Description	Assign a global unique identifier to a registered artifact with no global unique identifier, query for the registered artifact, delete the registered artifact.
Requirements	PASS L5.REG.6: The service shall assign a global unique identifier to a registered artifact. PASS L5.REG.13: The service shall allow deletion of registered artifacts. PASS L5.REG.14: The service shall allow queries for registered artifacts.
Success Criteria	Registry service assigns each registered artifact, including multiple versions of an artifact, a global unique identifier.
Test Steps	1. curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.4.xml http://localhost:8080/registry-pds3/extrinsics From the output, copy the GUID (assigned by the registry) from the last line 2. http://localhost:8080/registry-pds3/extrinsics/*guid* 3. To be nice, delete via http://localhost:8080/registry-ui
Test Results	Step 1: Note the value (an assigned LID) of "Location:" in the positive message: * About to connect() to localhost port 8080 (#0) * Trying ::1... * connected * Connected to localhost (::1) port 8080 (#0) > POST /registry-pds3/extrinsics HTTP/1.1 > User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8z zlib/1.2.5 > Host: localhost:8080 > Accept: */* > Content-type:application/xml > Content-Length: 668 * upload completely sent off: 668 out of 668 bytes < HTTP/1.1 201 Created < Server: Apache-Coyote/1.1 < Location: http://localhost:8080/registry-pds3/extrinsics/urn:uuid:69a97ca2-9e39-4e2a-820d-d85ff22a627f < Content-Type: application/xml < Transfer-Encoding: chunked < Date: Sun, 19 Oct 2014 07:33:53 GMT * Connection #0 to host localhost left intact urn:uuid:69a97ca2-9e39-4e2a-820d-d85ff22a627f* Closing connection #0 Step 2:

	
Comments	Results met success criteria.
Date of Testing	2014.10.19
Test Personnel	Richard Chen

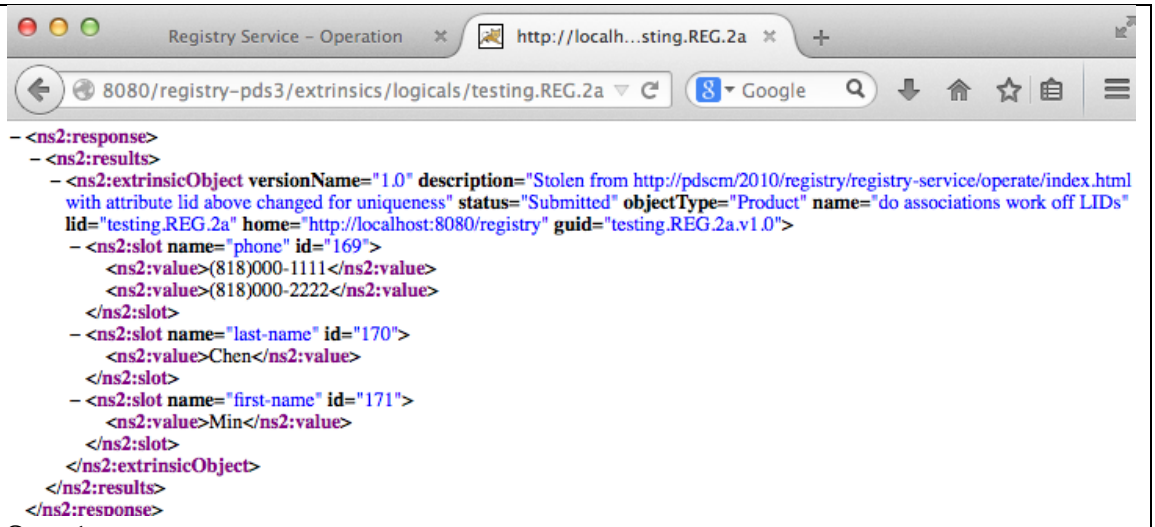
Test Case ID	REG.5
Description	Assign a version to a registered artifact based on its unique identifier
Requirements	PASS L5.REG.7: The service shall assign a version to a registered artifact based on its logical identifier.
Success Criteria	Registry service assigns each registered artifact, especially multiple versions of an artifact, a version identifier, derivable from its logical identifier.
Test Steps	1. http://localhost:8080/registry-pds3/extrinsics/logicals/testing.REG.2b shows no current product with lid "testing.REG.2b" 2. Register a product with no versionId attribute curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.5a.xml http://localhost:8080/registry-pds3/extrinsics 3. Repeat step 1. Note that versionName is 1.0 As of build 4b, versionName is independent of extrinsicObject's attributes versionId, name, and guid.
Test Results	Step 1:  Step 2: * About to connect() to localhost port 8080 (#0) * Trying ::1... * connected * Connected to localhost (::1) port 8080 (#0) > POST /registry-pds3/extrinsics HTTP/1.1 > User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8z zlib/1.2.5 > Host: localhost:8080 > Accept: */*

	> Content-type:application/xml > Content-Length: 641 * upload completely sent off: 641 out of 641 bytes < HTTP/1.1 201 Created < Server: Apache-Coyote/1.1 < Location: http://localhost:8080/registry-pds3/extrinsics/urn:uuid:fd606eda-4e72-4b01-9863-038426a39198 < Content-Type: application/xml < Transfer-Encoding: chunked < Date: Sun, 19 Oct 2014 07:53:45 GMT * Connection #0 to host localhost left intact urn:uuid:fd606eda-4e72-4b01-9863-038426a39198* Closing connection #0 Step 3: Note that versionName=1.0 even though input file had no versionId attribute  – <ns2:response> – <ns2:results> – <ns2:extrinsicObject versionName="1.0" description="Stolen from http://pdscm/2010/registry/registry-service/operate/index.html with attribute lid above changed for uniqueness" status="Submitted" objectType="Product" name="part of test association" lid="testing.REG.2b" home="http://localhost:8080/registry" guid="urn:uuid:fd606eda-4e72-4b01-9863-038426a39198"> – <ns2:slot name="first-name" id="165"> <ns2:value>Nancy</ns2:value> </ns2:slot> – <ns2:slot name="last-name" id="166"> <ns2:value>Chen</ns2:value> </ns2:slot> – <ns2:slot name="phone" id="167"> <ns2:value>(818)111-1111</ns2:value> <ns2:value>(818)111-2222</ns2:value> </ns2:slot> </ns2:extrinsicObject> </ns2:results> </ns2:response>
Comments	Results met success criteria.
Date of Testing	2014.10.19
Test Personnel	Richard Chen

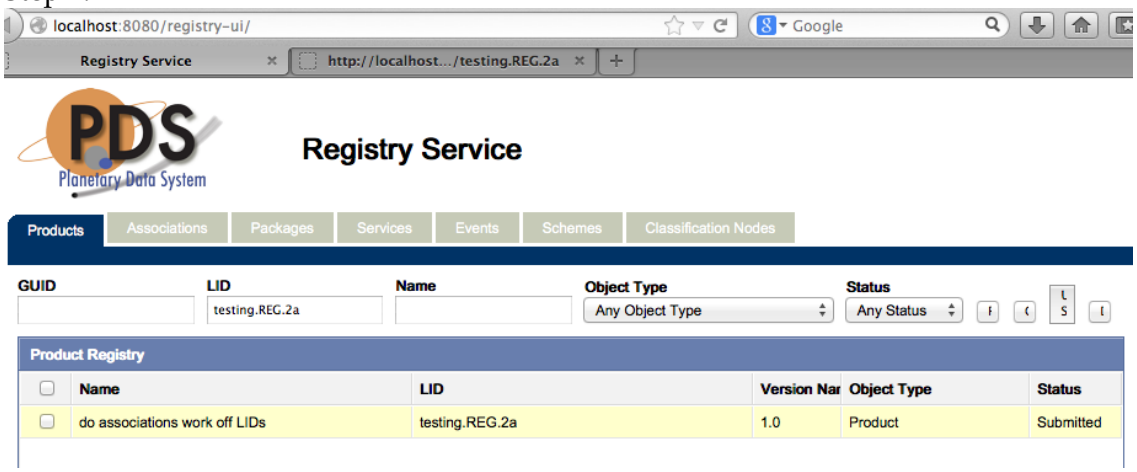
Test Case ID	REG.6
Description	Allow replacement, approval, deprecation, undeprecation, and verification of registered artifacts. The Tomcat server access log lists the search.
Requirements	PASS L5.REG.9: The service shall allow updates to registered artifacts. PASS L5.REG.10: The service shall allow approval of registered artifacts. PASS L5.REG.11: The service shall allow deprecation of registered artifacts. PASS L5.REG.12: The service shall allow undeprecation of registered artifacts. PASS L5.GEN.6: Applications shall generate metrics in a format suitable for ingestion by the Report Service.
Success Criteria	Registry service provides these standard functions with expected results. Initial registration results in an artifact being in an unapproved state. Also, the Tomcat server access log lists the actions.

<table>
<tr><td>Test Steps</td><td>
1. Show that no current product has LID “testing.REG.2a”: http://localhost:8080/registry-pds3/extrinsics/logicals/testing.REG.2a
2. curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.6a.xml http://localhost:8080/registry-pds3/extrinsics
3. Repeat step 1 to see the lid
An alternative to the steps below is
curl -X POST -H "Content-type:application/xml" -v http://localhost:8080/registry-pds3/extrinsics/testing.REG.2a.v1.0/{approve,deprecate,undeprecate}
4. In a browser, http://localhost:8080/registry-ui/
Under “LID”, enter “testing.REG.2a”. Click “Refresh”
5. Select row, set “Status” to “Approved”, hit “Update Status”
6. Select row, set “Status” to “Deprecated”, hit “Update Status”
7. Select row, set “Status” to “Submitted”, hit “Update Status”
The above actions get into the Tomcat server log, which the report service can process.
8. grep testing.REG.2a $CATALINA_HOME/logs/localhost_access_log.yyyy-mm-dd.txt
</td></tr>
<tr><td>Test Results</td><td>
Step 1: If browser isn’t as below, delete using http://localhost:8080/registry-ui

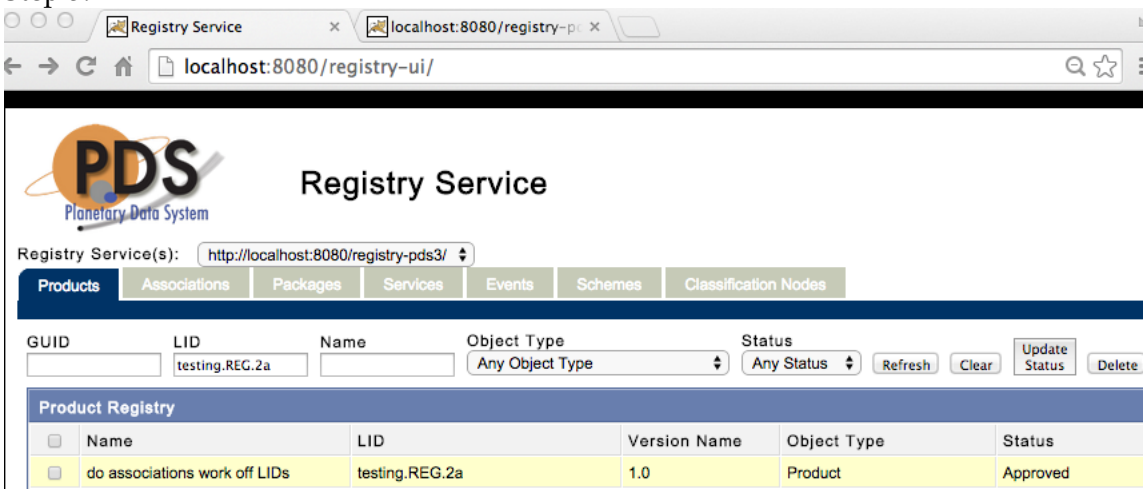

Step 2: Benign output messages without “ERROR”
* About to connect() to localhost port 8080 (#0)
* Trying ::1...
* connected
* Connected to localhost (::1) port 8080 (#0)
> POST /registry-pds3/extrinsics HTTP/1.1
> User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8z zlib/1.2.5
> Host: localhost:8080
> Accept: */*
> Content-type:application/xml
> Content-Length: 645
* upload completely sent off: 645 out of 645 bytes
< HTTP/1.1 201 Created
< Server: Apache-Coyote/1.1
< Location: http://localhost:8080/registry-pds3/extrinsics/testing.REG.2a.v1.0
< Content-Type: application/xml
< Transfer-Encoding: chunked
< Date: Sun, 19 Oct 2014 08:00:37 GMT
* Connection #0 to host localhost left intact
testing.REG.2a.v1.0* Closing connection #0
Step 3:
</td></tr>
</table>



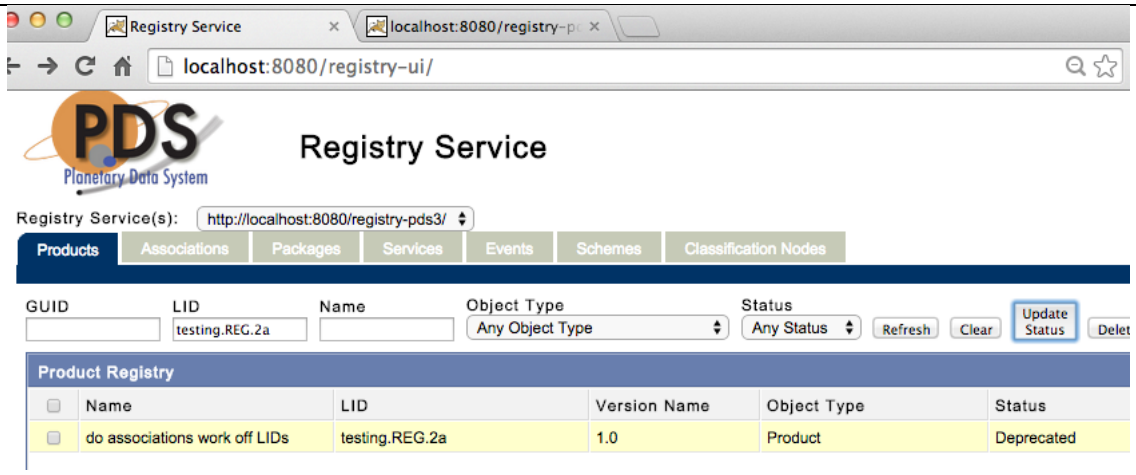
Step 4:



Step 5:



Step 6:



Step 7: same as Step 4

Step 8:

testDir > grep testing.REG.2a $CATALINA_HOME/logs/localhost_access_log.2014-10-19.txt
0:0:0:0:0:0:0:1%0 - - [19/Oct/2014:00:57:40 -0700] "GET /registry-pds3/extrinsics/logicals/testing.REG.2a HTTP/1.1" 404 68
0:0:0:0:0:0:0:1%0 - - [19/Oct/2014:00:57:43 -0700] "GET /registry-pds3/extrinsics/logicals/testing.REG.2a HTTP/1.1" 404 68
0:0:0:0:0:0:0:1%0 - - [19/Oct/2014:01:02:34 -0700] "GET /registry-pds3/extrinsics/logicals/testing.REG.2a HTTP/1.1" 200 776
127.0.0.1 - - [19/Oct/2014:01:05:09 -0700] "GET /registry-pds3/extrinsics?lid=testing.REG.2a&sort=guid&start=1&queryOp=AND&rows=20 HTTP/1.1" 200 799
127.0.0.1 - - [19/Oct/2014:01:05:09 -0700] "GET /registry-pds3/extrinsics?lid=testing.REG.2a&sort=guid&start=1&queryOp=AND&rows=1 HTTP/1.1" 200 799
127.0.0.1 - - [19/Oct/2014:01:06:31 -0700] "GET /registry-pds3/extrinsics/testing.REG.2a.v1.0 HTTP/1.1" 200 720
127.0.0.1 - - [19/Oct/2014:01:06:31 -0700] "POST /registry-pds3/extrinsics/testing.REG.2a.v1.0 HTTP/1.1" 200 -
127.0.0.1 - - [19/Oct/2014:01:06:31 -0700] "GET /registry-pds3/extrinsics?lid=testing.REG.2a&sort=guid&start=1&queryOp=AND&rows=20 HTTP/1.1" 200 798
127.0.0.1 - - [19/Oct/2014:01:06:31 -0700] "GET /registry-pds3/extrinsics?lid=testing.REG.2a&sort=guid&start=1&queryOp=AND&rows=1 HTTP/1.1" 200 798
127.0.0.1 - - [19/Oct/2014:01:11:25 -0700] "GET /registry-pds3/extrinsics/testing.REG.2a.v1.0 HTTP/1.1" 200 719
127.0.0.1 - - [19/Oct/2014:01:11:25 -0700] "POST /registry-pds3/extrinsics/testing.REG.2a.v1.0 HTTP/1.1" 200 -
127.0.0.1 - - [19/Oct/2014:01:11:25 -0700] "GET /registry-pds3/extrinsics?lid=testing.REG.2a&sort=guid&start=1&queryOp=AND&rows=20 HTTP/1.1" 200 800
127.0.0.1 - - [19/Oct/2014:01:11:25 -0700] "GET /registry-pds3/extrinsics?lid=testing.REG.2a&sort=guid&start=1&queryOp=AND&rows=1 HTTP/1.1" 200 800
127.0.0.1 - - [19/Oct/2014:01:11:57 -0700] "GET /registry-pds3/extrinsics?lid=testing.REG.2a&sort=guid&status=Submitted&start=1&queryOp=AND&rows=20 HTTP/1.1" 200 162
127.0.0.1 - - [19/Oct/2014:01:12:24 -0700] "GET /registry-pds3/extrinsics/testing.REG.2a.v1.0 HTTP/1.1" 200 721
127.0.0.1 - - [19/Oct/2014:01:12:24 -0700] "POST /registry-pds3/extrinsics/testing.REG.2a.v1.0 HTTP/1.1" 200 -
127.0.0.1 - - [19/Oct/2014:01:13:22 -0700] "GET /registry-pds3/extrinsics?sort=guid&status=Submitted&start=1&name=testing.REG.2a&queryOp=AND&rows=20 HTTP/1.1" 200 162
127.0.0.1 - - [19/Oct/2014:01:13:34 -0700] "GET /registry-pds3/extrinsics?sort=guid&status=Approved&start=1&name=testing.REG.2a&queryOp=AND&rows=20 HTTP/1.1" 200 162
127.0.0.1 - - [19/Oct/2014:01:13:37 -0700] "GET /registry-pds3/extrinsics?sort=guid&status=Deprecated&start=1&name=testing.REG.2a&queryOp=AND&rows=20 HTTP/1.1" 200 162

Comments	Results met success criteria.
Date of Testing	2014.10.19
Test Personnel	Richard Chen

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

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

Test Case ID	REG.9
Description	Test scalability of registry.
Requirements	PASS No specific functional requirement. This is a performance test case.
Success Criteria	Performance of registry in ingesting and viewing artifacts remains acceptable under logarithmic increases in volume.
Test Steps	This requires python to be installed on the local machine and possible editing of stressTest.py to change the location of the python executable. Step 3 is configurable. 500000 registrations (as shown) may take 3 days. 1. cd *testDir*/bin 2. ./stressTest.py 3. ./stressTest.py -v -n500000 > ../out.txt 4. grep Time ../out.txt
Test Results	Step 2: stressTesting.T000000.v1.0 stressTesting.T000001.v1.0 stressTesting.T000002.v1.0 REGSTR 3 good. Time(sec): avg=0.012 median=0.007 stdDev=0.00792 sum=0.0 <?xml version="1.0" encoding="UTF-8" standalone="yes"?><ns2:extrinsicObject xmlns:ns2="http://registry.pds.nasa.gov" versionName="1.0" description="Stolen from http://pdscm/2010/registry/registry-service/operate/index.html with attribute lid above changed for

	uniqueness" status="Submitted" objectType="Product" name="Stress The Registry " lid="stressTesting.T000000" home="http://localhost:8080/registry" guid="stressTesting.T000000.v1.0"><ns2:slot name="last-name" id="3001382"><ns2:value>Doe</ns2:value></ns2:slot><ns2:slot name="cannotPossibleBeAnExistingSlot" id="3001383"><ns2:value>cannot possibly be an existing value</ns2:value></ns2:slot><ns2:slot name="first-name" id="3001384"><ns2:value>John</ns2:value></ns2:slot><ns2:slot name="phone" id="3001385"><ns2:value>(818)777-7777</ns2:value><ns2:value>(818)888- 8888</ns2:value></ns2:slot></ns2:extrinsicObject> <?xml version="1.0" encoding="UTF-8" standalone="yes"?><ns2:extrinsicObject xmlns:ns2="http://registry.pds.nasa.gov" versionName="1.0" description="Stolen from http://pdscm/2010/registry/registry-service/operate/index.html with attribute lid above changed for uniqueness" status="Submitted" objectType="Product" name="Stress The Registry " lid="stressTesting.T000001" home="http://localhost:8080/registry" guid="stressTesting.T000001.v1.0"><ns2:slot name="last-name" id="3001387"><ns2:value>Doe</ns2:value></ns2:slot><ns2:slot name="cannotPossibleBeAnExistingSlot" id="3001388"><ns2:value>cannot possibly be an existing value</ns2:value></ns2:slot><ns2:slot name="first-name" id="3001389"><ns2:value>John</ns2:value></ns2:slot><ns2:slot name="phone" id="3001390"><ns2:value>(818)777-7777</ns2:value><ns2:value>(818)888- 8888</ns2:value></ns2:slot></ns2:extrinsicObject> <?xml version="1.0" encoding="UTF-8" standalone="yes"?><ns2:extrinsicObject xmlns:ns2="http://registry.pds.nasa.gov" versionName="1.0" description="Stolen from http://pdscm/2010/registry/registry-service/operate/index.html with attribute lid above changed for uniqueness" status="Submitted" objectType="Product" name="Stress The Registry " lid="stressTesting.T000002" home="http://localhost:8080/registry" guid="stressTesting.T000002.v1.0"><ns2:slot name="last-name" id="3001392"><ns2:value>Doe</ns2:value></ns2:slot><ns2:slot name="cannotPossibleBeAnExistingSlot" id="3001393"><ns2:value>cannot possibly be an existing value</ns2:value></ns2:slot><ns2:slot name="first-name" id="3001394"><ns2:value>John</ns2:value></ns2:slot><ns2:slot name="phone" id="3001395"><ns2:value>(818)777-7777</ns2:value><ns2:value>(818)888- 8888</ns2:value></ns2:slot></ns2:extrinsicObject> VIEW 3 good. Time(sec): avg=0.005 median=0.003 stdDev=0.00225 sum=0.0 stressTesting.T000000.v1.0 deleted stressTesting.T000001.v1.0 deleted stressTesting.T000002.v1.0 deleted DELETE 3 good. Time(sec): avg=0.006 median=0.006 stdDev=0.00004 sum=0.0 Step 4: REGSTR 500000 good. Time(sec): avg=0.005 median=0.004 stdDev=0.00379 sum=2362.8 VIEW 500000 good. Time(sec): avg=0.003 median=0.003 stdDev=0.00288 sum=1480.0 DELETE 500000 good. Time(sec): avg=0.005 median=0.004 stdDev=0.00413 sum=2453.9
Comments	Results met success criteria.
Date of Testing	2014.10.15
Test Personnel	Richard Chen

Test Case ID	RPT.1
Description	Various requirements regarding reporting
Requirements	PASS L5.RPT.1: The service shall support periodic submission of metrics. PASS L5.RPT.2: The service shall allow the submission of metrics in the form of a log file. PASS L5.RPT.3: The service shall utilize a secure transfer protocol for transferring log files across the Internet. PASS L5.RPT.4: The service shall support log files from the following sources… PASS L5.RPT.5: The service shall discover product-related information by querying the Registry service. PASS L5.RPT.6: The service shall aggregate and store the metrics in a repository. PASS L5.RPT.7: The service shall control access to the user interface and metrics repository. PASS L5.RPT.8: The service shall allow users to tailor reports and report templates as follows... PASS L5.RPT.9: The service shall allow users to save report templates for reuse. PASS L5.RPT.10: The service shall allow periodic generation of reports from saved templates. PASS L5.RPT.11: The service shall export reports in the following formats...
Success Criteria	Following operator configuration of content, representation, filter, and scope of reports

	and report templates, Report Service receives metrics periodically in log files generated by web and FTP servers, PDS4 services, and node-specific services. Tools can view the repository to compare against log. Report Service queries Registry Service for metrics regarding products instead of transfers or views. Tools can view the repository to compare against the registry. Report Service authenticates for proper access, and reports unsuccessful attempts. Generated reports, even when generated from saved templates, should match configuration and meet the export format specified.
Test Steps	Commercial applications, in particular Sawmill, provide the functionality required. Verification of installation suffices.
Test Results	Report Service was installed
Comments	Results met success criteria.
Date of Testing	2014.10.19
Test Personnel	Richard Chen

Test Case ID	SCMA.1
Description	Verify various change requests made to the Information Model schema and schemarons.
Requirements	PASS 1.3.3: PDS will provide criteria for validating archival products
Success Criteria	Validate tool accepts (or rejects) constructs deemed as valid (or invalid), primarily through software change requests.
Test Steps	Document testScma.docx describes the testing of the PDS4 schema and schematron.
Test Results	Document testScma.docx includes the test results of testing the PDS4 schema and schematron.
Comments	Results met success criteria.
Date of Testing	2014.09.18
Test Personnel	Richard Chen

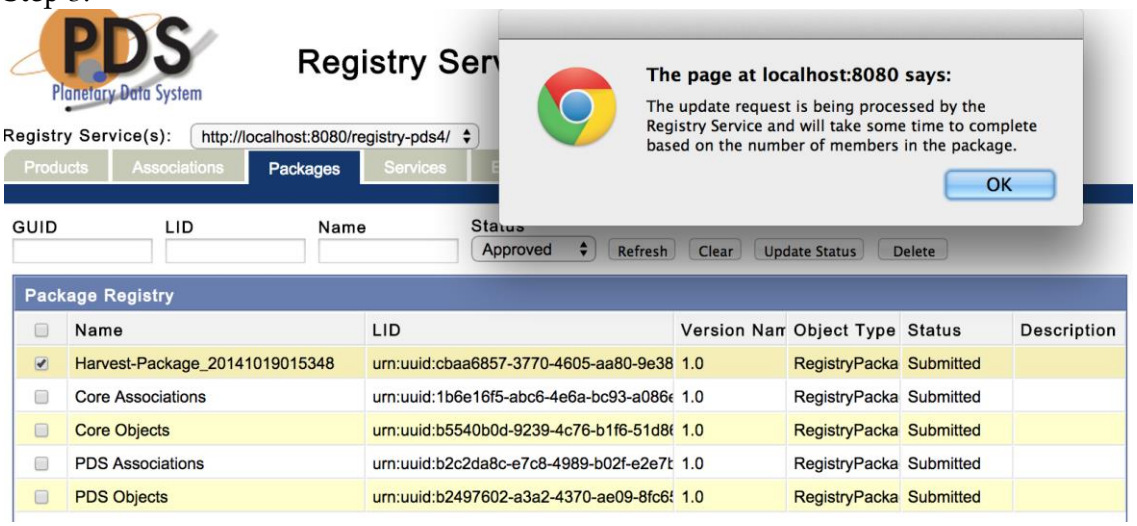
Test Case ID	SEC.1
Description	Various requirements regarding security
Requirements	PASS L5.SEC.1: The service shall authenticate a user given identifying credentials for that user. PASS L5.SEC.2: The service shall encrypt the transmission of identifying credentials across the network. PASS L5.SEC.3: The service shall authorize an authenticated user for access to a controlled capability. PASS L5.SEC.4: The service shall allow an operator of the system to create, update or delete a user identity. PASS L5.SEC.5: The service shall capture identifying information associated with a user identity. PASS L5.SEC.6: The service shall allow an operator of the system to create, update or delete a group identity. PASS L5.SEC.7: The service shall allow an operator of the system to add or remove a user from a group.
Success Criteria	Security service provides standard functions. Tools to view identities verify each activity. Security service allows an operator of the system to add or remove a user from a group. The user should subsequently be able or unable to access capabilities specific to the group. Security service captures identifying information. Tools to view identities show the information. Captured network packets show encryption, or trust that security service's protocol encrypts. Security service authorizes valid users, denies

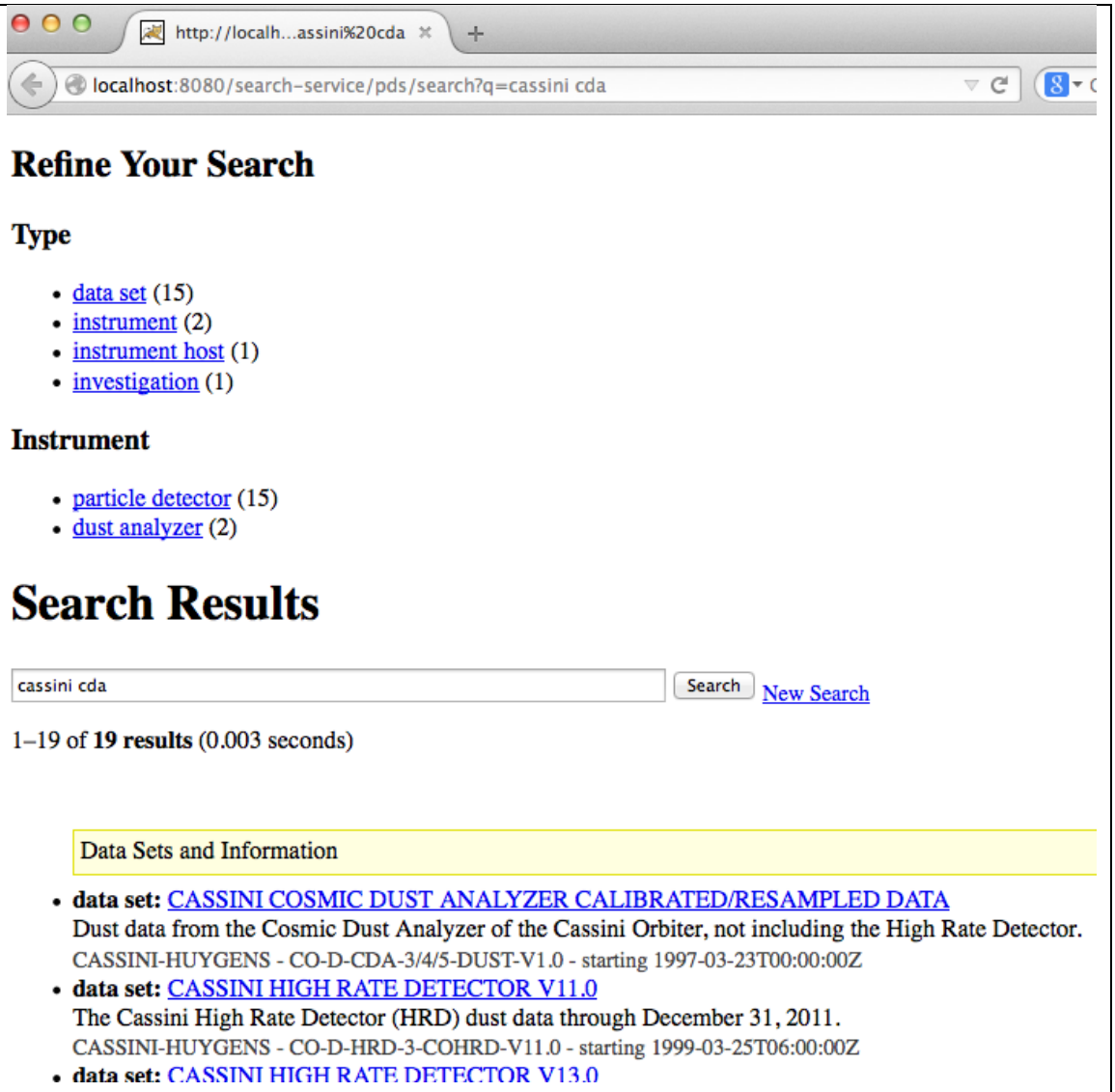
	invalid users.
Test Steps	(From https://pds-engineering.jpl.nasa.gov/development/pds4/5.0.0/security/) The Security Service provides the authentication and authorization functions for the PDS4 system. The intent of this service is to control access to interfaces and services that require authentication and authorization (e.g., Monitor, Report, Registry interfaces, etc.).
Test Results	The functionality for this service is satisfied by the open source software package OpenDS, which is a directory service supporting the Lightweight Directory Access Protocol (LDAP).
Comments	Results met success criteria.
Date of Testing	2014.10.18
Test Personnel	Richard Chen

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

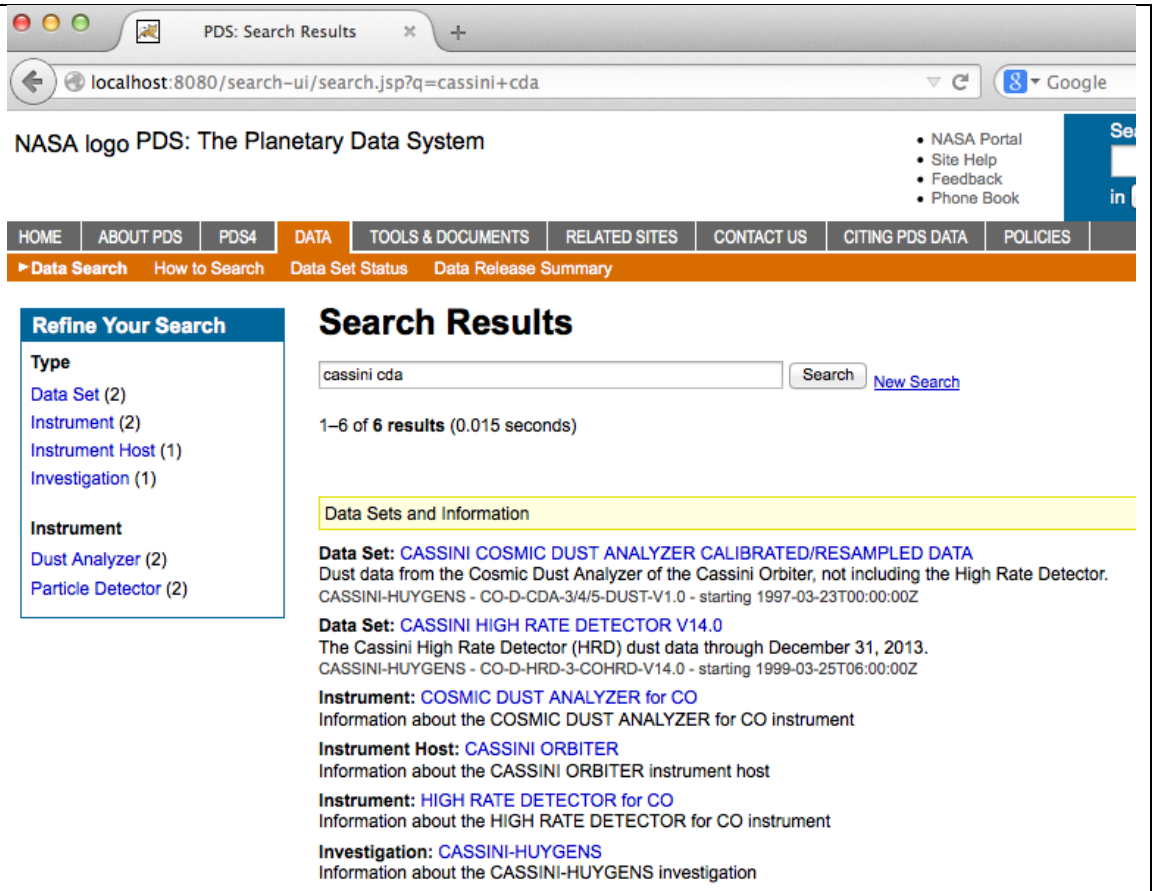
Test Case ID	SRCH.2
Description	Comply with Section 508 and adhere to WCAG level A
Requirements	PASS L5.SCH.3: The service's browser-based user interface shall be Section 508 compliant and adhere to WCAG … PASS L5.GEN.9: Applications shall meet Section 508 compliance guidelines.
Success Criteria	PDS home page successfully passes through JPL website release process.
Test Steps	Submit PDS portal to JPL document review office to get approval for release
Test Results	JPL approved the release result PDS portal made available to general public
Comments	Results met success criteria.
Date of Testing	2014.10
Test Personnel	Paul Zimdars

Test Case ID	SRCH.3
Description	Provide HTTP-based API to enter queries and return results. The browser utilizes the REST-based API. The Tomcat server access log lists the search.
Requirements	PASS L5.SCH.4: The service shall provide a programmatic interface for entering of queries and return of search results that communicates over HTTP for use by client applications developed by PDS, PDS nodes, and others.

	PASS L5.GEN.3: Services shall have an application programming interface. PASS L5.GEN.5: Services shall generate metrics in a format suitable for ingestion by the Report Service.
Success Criteria	Receives correct search results after using HTTP-based API.
Test Steps	This test is best run on an operational machine or after harvesting a large number of files including context products, e.g. HVT.3. If the tester unwittingly ingested into registry-pds4 during HVT.3: i. cd *binDir*/search-core/conf/defaults/pds/pds4 ii. ln -s ../pds3/*xml . Regardless of which registry-pds* HVT.3 ingested into: 1. http://localhost:8080/registry-ui/ If HVT.3 ingested into registry-pds3, change the following lines appropriately 2. set Registry Service(s) to registry-pds4 3. Click tab "Packages". Select one of the "Harvest-Package_*", set Status to "Approved", click "Update Status". 4. search-core -H *binDir*/search-service/pds -p *binDir*/search-core/conf/defaults/pds/pds4/core.properties The search-core above may take an hour. 5. http://localhost:8080/search-service/pds/search?q=cassini cda 6. In the center of http://localhost:8080/search-ui, type "cassini cda" (without quotes) and hit the "Search" button The search-ui gets into the Tomcat server log, which the report service can process. 7. grep cassini $CATALINA_HOME/logs/localhost_access_log.*yyyy-mm-dd*.txt
Test Results	Step 3:  Step 5:



Step 6: Note that search-ui filters deprecated data sets, in this case all HRD < 12.0



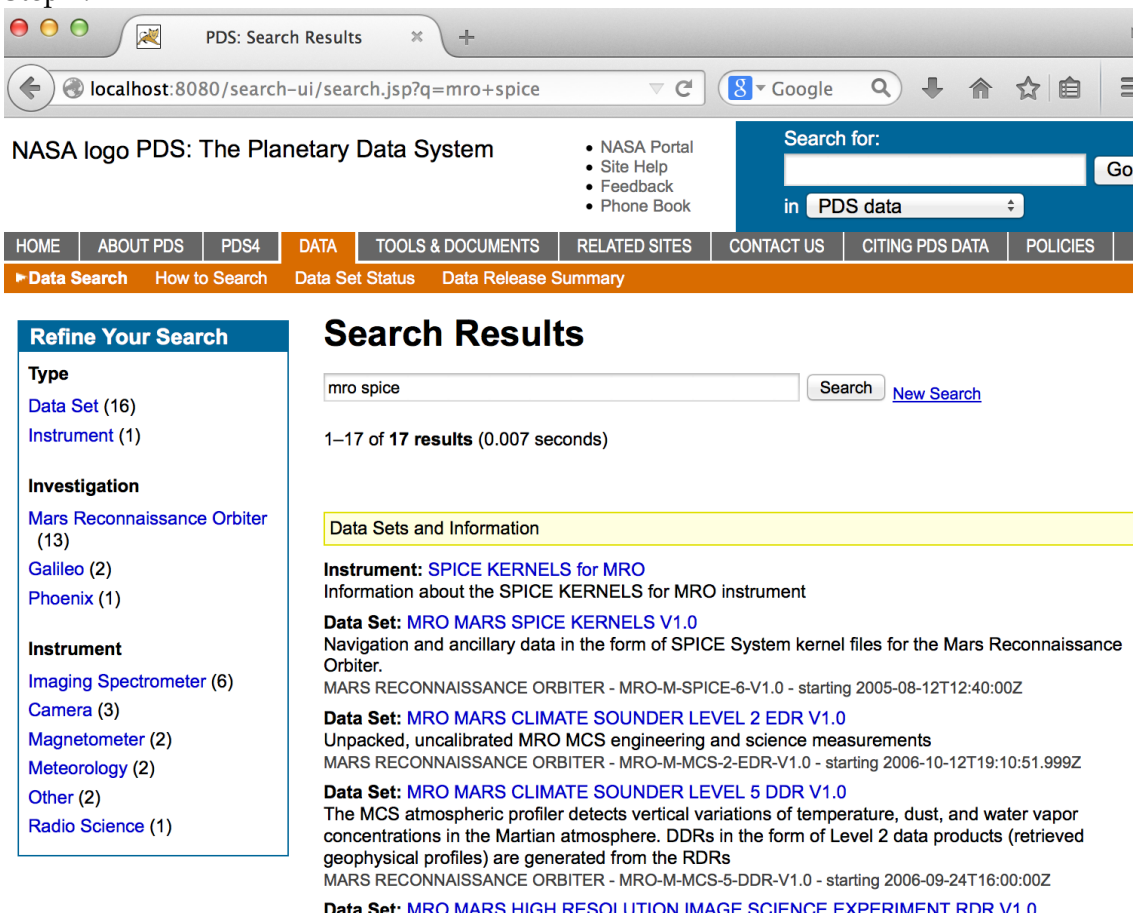
Step 7:

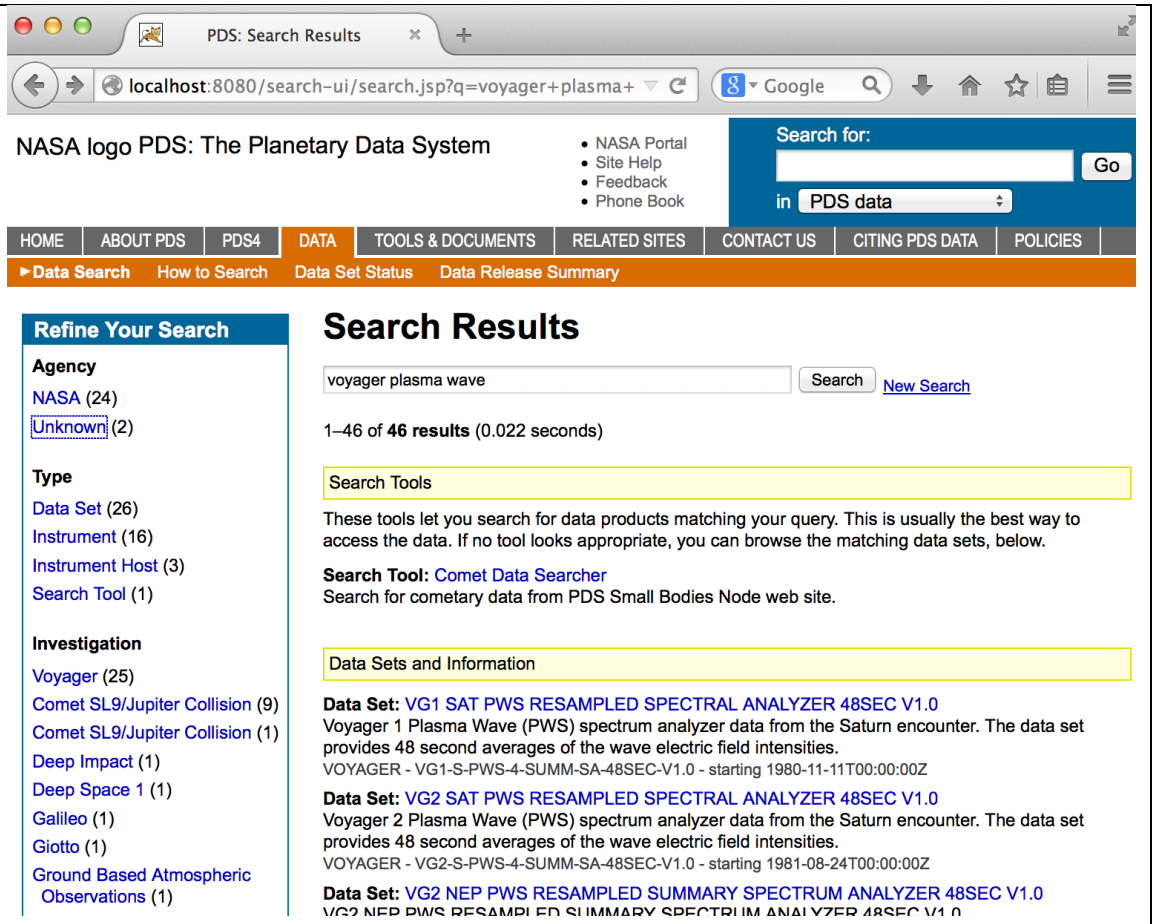
127.0.0.1 - - [20/Oct/2014:02:24:37 -0700] "GET /registry-pds3/extrinsics/logicals/urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens:mission_CASSINI-HUYGENS_1.0.xml/latest HTTP/1.1" 404 149
127.0.0.1 - - [20/Oct/2014:15:57:35 -0700] "GET /registry-pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892
127.0.0.1 - - [20/Oct/2014:15:57:47 -0700] "GET /registry-pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892
127.0.0.1 - - [20/Oct/2014:15:57:54 -0700] "GET /registry-pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892
127.0.0.1 - - [20/Oct/2014:15:58:15 -0700] "GET /registry-pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892
127.0.0.1 - - [20/Oct/2014:15:58:21 -0700] "GET /registry-pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892
127.0.0.1 - - [20/Oct/2014:15:58:30 -0700] "GET /registry-pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892
127.0.0.1 - - [20/Oct/2014:15:58:44 -0700] "GET /registry-pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892
127.0.0.1 - - [20/Oct/2014:15:58:50 -0700] "GET /registry-pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892
127.0.0.1 - - [20/Oct/2014:15:59:08 -0700] "GET /registry-pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892
127.0.0.1 - - [20/Oct/2014:15:59:21 -0700] "GET /registry-pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892
127.0.0.1 - - [20/Oct/2014:15:59:29 -0700] "GET /registry-pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-

	huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:15:59:59 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:00:11 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:00:21 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:00:25 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:00:35 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:01:51 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:01:58 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:02:07 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:02:13 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:03:22 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:03:29 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:03:39 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:03:50 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:05:40 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:06:15 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:06:28 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:06:34 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:06:59 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:07:05 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:08:19 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:08:28 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:09:53 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini- huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:11:10 -0700] "GET /registry- pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-

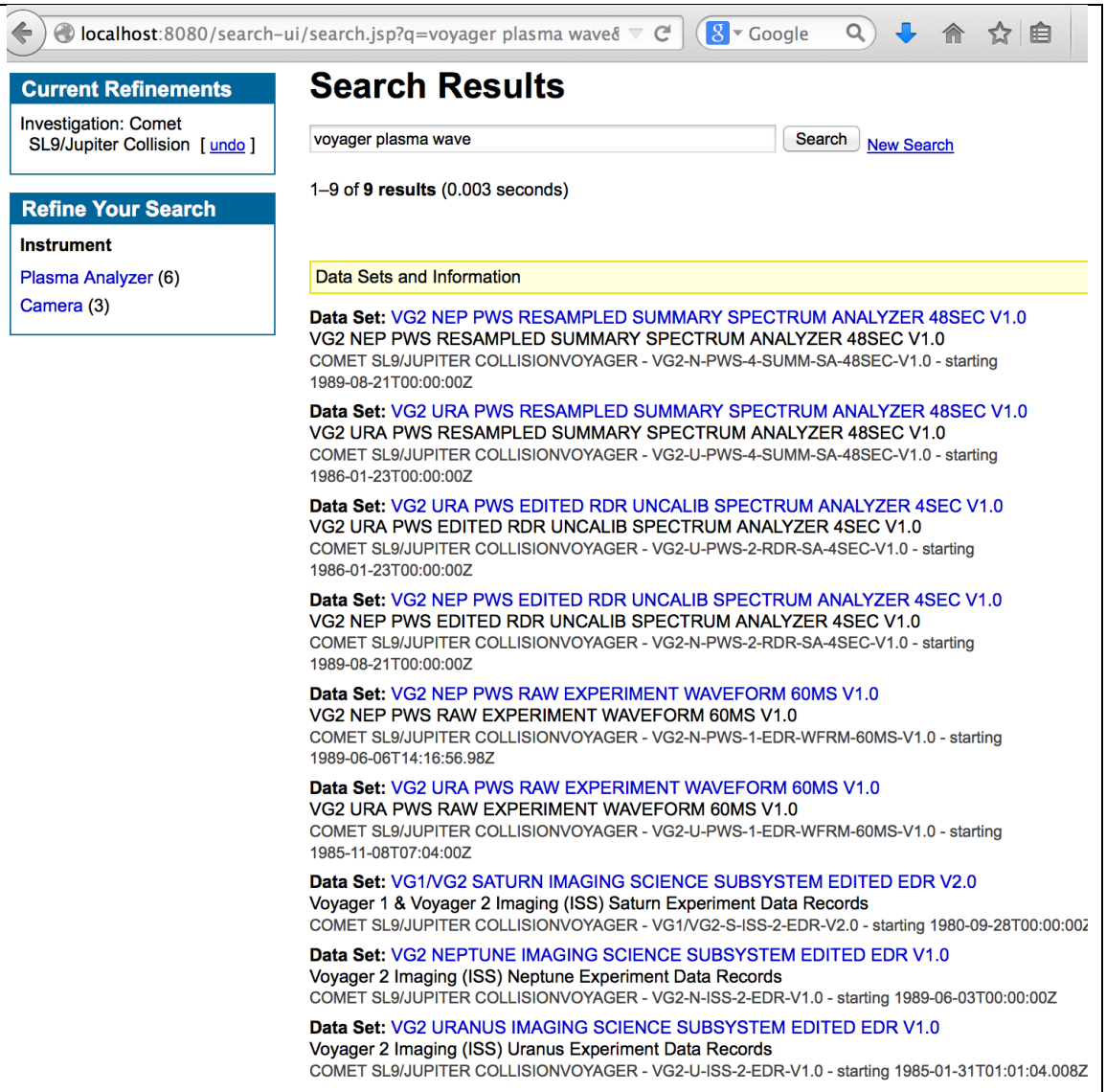
	huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:11:43 -0700] "GET /registry-pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:12:11 -0700] "GET /registry-pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:12:17 -0700] "GET /registry-pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:12:27 -0700] "GET /registry-pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:12:33 -0700] "GET /registry-pds3/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 128892 127.0.0.1 - - [20/Oct/2014:16:13:17 -0700] "GET /registry-pds3/extrinsics/logicals/urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens/latest HTTP/1.1" 200 128855 0:0:0:0:0:0:0:1%0 - - [20/Oct/2014:16:20:56 -0700] "GET /search-service/pds/search?q=cassini%20cda HTTP/1.1" 200 11780 0:0:0:0:0:0:0:1%0 - - [20/Oct/2014:16:22:06 -0700] "GET /search-ui/search.jsp?q=cassini+cda HTTP/1.1" 200 7024 0:0:0:0:0:0:0:1%0 - - [20/Oct/2014:16:22:06 -0700] "GET /search-service/pds/archive-filter?q=cassini+cda& HTTP/1.1" 200 4875
Comments	Results met success criteria. https://oodt.jpl.nasa.gov/jira/browse/PDS-317, created in build 5a, complains about how slow registry-ui updates the Status of all products. A workaround to this is to grep every GUID in h.out and curl -X POST -H "Content-type:application/xml" -v http://localhost:8080/registry-pds3/extrinsics/*guid*/approve
Date of Testing	2014.10.20
Test Personnel	Richard Chen

Test Case ID	SRCH.5
Description	Search based on a sequence of open text keywords. Do so in a browser.
Requirements	PASS L5.SCH.1: The service shall provide a user interface for entering of queries and display of search results PASS L5.SCH.6: The service shall support searching by accepting criteria as a sequence of open text keywords.
Success Criteria	Receives reasonable results based on text such as "Cassini". Also, the Tomcat server access log lists the searched data.
Test Steps	This test is best run on an operational machine or after harvesting a large number of files including context products, e.g. HVT.3. If running after HVT.3, first: search-core -H *binDir*/search-service/pds -p *binDir*/search-core/conf/pds/pds3/core.properties The search-core above may take an hour. In http://localhost:8080/search-ui, type 1. mro spice 2. voyager plasma wave 3. (continued) In Refine Your Search, click "Comet SL9/Jupiter Collision (9)" 4. mars digital elevation maps 5. neptune 6. jupiter images 7. corona

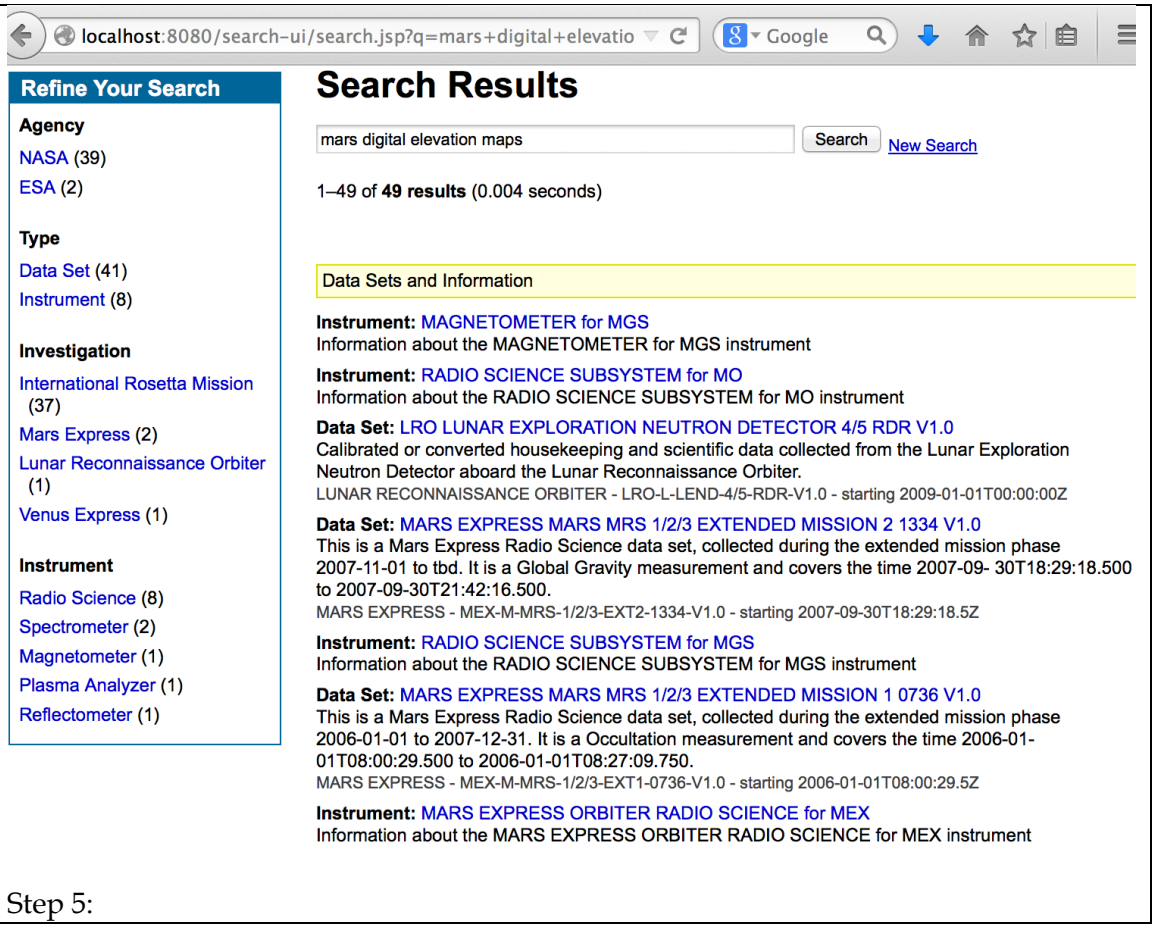
	8. NEAR-A-SPICE-6-V1.0 (a specific data set ID)
Test Results	Step 1:  Step 2:


PDS: Search Results
localhost:8080/search-ui/search.jsp?q=voyager+plasma+
Google
NASA logo PDS: The Planetary Data System
NASA Portal
Site Help
Feedback
Phone Book
Search for:
Go
in PDS data
HOME
ABOUT PDS
PDS4
DATA
TOOLS & DOCUMENTS
RELATED SITES
CONTACT US
CITING PDS DATA
POLICIES
Data Search
How to Search
Data Set Status
Data Release Summary
Refine Your Search
Agency
NASA (24)
Unknown (2)
Type
Data Set (26)
Instrument (16)
Instrument Host (3)
Search Tool (1)
Investigation
Voyager (25)
Comet SL9/Jupiter Collision (9)
Comet SL9/Jupiter Collision (1)
Deep Impact (1)
Deep Space 1 (1)
Galileo (1)
Giotto (1)
Ground Based Atmospheric Observations (1)
Search Results
voyager plasma wave
Search
New Search
1–46 of 46 results (0.022 seconds)
Search Tools
These tools let you search for data products matching your query. This is usually the best way to access the data. If no tool looks appropriate, you can browse the matching data sets, below.
Search Tool: Comet Data Searcher
Search for cometary data from PDS Small Bodies Node web site.
Data Sets and Information
Data Set: VG1 SAT PWS RESAMPLED SPECTRAL ANALYZER 48SEC V1.0
Voyager 1 Plasma Wave (PWS) spectrum analyzer data from the Saturn encounter. The data set provides 48 second averages of the wave electric field intensities.
VOYAGER - VG1-S-PWS-4-SUMM-SA-48SEC-V1.0 - starting 1980-11-11T00:00:00Z
Data Set: VG2 SAT PWS RESAMPLED SPECTRAL ANALYZER 48SEC V1.0
Voyager 2 Plasma Wave (PWS) spectrum analyzer data from the Saturn encounter. The data set provides 48 second averages of the wave electric field intensities.
VOYAGER - VG2-S-PWS-4-SUMM-SA-48SEC-V1.0 - starting 1981-08-24T00:00:00Z
Data Set: VG2 NEP PWS RESAMPLED SUMMARY SPECTRUM ANALYZER 48SEC V1.0

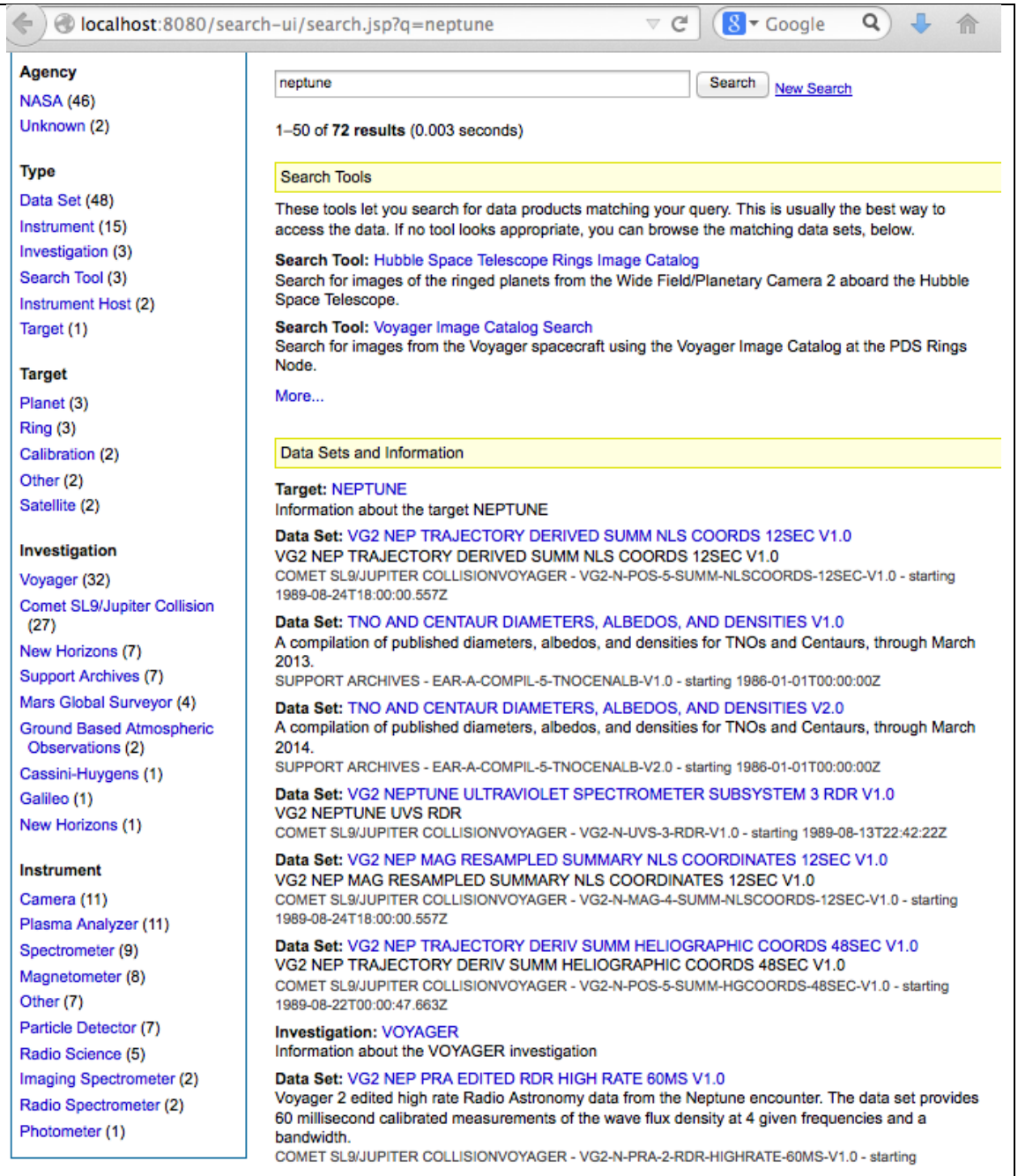
Step 3:


localhost:8080/search-ui/search.jsp?q=voyager plasma wave&
Google
Current Refinements
Investigation: Comet SL9/Jupiter Collision [undo]
Refine Your Search
Instrument
Plasma Analyzer (6)
Camera (3)
Search Results
voyager plasma wave
Search
New Search
1–9 of 9 results (0.003 seconds)
Data Sets and Information
Data Set: VG2 NEP PWS RESAMPLED SUMMARY SPECTRUM ANALYZER 48SEC V1.0
VG2 NEP PWS RESAMPLED SUMMARY SPECTRUM ANALYZER 48SEC V1.0
COMET SL9/JUPITER COLLISIONVOYAGER - VG2-N-PWS-4-SUMM-SA-48SEC-V1.0 - starting 1989-08-21T00:00:00Z
Data Set: VG2 URA PWS RESAMPLED SUMMARY SPECTRUM ANALYZER 48SEC V1.0
VG2 URA PWS RESAMPLED SUMMARY SPECTRUM ANALYZER 48SEC V1.0
COMET SL9/JUPITER COLLISIONVOYAGER - VG2-U-PWS-4-SUMM-SA-48SEC-V1.0 - starting 1986-01-23T00:00:00Z
Data Set: VG2 URA PWS EDITED RDR UNCALIB SPECTRUM ANALYZER 4SEC V1.0
VG2 URA PWS EDITED RDR UNCALIB SPECTRUM ANALYZER 4SEC V1.0
COMET SL9/JUPITER COLLISIONVOYAGER - VG2-U-PWS-2-RDR-SA-4SEC-V1.0 - starting 1986-01-23T00:00:00Z
Data Set: VG2 NEP PWS EDITED RDR UNCALIB SPECTRUM ANALYZER 4SEC V1.0
VG2 NEP PWS EDITED RDR UNCALIB SPECTRUM ANALYZER 4SEC V1.0
COMET SL9/JUPITER COLLISIONVOYAGER - VG2-N-PWS-2-RDR-SA-4SEC-V1.0 - starting 1989-08-21T00:00:00Z
Data Set: VG2 NEP PWS RAW EXPERIMENT WAVEFORM 60MS V1.0
VG2 NEP PWS RAW EXPERIMENT WAVEFORM 60MS V1.0
COMET SL9/JUPITER COLLISIONVOYAGER - VG2-N-PWS-1-EDR-WFRM-60MS-V1.0 - starting 1989-06-06T14:16:56.98Z
Data Set: VG2 URA PWS RAW EXPERIMENT WAVEFORM 60MS V1.0
VG2 URA PWS RAW EXPERIMENT WAVEFORM 60MS V1.0
COMET SL9/JUPITER COLLISIONVOYAGER - VG2-U-PWS-1-EDR-WFRM-60MS-V1.0 - starting 1985-11-08T07:04:00Z
Data Set: VG1/VG2 SATURN IMAGING SCIENCE SUBSYSTEM EDITED EDR V2.0
Voyager 1 & Voyager 2 Imaging (ISS) Saturn Experiment Data Records
COMET SL9/JUPITER COLLISIONVOYAGER - VG1/VG2-S-ISS-2-EDR-V2.0 - starting 1980-09-28T00:00:00Z
Data Set: VG2 NEPTUNE IMAGING SCIENCE SUBSYSTEM EDITED EDR V1.0
Voyager 2 Imaging (ISS) Neptune Experiment Data Records
COMET SL9/JUPITER COLLISIONVOYAGER - VG2-N-ISS-2-EDR-V1.0 - starting 1989-06-03T00:00:00Z
Data Set: VG2 URANUS IMAGING SCIENCE SUBSYSTEM EDITED EDR V1.0
Voyager 2 Imaging (ISS) Uranus Experiment Data Records
COMET SL9/JUPITER COLLISIONVOYAGER - VG2-U-ISS-2-EDR-V1.0 - starting 1985-01-31T01:01:04.008Z

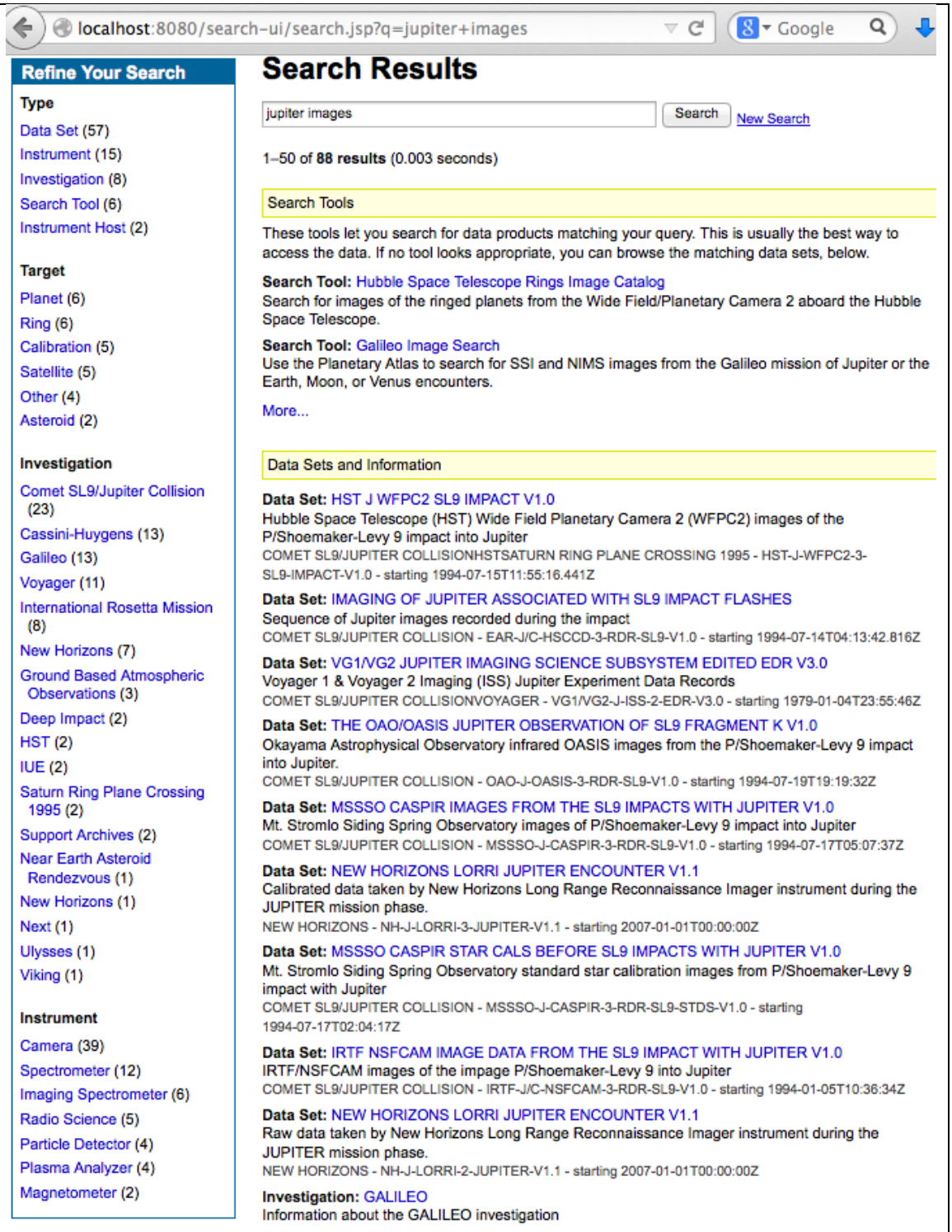
Step 4:


localhost:8080/search-ui/search.jsp?q=mars+digital+elevatio
Google
Refine Your Search
Agency
NASA (39)
ESA (2)
Type
Data Set (41)
Instrument (8)
Investigation
International Rosetta Mission (37)
Mars Express (2)
Lunar Reconnaissance Orbiter (1)
Venus Express (1)
Instrument
Radio Science (8)
Spectrometer (2)
Magnetometer (1)
Plasma Analyzer (1)
Reflectometer (1)
Search Results
mars digital elevation maps
Search
New Search
1–49 of 49 results (0.004 seconds)
Data Sets and Information
Instrument: MAGNETOMETER for MGS
Information about the MAGNETOMETER for MGS instrument
Instrument: RADIO SCIENCE SUBSYSTEM for MO
Information about the RADIO SCIENCE SUBSYSTEM for MO instrument
Data Set: LRO LUNAR EXPLORATION NEUTRON DETECTOR 4/5 RDR V1.0
Calibrated or converted housekeeping and scientific data collected from the Lunar Exploration Neutron Detector aboard the Lunar Reconnaissance Orbiter.
LUNAR RECONNAISSANCE ORBITER - LRO-L-LEND-4/5-RDR-V1.0 - starting 2009-01-01T00:00:00Z
Data Set: MARS EXPRESS MARS MRS 1/2/3 EXTENDED MISSION 2 1334 V1.0
This is a Mars Express Radio Science data set, collected during the extended mission phase 2007-11-01 to tbd. It is a Global Gravity measurement and covers the time 2007-09- 30T18:29:18.500 to 2007-09-30T21:42:16.500.
MARS EXPRESS - MEX-M-MRS-1/2/3-EXT2-1334-V1.0 - starting 2007-09-30T18:29:18.5Z
Instrument: RADIO SCIENCE SUBSYSTEM for MGS
Information about the RADIO SCIENCE SUBSYSTEM for MGS instrument
Data Set: MARS EXPRESS MARS MRS 1/2/3 EXTENDED MISSION 1 0736 V1.0
This is a Mars Express Radio Science data set, collected during the extended mission phase 2006-01-01 to 2007-12-31. It is a Occultation measurement and covers the time 2006-01-01T08:00:29.500 to 2006-01-01T08:27:09.750.
MARS EXPRESS - MEX-M-MRS-1/2/3-EXT1-0736-V1.0 - starting 2006-01-01T08:00:29.5Z
Instrument: MARS EXPRESS ORBITER RADIO SCIENCE for MEX
Information about the MARS EXPRESS ORBITER RADIO SCIENCE for MEX instrument

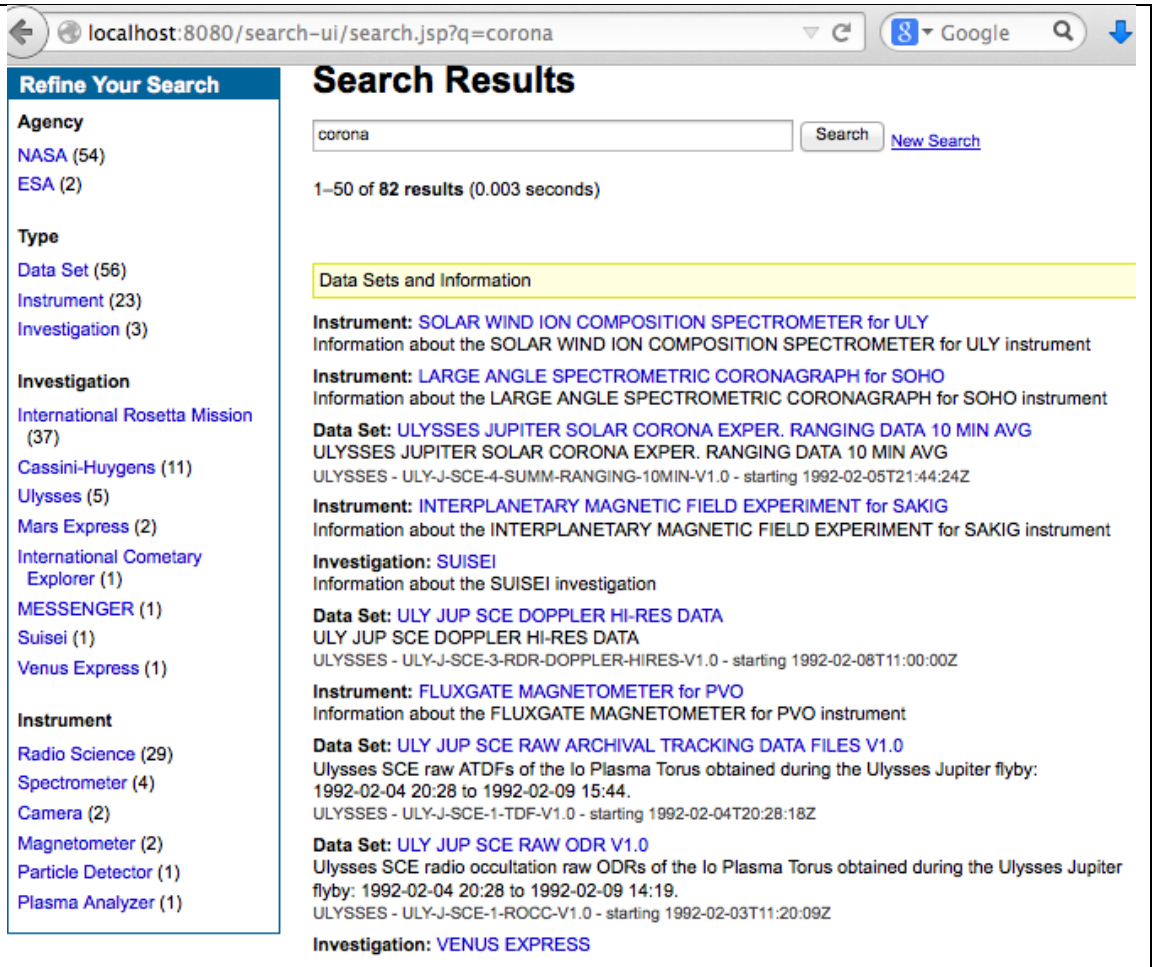
Step 5:


localhost:8080/search-ui/search.jsp?q=neptune
Google
Agency
NASA (46)
Unknown (2)
Type
Data Set (48)
Instrument (15)
Investigation (3)
Search Tool (3)
Instrument Host (2)
Target (1)
Target
Planet (3)
Ring (3)
Calibration (2)
Other (2)
Satellite (2)
Investigation
Voyager (32)
Comet SL9/Jupiter Collision (27)
New Horizons (7)
Support Archives (7)
Mars Global Surveyor (4)
Ground Based Atmospheric Observations (2)
Cassini-Huygens (1)
Galileo (1)
New Horizons (1)
Instrument
Camera (11)
Plasma Analyzer (11)
Spectrometer (9)
Magnetometer (8)
Other (7)
Particle Detector (7)
Radio Science (5)
Imaging Spectrometer (2)
Radio Spectrometer (2)
Photometer (1)
neptune
Search
New Search
1–50 of 72 results (0.003 seconds)
Search Tools
These tools let you search for data products matching your query. This is usually the best way to access the data. If no tool looks appropriate, you can browse the matching data sets, below.
Search Tool: Hubble Space Telescope Rings Image Catalog
Search for images of the ringed planets from the Wide Field/Planetary Camera 2 aboard the Hubble Space Telescope.
Search Tool: Voyager Image Catalog Search
Search for images from the Voyager spacecraft using the Voyager Image Catalog at the PDS Rings Node.
More...
Data Sets and Information
Target: NEPTUNE
Information about the target NEPTUNE
Data Set: VG2 NEP TRAJECTORY DERIVED SUMM NLS COORDS 12SEC V1.0
VG2 NEP TRAJECTORY DERIVED SUMM NLS COORDS 12SEC V1.0
COMET SL9/JUPITER COLLISIONVOYAGER - VG2-N-POS-5-SUMM-NLSCOORDS-12SEC-V1.0 - starting 1989-08-24T18:00:00.557Z
Data Set: TNO AND CENTAUR DIAMETERS, ALBEDOS, AND DENSITIES V1.0
A compilation of published diameters, albedos, and densities for TNOs and Centaurs, through March 2013.
SUPPORT ARCHIVES - EAR-A-COMPIL-5-TNOCENALB-V1.0 - starting 1986-01-01T00:00:00Z
Data Set: TNO AND CENTAUR DIAMETERS, ALBEDOS, AND DENSITIES V2.0
A compilation of published diameters, albedos, and densities for TNOs and Centaurs, through March 2014.
SUPPORT ARCHIVES - EAR-A-COMPIL-5-TNOCENALB-V2.0 - starting 1986-01-01T00:00:00Z
Data Set: VG2 NEPTUNE ULTRAVIOLET SPECTROMETER SUBSYSTEM 3 RDR V1.0
VG2 NEPTUNE UVS RDR
COMET SL9/JUPITER COLLISIONVOYAGER - VG2-N-UVS-3-RDR-V1.0 - starting 1989-08-13T22:42:22Z
Data Set: VG2 NEP MAG RESAMPLED SUMMARY NLS COORDINATES 12SEC V1.0
VG2 NEP MAG RESAMPLED SUMMARY NLS COORDINATES 12SEC V1.0
COMET SL9/JUPITER COLLISIONVOYAGER - VG2-N-MAG-4-SUMM-NLSCOORDS-12SEC-V1.0 - starting 1989-08-24T18:00:00.557Z
Data Set: VG2 NEP TRAJECTORY DERIV SUMM HELIOGRAPHIC COORDS 48SEC V1.0
VG2 NEP TRAJECTORY DERIV SUMM HELIOGRAPHIC COORDS 48SEC V1.0
COMET SL9/JUPITER COLLISIONVOYAGER - VG2-N-POS-5-SUMM-HGCOORDS-48SEC-V1.0 - starting 1989-08-22T00:00:47.663Z
Investigation: VOYAGER
Information about the VOYAGER investigation
Data Set: VG2 NEP PRA EDITED RDR HIGH RATE 60MS V1.0
Voyager 2 edited high rate Radio Astronomy data from the Neptune encounter. The data set provides 60 millisecond calibrated measurements of the wave flux density at 4 given frequencies and a bandwidth.
COMET SL9/JUPITER COLLISIONVOYAGER - VG2-N-PRA-2-RDR-HIGHRATE-60MS-V1.0 - starting

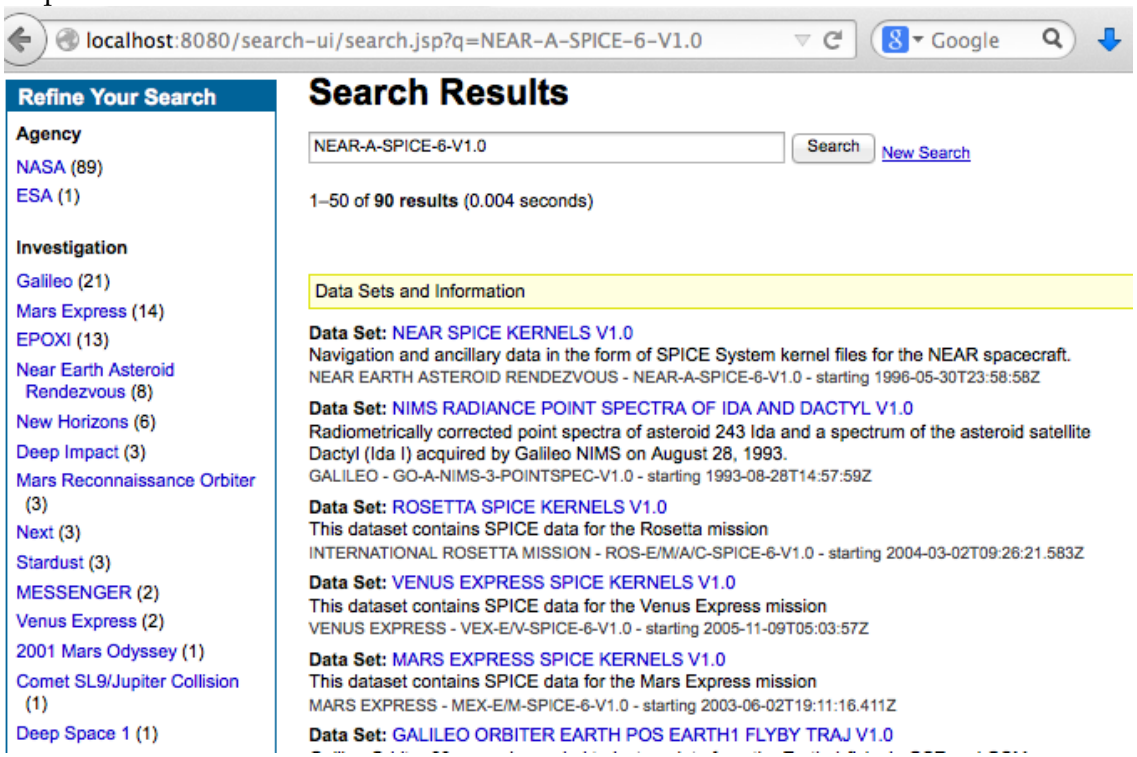
Step 6:


localhost:8080/search-ui/search.jsp?q=jupiter+images
Google
Refine Your Search
Type
Data Set (57)
Instrument (15)
Investigation (8)
Search Tool (6)
Instrument Host (2)
Target
Planet (6)
Ring (6)
Calibration (5)
Satellite (5)
Other (4)
Asteroid (2)
Investigation
Comet SL9/Jupiter Collision (23)
Cassini-Huygens (13)
Galileo (13)
Voyager (11)
International Rosetta Mission (8)
New Horizons (7)
Ground Based Atmospheric Observations (3)
Deep Impact (2)
HST (2)
IUE (2)
Saturn Ring Plane Crossing 1995 (2)
Support Archives (2)
Near Earth Asteroid Rendezvous (1)
New Horizons (1)
Next (1)
Ulysses (1)
Viking (1)
Instrument
Camera (39)
Spectrometer (12)
Imaging Spectrometer (6)
Radio Science (5)
Particle Detector (4)
Plasma Analyzer (4)
Magnetometer (2)
Search Results
jupiter images
Search
New Search
1–50 of 88 results (0.003 seconds)
Search Tools
These tools let you search for data products matching your query. This is usually the best way to access the data. If no tool looks appropriate, you can browse the matching data sets, below.
Search Tool: Hubble Space Telescope Rings Image Catalog
Search for images of the ringed planets from the Wide Field/Planetary Camera 2 aboard the Hubble Space Telescope.
Search Tool: Galileo Image Search
Use the Planetary Atlas to search for SSI and NIMS images from the Galileo mission of Jupiter or the Earth, Moon, or Venus encounters.
More...
Data Sets and Information
Data Set: HST J WFPC2 SL9 IMPACT V1.0
Hubble Space Telescope (HST) Wide Field Planetary Camera 2 (WFPC2) images of the P/Shoemaker-Levy 9 impact into Jupiter
COMET SL9/JUPITER COLLISIONHSTSATURN RING PLANE CROSSING 1995 - HST-J-WFPC2-3-SL9-IMPACT-V1.0 - starting 1994-07-15T11:55:16.441Z
Data Set: IMAGING OF JUPITER ASSOCIATED WITH SL9 IMPACT FLASHES
Sequence of Jupiter images recorded during the impact
COMET SL9/JUPITER COLLISION - EAR-J/C-HSCCD-3-RDR-SL9-V1.0 - starting 1994-07-14T04:13:42.816Z
Data Set: VG1/VG2 JUPITER IMAGING SCIENCE SUBSYSTEM EDITED EDR V3.0
Voyager 1 & Voyager 2 Imaging (ISS) Jupiter Experiment Data Records
COMET SL9/JUPITER COLLISIONVOYAGER - VG1/VG2-J-ISS-2-EDR-V3.0 - starting 1979-01-04T23:55:46Z
Data Set: THE OAO/OASIS JUPITER OBSERVATION OF SL9 FRAGMENT K V1.0
Okayama Astrophysical Observatory infrared OASIS images from the P/Shoemaker-Levy 9 impact into Jupiter.
COMET SL9/JUPITER COLLISION - OAO-J-OASIS-3-RDR-SL9-V1.0 - starting 1994-07-19T19:19:32Z
Data Set: MSSSO CASPIR IMAGES FROM THE SL9 IMPACTS WITH JUPITER V1.0
Mt. Stromlo Siding Spring Observatory images of P/Shoemaker-Levy 9 impact into Jupiter
COMET SL9/JUPITER COLLISION - MSSSO-J-CASPIR-3-RDR-SL9-V1.0 - starting 1994-07-17T05:07:37Z
Data Set: NEW HORIZONS LORRI JUPITER ENCOUNTER V1.1
Calibrated data taken by New Horizons Long Range Reconnaissance Imager instrument during the JUPITER mission phase.
NEW HORIZONS - NH-J-LORRI-3-JUPITER-V1.1 - starting 2007-01-01T00:00:00Z
Data Set: MSSSO CASPIR STAR CALS BEFORE SL9 IMPACTS WITH JUPITER V1.0
Mt. Stromlo Siding Spring Observatory standard star calibration images from P/Shoemaker-Levy 9 impact with Jupiter
COMET SL9/JUPITER COLLISION - MSSSO-J-CASPIR-3-RDR-SL9-STDS-V1.0 - starting 1994-07-17T02:04:17Z
Data Set: IRTF NSFCAM IMAGE DATA FROM THE SL9 IMPACT WITH JUPITER V1.0
IRTF/NSFCAM images of the impage P/Shoemaker-Levy 9 into Jupiter
COMET SL9/JUPITER COLLISION - IRTF-J/C-NSFCAM-3-RDR-SL9-V1.0 - starting 1994-01-05T10:36:34Z
Data Set: NEW HORIZONS LORRI JUPITER ENCOUNTER V1.1
Raw data taken by New Horizons Long Range Reconnaissance Imager instrument during the JUPITER mission phase.
NEW HORIZONS - NH-J-LORRI-2-JUPITER-V1.1 - starting 2007-01-01T00:00:00Z
Investigation: GALILEO
Information about the GALILEO investigation

Step 7:

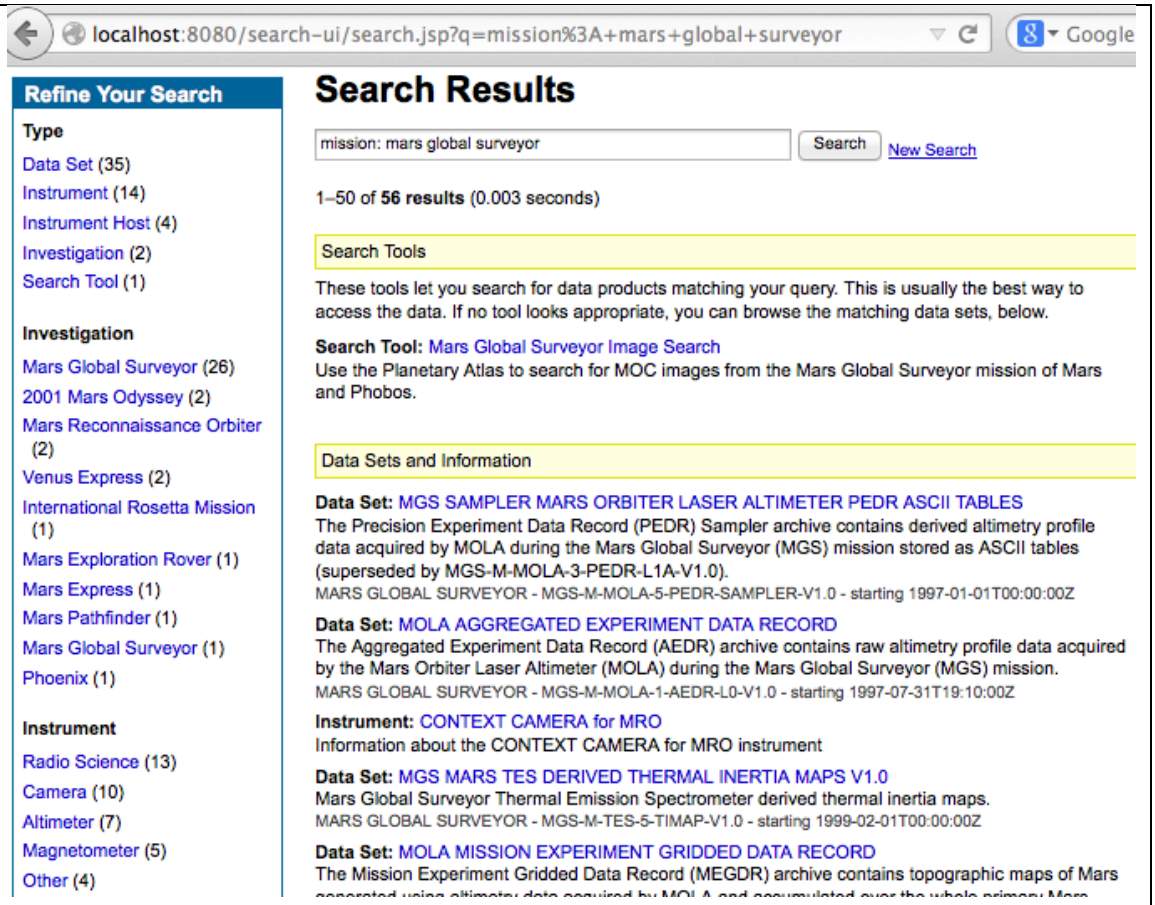

localhost:8080/search-ui/search.jsp?q=corona
Google
Refine Your Search
Agency
NASA (54)
ESA (2)
Type
Data Set (56)
Instrument (23)
Investigation (3)
Investigation
International Rosetta Mission (37)
Cassini-Huygens (11)
Ulysses (5)
Mars Express (2)
International Cometary Explorer (1)
MESSENGER (1)
Suisei (1)
Venus Express (1)
Instrument
Radio Science (29)
Spectrometer (4)
Camera (2)
Magnetometer (2)
Particle Detector (1)
Plasma Analyzer (1)
Search Results
corona
Search
New Search
1–50 of 82 results (0.003 seconds)
Data Sets and Information
Instrument: SOLAR WIND ION COMPOSITION SPECTROMETER for ULY
Information about the SOLAR WIND ION COMPOSITION SPECTROMETER for ULY instrument
Instrument: LARGE ANGLE SPECTROMETRIC CORONAGRAPH for SOHO
Information about the LARGE ANGLE SPECTROMETRIC CORONAGRAPH for SOHO instrument
Data Set: ULYSSES JUPITER SOLAR CORONA EXPER. RANGING DATA 10 MIN AVG
ULYSSES JUPITER SOLAR CORONA EXPER. RANGING DATA 10 MIN AVG
ULYSSES - ULY-J-SCE-4-SUMM-RANGING-10MIN-V1.0 - starting 1992-02-05T21:44:24Z
Instrument: INTERPLANETARY MAGNETIC FIELD EXPERIMENT for SAKIG
Information about the INTERPLANETARY MAGNETIC FIELD EXPERIMENT for SAKIG instrument
Investigation: SUISEI
Information about the SUISEI investigation
Data Set: ULY JUP SCE DOPPLER HI-RES DATA
ULY JUP SCE DOPPLER HI-RES DATA
ULYSSES - ULY-J-SCE-3-RDR-DOPPLER-HIRES-V1.0 - starting 1992-02-08T11:00:00Z
Instrument: FLUXGATE MAGNETOMETER for PVO
Information about the FLUXGATE MAGNETOMETER for PVO instrument
Data Set: ULY JUP SCE RAW ARCHIVAL TRACKING DATA FILES V1.0
Ulysses SCE raw ATDFs of the Io Plasma Torus obtained during the Ulysses Jupiter flyby: 1992-02-04 20:28 to 1992-02-09 15:44.
ULYSSES - ULY-J-SCE-1-TDF-V1.0 - starting 1992-02-04T20:28:18Z
Data Set: ULY JUP SCE RAW ODR V1.0
Ulysses SCE radio occultation raw ODRs of the Io Plasma Torus obtained during the Ulysses Jupiter flyby: 1992-02-04 20:28 to 1992-02-09 14:19.
ULYSSES - ULY-J-SCE-1-ROCC-V1.0 - starting 1992-02-03T11:20:09Z
Investigation: VENUS EXPRESS

Step 8:

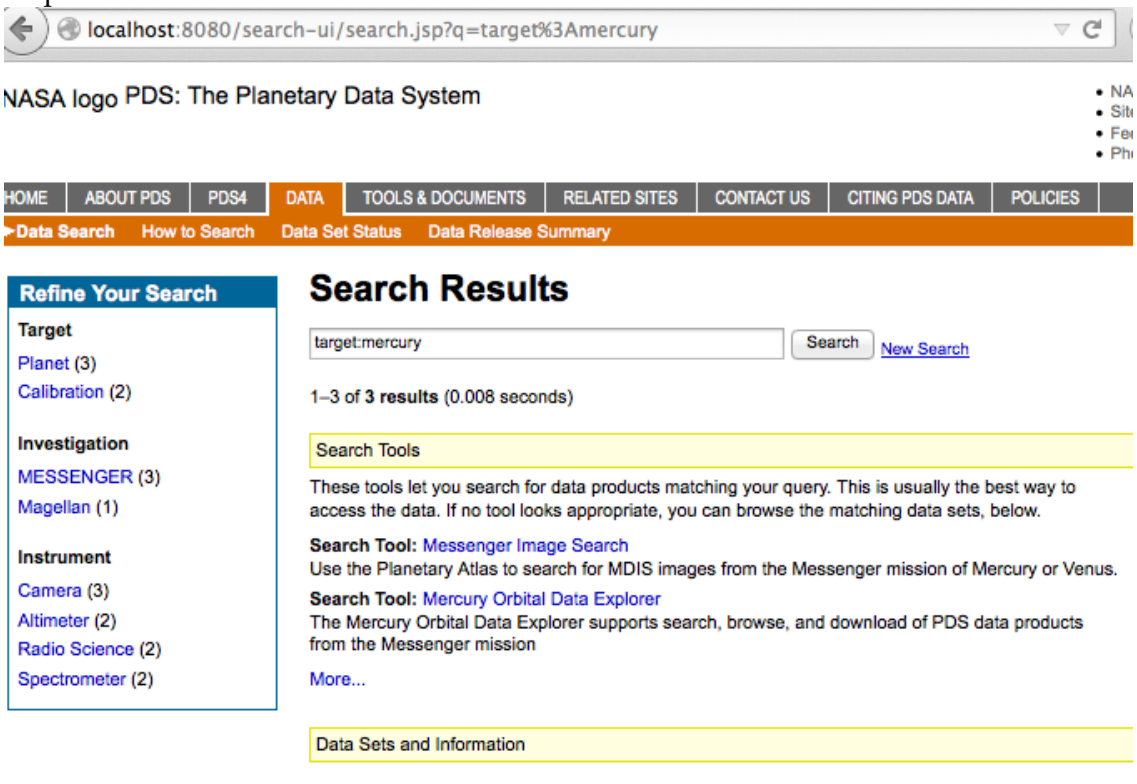

localhost:8080/search-ui/search.jsp?q=NEAR-A-SPICE-6-V1.0
Google
Refine Your Search
Agency
NASA (89)
ESA (1)
Investigation
Galileo (21)
Mars Express (14)
EPOXI (13)
Near Earth Asteroid Rendezvous (8)
New Horizons (6)
Deep Impact (3)
Mars Reconnaissance Orbiter (3)
Next (3)
Stardust (3)
MESSENGER (2)
Venus Express (2)
2001 Mars Odyssey (1)
Comet SL9/Jupiter Collision (1)
Deep Space 1 (1)
Search Results
NEAR-A-SPICE-6-V1.0
Search
New Search
1–50 of 90 results (0.004 seconds)
Data Sets and Information
Data Set: NEAR SPICE KERNELS V1.0
Navigation and ancillary data in the form of SPICE System kernel files for the NEAR spacecraft.
NEAR EARTH ASTEROID RENDEZVOUS - NEAR-A-SPICE-6-V1.0 - starting 1996-05-30T23:58:58Z
Data Set: NIMS RADIANCE POINT SPECTRA OF IDA AND DACTYL V1.0
Radiometrically corrected point spectra of asteroid 243 Ida and a spectrum of the asteroid satellite Dactyl (Ida I) acquired by Galileo NIMS on August 28, 1993.
GALILEO - GO-A-NIMS-3-POINTSPEC-V1.0 - starting 1993-08-28T14:57:59Z
Data Set: ROSETTA SPICE KERNELS V1.0
This dataset contains SPICE data for the Rosetta mission
INTERNATIONAL ROSETTA MISSION - ROS-E/M/A/C-SPICE-6-V1.0 - starting 2004-03-02T09:26:21.583Z
Data Set: VENUS EXPRESS SPICE KERNELS V1.0
This dataset contains SPICE data for the Venus Express mission
VENUS EXPRESS - VEX-E/V-SPICE-6-V1.0 - starting 2005-11-09T05:03:57Z
Data Set: MARS EXPRESS SPICE KERNELS V1.0
This dataset contains SPICE data for the Mars Express mission
MARS EXPRESS - MEX-E/M-SPICE-6-V1.0 - starting 2003-06-02T19:11:16.411Z
Data Set: GALILEO ORBITER EARTH POS EARTH1 FLYBY TRAJ V1.0

Comments	Results met success criteria. https://oodt.jpl.nasa.gov/jira/browse/PDS-165, created during testing of build 3b, requests an improvement: for targets, show the PRIMARY_BODY_NAME when it is not N/A. https://oodt.jpl.nasa.gov/jira/browse/PDS-258, created during testing of build 4b, suggests merging 2 related facets into 1
Date of Testing	2014.10.20
Test Personnel	Richard Chen

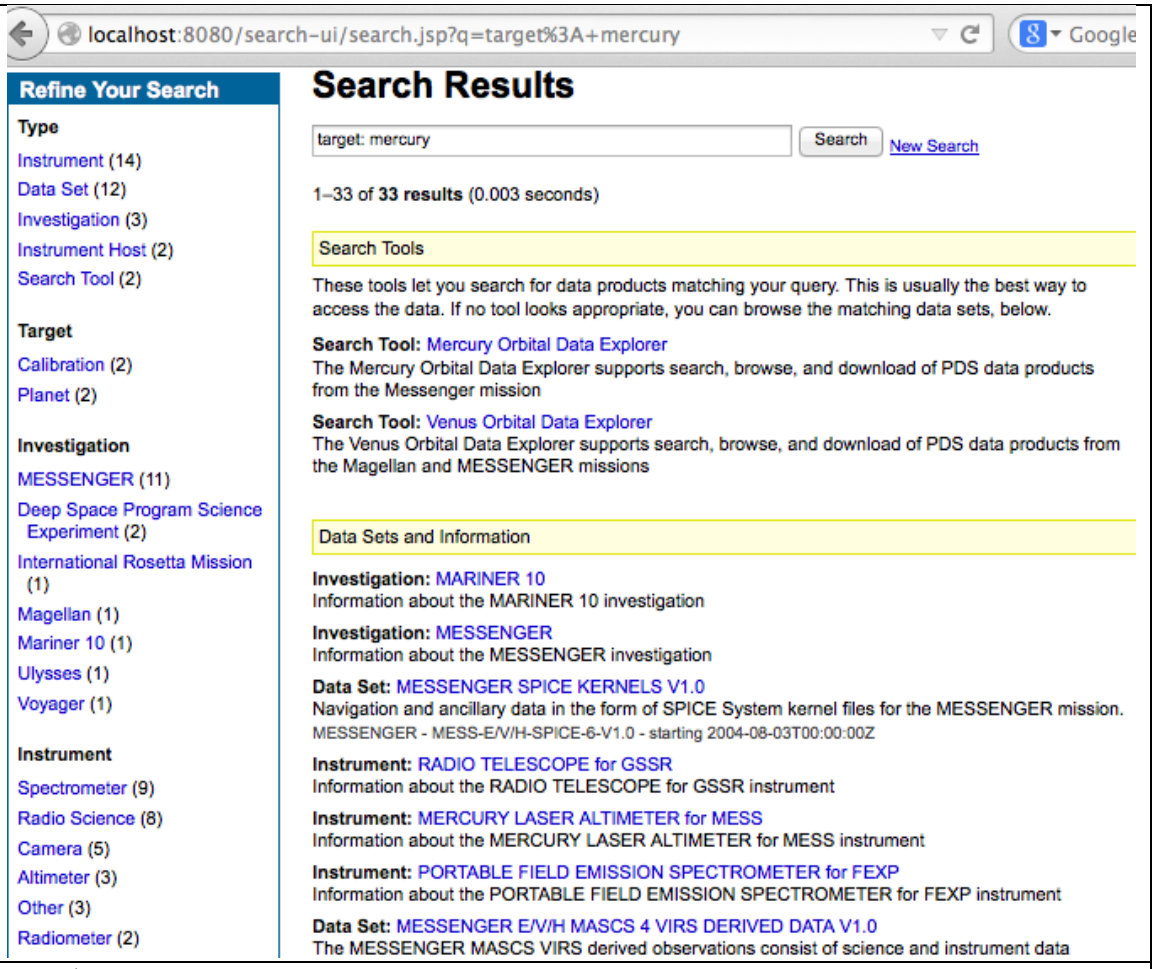
Test Case ID	SRCH.6
Description	Search based on constraints on specific indexes, and narrow results based on more constraints. Support ordering of results based on specified criteria. Results returned as clickable URIs with metadata describing each URI.
Requirements	PASS L5.SCH.7: The service shall accept criteria as a series of values for constraints on specified indexes. PASS L5.SCH.8: The service shall support narrowing of additional index results… PASS L5.SCH.9: The service shall support the ordering of results based on specified criteria... PASS L5.SCH.10: The service shall provide results to a search as a sequence of matching URIs… PASS L5.SCH.11: The service shall annotate each URI of a result with metadata describing the URI.
Success Criteria	Return results match constraint criteria and consist of clickable links with text describing each link.
Test Steps	In http://localhost:8080/search-ui: 1. mission: mars global surveyor 2. target:mercury 3. target: mercury
Test Results	Step 1:



Step 2:



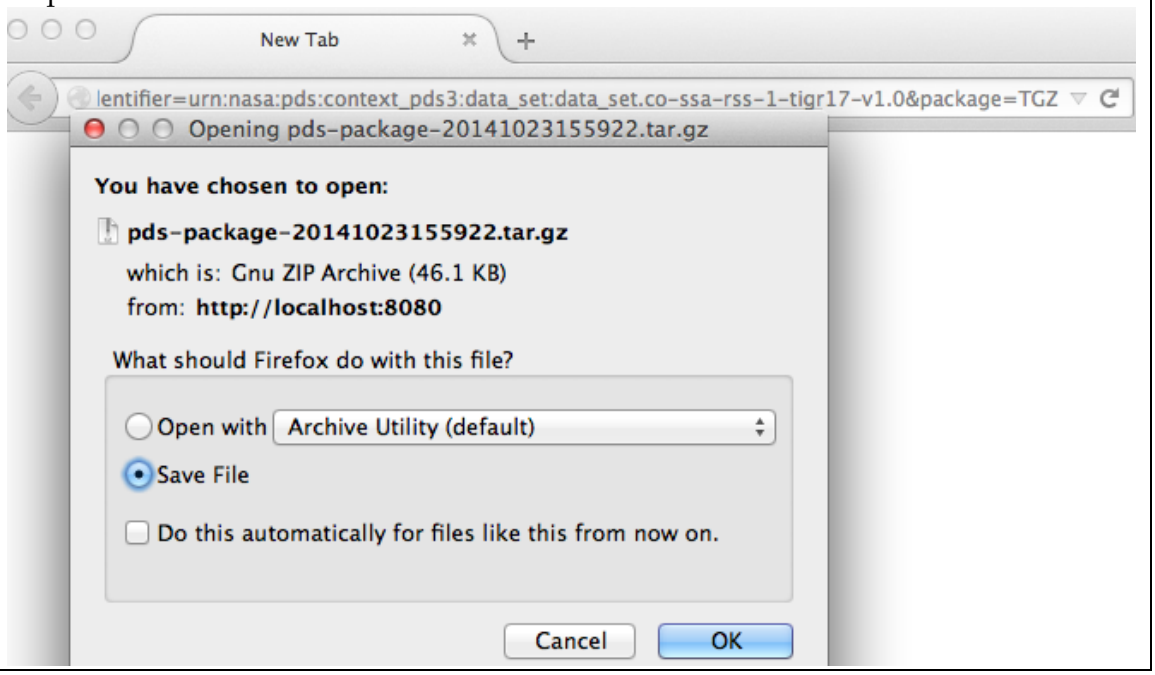
Step 3: inserting a space bfore “mercury” gives significantly different results

	
Comments	Results met success criteria. https://oodt.jpl.nasa.gov/jira/browse/PDS-319, created during build 5A, notes differences in search results between “target:mercury” and “target: mercury”
Date of Testing	2014.10.20
Test Personnel	Richard Chen

Test Case ID	SRCH.9 *not ready for build 5a. This is reserved for future testing
Description	Capture metrics on search index usage and contents
Requirements	SKIP L5.SCH .13: The service shall capture metrics pertaining to its search indexes usage and contents.
Success Criteria	A log shows metrics pertaining to usage of search indexes.
Test Steps	
Test Results	
Comments	
Date of Testing	
Test Personnel	

Test Case ID	TPRT.1
Description	Request data from transport-registry by specifying a LID
Requirements	PASS L5.TRS.1: The service shall accept requests for download of PDS products. PASS L5.TRS.2: The service shall accept requests for download of an individual file. PASS L5.TRS.4: The service shall package the requested product(s) or file into the specified format. PASS L5.TRS.5: The service shall include a checksum manifest … along with their associated MD5 checksums. PASS L5.TRS.6: The service shall transfer the result of a request via HTTP to the calling application. PASS L5.GEN.3: Services shall have an application programming interface. PASS L5.GEN.5: Services shall generate metrics in a format suitable for ingestion by the Report Service.
Success Criteria	The transport service returns the requested data. Also, the Tomcat server access log lists the transport.
Test Steps	Harvest must have run (e.g. HVT.3) and gotten absolute paths as inputs. Get some of the harvested LIDs; see http://localhost:8080/registry-ui if needed. This test uses • urn:nasa:pds:context_pds3:target:satellite.titan • urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens • urn:nasa:pds:context_pds3:data_set:data_set.co-ssa-rss-1-tigr17-v1.0 Check transport-registry's many downloading options by getting the same three files: 1. curl -X GET -o x1.zip -v "http://localhost:8080/transport-registry/prod?q=identifier+EQ+urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens+AND+identifier+EQ+urn:nasa:pds:context_pds3:target:satellite.titan+AND+identifier+EQ+urn:nasa:pds:context_pds3:data_set:data_set.co-ssa-rss-1-tigr17-v1.0" 2. curl -X GET -o x2.tgz -v "http://localhost:8080/transport-registry/prod?q=identifier+EQ+urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens+AND+identifier+EQ+urn:nasa:pds:context_pds3:target:satellite.titan+AND+identifier+EQ+urn:nasa:pds:context_pds3:data_set:data_set.co-ssa-rss-1-tigr17-v1.0+AND+package+EQ+TGZ" 3. curl -X GET -o x3.zip "http://localhost:8080/transport-registry/prod?identifier=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&identifier=urn:nasa:pds:context_pds3:target:satellite.titan&identifier=urn:nasa:pds:context_pds3:data_set:data_set.co-ssa-rss-1-tigr17-v1.0" 4. Same thing but in a browser, http://localhost:8080/transport-registry/prod?identifier=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&identifier=urn:nasa:pds:context_pds3:target:satellite.titan&identifier=urn:nasa:pds:context_pds3:data_set:data_set.co-ssa-rss-1-tigr17-v1.0&package=TGZ which creates file pds-package-<yyyymmddhhmmss>.tar.gz 5. Extract the four directories. 6. diff -r x1 x2 7. diff -r x1 x3 8. diff -r x1 pds-package-<yyyymmddhhmmss> 9. diff x1/data_set_CO-SSA-RSS-1-TIGR17-V1.0_1.0.xml *testDir*/contextPDS3/context_dataset/Product/data_set_CO-SSA-RSS-1-TIGR17-V1.0_1.0.xml 10. diff x1/mission_CASSINI-HUYGENS_1.0.xml *testDir*/contextPDS3/context_mission/Product/mission_CASSINI-HUYGENS_1.0.xml

<table>
<tr><td></td><td>
11. diff x1/target_TITAN_1.0.xml testDir/contextPDS3/context_target/Product/target_TITAN_1.0.xml
12. Does x1/md5_checksum.txt have correct checksums for all 3 files? On a mac: openssl md5 x1/*.xml
To get size, replace step 4's package=TGZ with package=TGZ_SIZE. In a browser:
13. http://localhost:8080/transport-registry/prod?identifier=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&identifier=urn:nasa:pds:context_pds3:target:satellite.titan&identifier=urn:nasa:pds:context_pds3:data_set:data_set.co-ssa-rss-1-tigr17-v1.0&package=TGZ_SIZE
14. ls –l pds-package-<yyyymmddhhmmss>.tar.gz
</td></tr>
<tr><td>Test Results</td><td>
Step 1 (Steps 2 and 3 are very similar):
* About to connect() to localhost port 8080 (#0)
* Trying ::1...
% Total % Received % Xferd Average Speed Time Time Time Current
Dload Upload Total Spent Left Speed
0 0 0 0 0 0 0 0 --:--:-- --:--:-- --:--:-- 0* connected
* Connected to localhost (::1) port 8080 (#0)
> GET /transport-registry/prod?q=identifier+EQ+urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens+AND+identifier+EQ+urn:nasa:pds:context_pds3:target:satellite.titan+AND+identifier+EQ+urn:nasa:pds:context_pds3:data_set:data_set.co-ssa-rss-1-tigr17-v1.0 HTTP/1.1
> User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8z zlib/1.2.5
> Host: localhost:8080
> Accept: */*
>
0 0 0 0 0 0 0 0 --:--:-- 0:00:01 --:--:-- 0< HTTP/1.1 200 OK
< Server: Apache-Coyote/1.1
< Content-disposition: attachment; filename="products_pds-package-20141023155603.zip.zip"
< Content-Type: application/zip
< Content-Length: 48050
< Date: Thu, 23 Oct 2014 22:56:03 GMT

{ [data not shown]
100 48050 100 48050 0 0 31109 0 0:00:01 0:00:01 --:--:-- 31160
* Connection #0 to host localhost left intact
* Closing connection #0
Step 4:


</td></tr>
</table>

	Steps 6-11 show no differences Step 12: Compare the values below with those in x1/md5_checksum.txt MD5(x1/data_set_CO-SSA-RSS-1-TIGR17-V1.0_1.0.xml)= 35e6a4774f7a03cd287f729c931a4c53 MD5(x1/mission_CASSINI-HUYGENS_1.0.xml)= c041c2c040fe3729b51e59cef976b101 MD5(x1/target_TITAN_1.0.xml)= 476613b9dfe25b02e2420683702b7323 Step 13:  – <dirResult> – <dirEntry> <fileSize>165837</fileSize> </dirEntry> </dirResult> Step 14: the sum of the individual files matches the previous step /Users/rchen/Desktop> ls -ol pds-package-20141023162322 total 344 -rw-r--r--@ 1 rchen 23193 Oct 23 16:23 data_set_CO-SSA-RSS-1-TIGR17-V1.0_1.0.xml -rw-r--r--@ 1 rchen 194 Oct 23 16:23 md5_checksums.txt -rw-r--r--@ 1 rchen 140848 Oct 23 16:23 mission_CASSINI-HUYGENS_1.0.xml -rw-r--r--@ 1 rchen 1602 Oct 23 16:23 target_TITAN_1.0.xml
Comments	Results met success criteria. https://oodt.jpl.nasa.gov/jira/browse/PDS-321, created during build 5A, requests a different response to TGZ_SIZE. This issue is closed, as the tool operates as planned. From step 13.
Date of Testing	2014.10.23
Test Personnel	Richard Chen

Test Case ID	TPRT.3
Description	Request data from transport-ofsn by specifying a path. Transport-ofsn can also transform the requested product.
Requirements	L5.TRS.3: The service shall transform the requested product(s) or file into the specified format.
Success Criteria	The original and the transformed products have the same data.
Test Steps	Besides $CATALINA_HOME/webapps/transport-ofsn/WEB-INF/config.xml, modify $CATALINA_HOME/webapps/transport-ofsn/WEB-INF/ofsn-ps.xml so that productRoot=*testDir* To activate that change: shutdown.sh; startup.sh Test every Return Type listed in the middle of https://pds-engineering.jpl.nasa.gov/development/pds4/5.0.0/transport/transport-ofsn/operate. Some ls information: 1. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/bundleLID/&RT=DIRFILELIST" 2. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/bundleLID/&RT=DIRFILELIST1"

	3. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/bundleLID/&RT=DIRLIST" 4. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/bundleLID/&RT=DIRLIST 1" 5. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/bundleLID/bundle_1.xml&RT=FILELIST" 6. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/bundleLID/bundle_1.xml&RT=FILE_LIST_ZIP" A get, then some ls information about that file 7. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/bundleLID/bundle_1.xml&RT=RAW" > x.xml 8. diff x.xml *testDir*/bundleLID/bundle_1.xml 9. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/bundleLID/bundle_1.xml&RT=RAW_SIZE" 10. ls -ol *testDir*/bundleLID/bundle_1.xml 11. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/bundleLID/bundle_1.xml&RT=MD5" 12. openssl md5 test/bundleLID/bundle_1.xml Some image transformations (get and transform) 13. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/tfm_i943630r.xml&RT=PDS_TO_JPG" > x.jpg 14. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/tfm_i943630r.xml&RT=PDS_TO_JP2" 15. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/tfm_i943630r.xml&RT=PDS_TO_BMP" > x.bmp 16. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/tfm_i943630r.xml&RT=PDS_TO_GIF" > x.gif 17. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/tfm_i943630r.xml&RT=PDS_TO_PNG" > x.png 18. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/tfm_i943630r.xml&RT=PDS_TO_RAW" 19. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/tfm_i943630r.xml&RT=PDS_TO_TIFF" 20. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/tfm_i943630r.xml&RT=PDS_TO_TIF" 21. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testPrep/tfm_i943630r.xml&RT=PDS_TO_PNM" Some label transformations 22. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/lld2.xml&RT=PDS4_TO_PVL" > x.pvl 23. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/lld2.xml&RT=PDS4_TO_HTML" > x.html 24. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/lld2.xml&RT=PDS4_TO_HTML_STRUCTURE_ONLY" > xSO.html 25. Using editor or browser, visually compare x.* with *testDir*/testTprt/lld2.xml Data transformation 26. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/lld2.xml&RT=PDS4_TO_CSV" 27. curl "http://localhost:8080/transport-

	ofsn/prod?OFSN=/testTprt/msl_chemcam.lbl&RT=PDS3_TO_PDS4_LABEL" More "Return Type"s 28. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/msl_chemcam.lbl&RT=PDS_ZIP" > x.zip 29. unzip x.zip 30. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/msl_chemcam.lbl&RT=PDS_ZIP_SIZE" 31. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt&RT=PDS_ZIPD" > x.zip 32. unzip x.zip 33. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt&RT=PDS_ZIPD_SIZE" Currently unsupported capabilities: ASCII_Date_Time, FITS file, CDF file 34. diff *testDir*/testTprt/lld2.xml *testDir*/testTprt/ladee_ldex.xml 35. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/ladee_ldex.xml&RT=PDS4_TO_CSV" 36. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/mvn_iuv.xml&RT=PDS_TO_JPG" 37. curl "http://localhost:8080/transport-ofsn/prod?OFSN=/testTprt/mvn_lpw.xml&RT=PDS_TO_JPG" 38. get a file, edit the source, get it again -> 2nd one is the same as the 1st
Test Results	Step 1: to save space, </dirEntry>\n<dirEntry xmlns=""> deleted after the first <?xml version="1.0" encoding="UTF-8"?> <dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0"> <dirEntry xmlns=""> <OFSN>/bundleLID/bundle_1.xml</OFSN> <fileSize>4991</fileSize> </dirEntry> <dirEntry xmlns=""> <OFSN>/bundleLID/data_test/data_test_collection_1.xml</OFSN> <fileSize>4967</fileSize> <OFSN>/bundleLID/data_test/data_test_collection_inventory_1.tab</OFSN> <fileSize>370</fileSize> <OFSN>/bundleLID/data_test/scraping/pit_test_scraping.csv</OFSN> <fileSize>1469807</fileSize> <OFSN>/bundleLID/data_test/scraping/pit_test_scraping.xml</OFSN> <fileSize>8286</fileSize> <OFSN>/bundleLID/data_test/scraping/pit_test_scraping_pic1.jpg</OFSN> <fileSize>62446</fileSize> <OFSN>/bundleLID/data_test/scraping/pit_test_scraping_pic1.xml</OFSN> <fileSize>1689</fileSize> <OFSN>/bundleLID/data_test/scraping/pit_test_scraping_pic2.jpg</OFSN> <fileSize>66670</fileSize> <OFSN>/bundleLID/data_test/scraping/pit_test_scraping_pic2.xml</OFSN> <fileSize>1689</fileSize> <OFSN>/bundleLID/data_test/duricrust/.DS_Store</OFSN> <fileSize>6148</fileSize> <OFSN>/bundleLID/data_test/duricrust/pit_test_duricrust.csv</OFSN> <fileSize>919764</fileSize> <OFSN>/bundleLID/data_test/duricrust/pit_test_duricrust.xml</OFSN> <fileSize>8290</fileSize> <OFSN>/bundleLID/data_test/duricrust/pit_test_duricrust_dig1_pic1.jpg</OFSN> <fileSize>1216087</fileSize> <OFSN>/bundleLID/data_test/duricrust/pit_test_duricrust_dig1_pic1.xml</OFSN> <fileSize>1707</fileSize> <OFSN>/bundleLID/data_test/duricrust/pit_test_duricrust_dig2_pic13.jpg</OFSN> <fileSize>972539</fileSize> <OFSN>/bundleLID/data_test/duricrust/pit_test_duricrust_dig2_pic13.xml</OFSN> <fileSize>1710</fileSize> <OFSN>/bundleLID/data_derived/.DS_Store</OFSN> <fileSize>6148</fileSize>

```
    <OFSN>/bundleLID/data_derived/data_derived_collection_1.xml</OFSN>
    <fileSize>4879</fileSize>
    <OFSN>/bundleLID/data_derived/data_derived_collection_inventory_1.tab</OFSN>
    <fileSize>146</fileSize>
    <OFSN>/bundleLID/data_derived/sol006.csv</OFSN>
    <fileSize>5951</fileSize>
    <OFSN>/bundleLID/data_derived/sol006.xml</OFSN>
    <fileSize>8332</fileSize>
    <OFSN>/bundleLID/data_derived/sol149a.csv</OFSN>
    <fileSize>516246</fileSize>
    <OFSN>/bundleLID/data_derived/sol149a.xml</OFSN>
    <fileSize>8288</fileSize>
    <OFSN>/bundleLID/data_derived/sol149b.csv</OFSN>
    <fileSize>5700</fileSize>
    <OFSN>/bundleLID/data_derived/sol149b.xml</OFSN>
    <fileSize>8386</fileSize>
    <OFSN>/bundleLID/context/context_collection_1.xml</OFSN>
    <fileSize>4117</fileSize>
    <OFSN>/bundleLID/context/context_collection_inventory_1.tab</OFSN>
    <fileSize>183</fileSize>
    <OFSN>/bundleLID/context/mars_planet.xml</OFSN>
    <fileSize>1272</fileSize>
    <OFSN>/bundleLID/context/phoenix.xml</OFSN>
    <fileSize>23996</fileSize>
    <OFSN>/bundleLID/context/phx.xml</OFSN>
    <fileSize>2187</fileSize>
    <OFSN>/bundleLID/context/ra_phx.xml</OFSN>
    <fileSize>2704</fileSize>
  </dirEntry>
</dirResult>
```


Step 2:


```
<?xml version="1.0" encoding="UTF-8"?>
<dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0">
  <dirEntry xmlns="">
    <OFSN>/bundleLID/bundle_1.xml</OFSN>
    <fileSize>4991</fileSize>
  </dirEntry>
</dirResult>
```


Step 3:


```
<?xml version="1.0" encoding="UTF-8"?>
<dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0">
  <dirEntry xmlns="">
    <OFSN>/bundleLID/context</OFSN>
    <fileSize>34459</fileSize>
  </dirEntry>
  <dirEntry xmlns="">
    <OFSN>/bundleLID/data_derived</OFSN>
    <fileSize>564076</fileSize>
  </dirEntry>
  <dirEntry xmlns="">
    <OFSN>/bundleLID/data_test</OFSN>
    <fileSize>4748317</fileSize>
  </dirEntry>
  <dirEntry xmlns="">
    <OFSN>/bundleLID/data_test/duricrust</OFSN>
    <fileSize>3126245</fileSize>
  </dirEntry>
  <dirEntry xmlns="">
    <OFSN>/bundleLID/data_test/scraping</OFSN>
    <fileSize>1610587</fileSize>
  </dirEntry>
</dirResult>
```


Step 4:


```
<?xml version="1.0" encoding="UTF-8"?>
<dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0">
  <dirEntry xmlns="">
    <OFSN>/bundleLID/context</OFSN>
    <fileSize>34459</fileSize>
```

```
    </dirEntry>
    <dirEntry xmlns="">
      <OFSN>/bundleLID/data_derived</OFSN>
      <fileSize>564076</fileSize>
    </dirEntry>
    <dirEntry xmlns="">
      <OFSN>/bundleLID/data_test</OFSN>
      <fileSize>4748317</fileSize>
    </dirEntry>
  </dirResult>
```

Step 5:

```
  <dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0">
    <dirEntry xmlns="">
      <OFSN>/bundleLID/bundle_1.xml</OFSN>
      <fileSize>4991</fileSize>
    </dirEntry>
  </dirResult>
```

Step 6:

```
  <?xml version="1.0" encoding="UTF-8"?>
  <dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0">
    <dirEntry xmlns="">
      <OFSN>bundle_1.xml.zip</OFSN>
      <fileSize>1508</fileSize>
    </dirEntry>
  </dirResult>
```

Step 7:

```
    % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                   Dload  Upload   Total   Spent    Left  Speed
  100  4991  100  4991    0     0   239k      0 --:--:-- --:--:-- --:--:--  270k
```

Step 8 shows no difference

Step 9:

```
  <?xml version="1.0" encoding="UTF-8"?>
  <dirResult xmlns="http://oodt.jpl.nasa.gov/xml/namespaces/dirlist/1.0">
    <dirEntry xmlns="">
      <fileSize>4991</fileSize>
    </dirEntry>
  </dirResult>
```

Step 10: Result from this step matches previous step

```
  -rw-r--r--  1 rchen  4991 Oct 17 02:04 test/bundleLID/bundle_1.xml
```

Step 11:

```
  927146cec0fcff8b589f4302036b3864
```

Step 12: Result from this step matches previous step

```
  MD5(test/bundleLID/bundle_1.xml)= 927146cec0fcff8b589f4302036b3864
```

Steps 13, 15, 16, 17: the file sizes differ, but the images are always:

Step 14: Output is an error message that includes:

The export image type jpeg2000 is not currently supported

Steps 18, 19, 20, 21: Output is an error message that includes (xxx=raw, tiff, tif, pnm):

Format value 'xxx' is not one of the valid formats for a PDS4 transformation: [bmp, jpg, wbmp, jpeg, png, gif, jp2, pvl, html, html-structure-only, csv]

Step 22:

```
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100  4941  100  4941    0     0   187k      0 --:--:-- --:--:-- --:--:--  201k
```

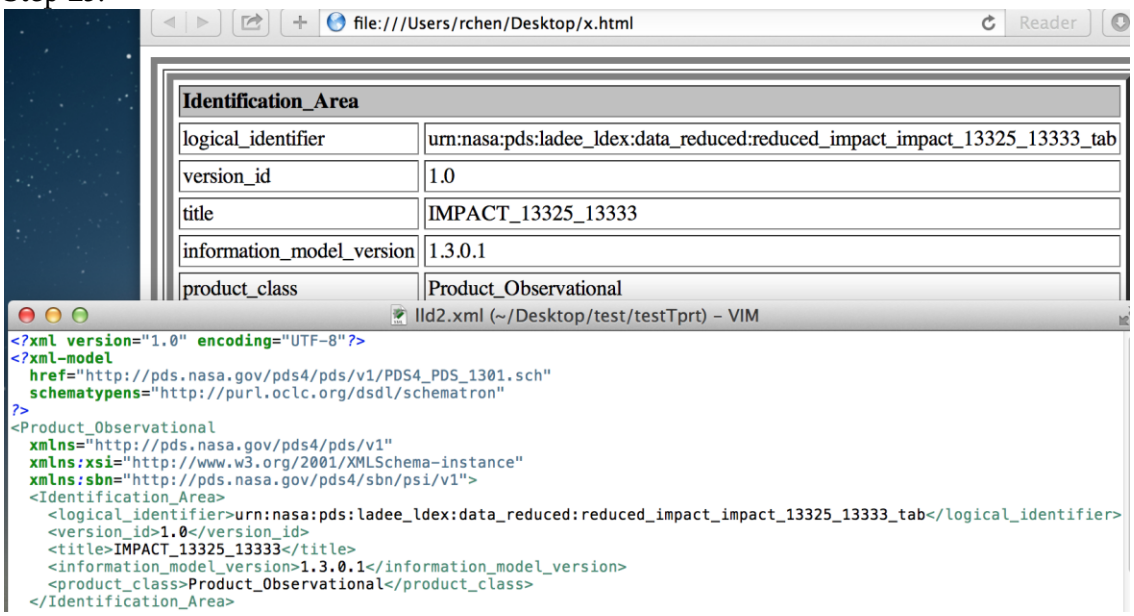
Step 23:

```
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100 27564  100 27564    0     0   130k      0 --:--:-- --:--:-- --:--:--  131k
```

Step 24:

```
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100 10799  100 10799    0     0   166k      0 --:--:-- --:--:-- --:--:--  172k
```

Step 25:



Step 26: visually compare this with *testDir*/testTprt/ladee_ldex.tab

PACKET_TIME,IMPACT_PEAK_MCP,IMPACT_PEAK_TARGET,HV_ADJUST
2013-325T00:25:09.284,00.012894,00.000992,846.4
2013-325T00:25:25.864,00.003662,00.000839,846.4
2013-325T00:25:45.887,00.003128,00.000458,846.4
2013-325T00:26:22.988,00.002060,00.000992,846.4
2013-325T00:26:39.828,00.002670,00.000839,846.4
2013-325T00:27:05.899,00.012055,00.000381,846.4
2013-325T00:27:37.388,00.004807,00.000763,846.4
2013-325T00:27:51.048,00.006561,00.000763,846.4
2013-325T00:28:05.312,00.002365,00.000687,846.4
2013-325T00:28:20.467,00.005036,00.000763,846.4

Step 27: The tags generally match *testDir*/testTprt/msl_chemcam.lbl. See comments.

```
<Product_Observational xmlns="http://pds.nasa.gov/pds4/pds/v1"
                       xmlns:pds="http://pds.nasa.gov/pds4/pds/v1"
                       xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
                       xsi:schemaLocation="">
  <Identification_Area>
    <logical_identifier>urn:nasa:pds:data:msl-m-chemcam-libs-4-5-rdr-
v1.0:cl5_449257862rdr_f0300786ccam01583p3</logical_identifier
[snip..]
```

Step 28: diff -w *testDir*/testTprt/msl_chemcam.lbl mostly matches. See comments.

```
PDS_VERSION_ID = PDS3
/* FILE DATA ELEMENTS */
RECORD_TYPE = FIXED_LENGTH
RECORD_BYTES = 660
FILE_RECORDS = 6161
/* POINTERS TO DATA OBJECTS */
^HEADER = ("MSL_CHEMCAM.CSV", 1)
^SPREADSHEET = ("MSL_CHEMCAM.CSV", 1855)
[snip…]
```

Step 29: After unzipping, the files mostly match *testDir*/testTprt/. See comments.

Step 31: The value below matches ls -l testTprt, which the previous step created

```
<?xml version="1.0"?>
<!DOCTYPE dirresult PUBLIC "-//JPL/DTD OODT dirresult 1.0//EN"
"http://starbrite.jpl.nasa.gov:80/dtd/dirresult.dtd">
<dirResult>
<dirEntry>
<fileSize>2269173</fileSize>
</dirEntry>
</dirResult>
```

Step 33: After unzipping, the files entirely match *testDir*/testTprt/

Step 34: The value below matches ls -l testTprt/, including .DS_Store

```
<?xml version="1.0"?>
<!DOCTYPE dirresult PUBLIC "-//JPL/DTD OODT dirresult 1.0//EN"
"http://starbrite.jpl.nasa.gov:80/dtd/dirresult.dtd">
<dirResult>
<dirEntry>
<fileSize>3053106</fileSize>
</dirEntry>
</dirResult>
```

Step 35:

```
11c11
<
<logical_identifier>urn:nasa:pds:ladee_ldex:data_reduced:reduced_impact_impact_13325_13333_tab</lo
gical_identifier>
---
>
<logical_identifier>urn:nasa:pds:ladee_ldex:data_reduced:reduced_impact_impact_works</logical_ident
ifier>
107c107,108
<        <data_type>ASCII_Date_Time</data_type>
---
>        <data_type>ASCII_Short_String_Collapsed</data_type>
>        <!--RLC PDS4_TO_CSV chokes data_type>ASCII_Date_Time</data_type-->
```

Step 36: after other tests, this test sometimes succeeded. If so, flush database, restart all

```
<html><head><title>Apache Tomcat/7.0.56 - Error report</title><style><!--H1 {font-
```

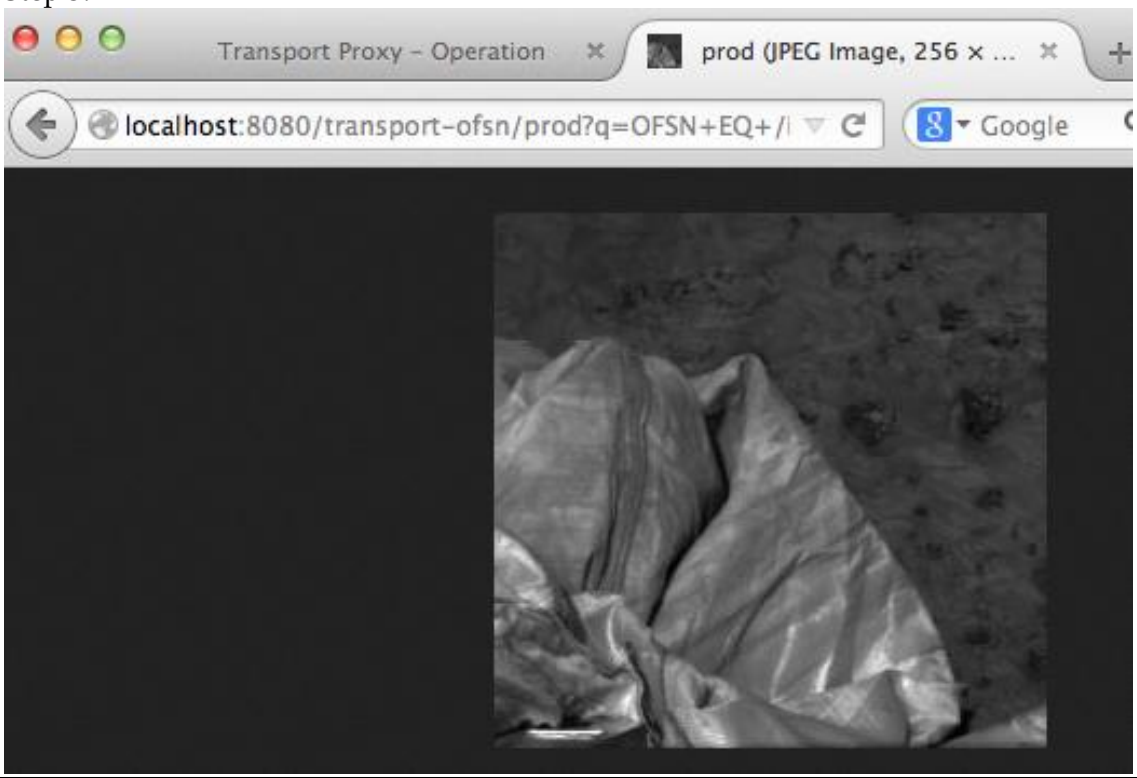
		family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;font-size:22px;} H2 {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;font-size:16px;} H3 {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;font-size:14px;} BODY {font-family:Tahoma,Arial,sans-serif;color:black;background-color:white;} B {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;} P {font-family:Tahoma,Arial,sans-serif;background:white;color:black;font-size:12px;}A {color : black;}A.name {color : black;}HR {color : #525D76;}--></style> </head><body> HTTP Status 500 - java.io.IOException: Error occurred while reading table '1' of file ' *testDir*/testTprt/ladee_ldex.tab': No field type definition found for XML type (ASCII_Date_Time) <HR size="1" noshade="noshade"> type Exception report message <u>java.io.IOException: Error occurred while reading table '1' of file ' *testDir*/testTprt/ladee_ldex.tab': No field type definition found for XML type (ASCII_Date_Time)</u> description <u>The server encountered an internal error that prevented it from fulfilling this request.</u> exception <pre>javax.servlet.ServletException: java.io.IOException: Error occurred while reading table '1' of file ' *testDir*/testTprt/ladee_ldex.tab': No field type definition found for XML type (ASCII_Date_Time)
		org.apache.oodt.grid.QueryServlet.doPost(QueryServlet.java:104)
		org.apache.oodt.grid.QueryServlet.doGet(QueryServlet.java:75)
		javax.servlet.http.HttpServlet.service(HttpServlet.java:620)
		javax.servlet.http.HttpServlet.service(HttpServlet.java:727)
		</pre> root cause <pre>java.io.IOException: Error occurred while reading table '1' of file ' *testDir*/testTprt/ladee_ldex.tab': No field type definition found for XML type (ASCII_Date_Time)
		org.apache.oodt.xmlquery.ChunkedProductInputStream.fetchBlock(ChunkedProductInputStream.java:115)
		org.apache.oodt.xmlquery.ChunkedProductInputStream.read(ChunkedProductInputStream.java:90)
		java.io.BufferedInputStream.fill(BufferedInputStream.java:218)
		java.io.BufferedInputStream.read1(BufferedInputStream.java:258)
		java.io.BufferedInputStream.read(BufferedInputStream.java:317)
		java.io.FilterInputStream.read(FilterInputStream.java:90)
		org.apache.oodt.grid.ProductQueryServlet.deliverResult(ProductQueryServlet.java:95)
		org.apache.oodt.grid.ProductQueryServlet.handleQuery(ProductQueryServlet.java:62)
		org.apache.oodt.grid.QueryServlet.doPost(QueryServlet.java:100)
		org.apache.oodt.grid.QueryServlet.doGet(QueryServlet.java:75)
		javax.servlet.http.HttpServlet.service(HttpServlet.java:620)
		javax.servlet.http.HttpServlet.service(HttpServlet.java:727)
		</pre> note <u>The full stack trace of the root cause is available in the Apache Tomcat/7.0.56 logs.</u> <HR size="1" noshade="noshade"> Apache Tomcat/7.0.56 </body></html>

	Step 37:	<html><head><title>Apache Tomcat/7.0.56 - Error report</title><style><!--H1 {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;font-size:22px;} H2 {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;font-size:16px;} H3 {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;font-size:14px;} BODY {font-family:Tahoma,Arial,sans-serif;color:black;background-color:white;} B {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;} P {font-family:Tahoma,Arial,sans-serif;background:white;color:black;font-size:12px;}A {color : black;}A.name {color : black;}HR {color : #525D76;}--></style> </head><body> HTTP Status 500 - java.io.IOException: Problem occurred during transformation: Array data type is not valid, null, or unsupported <HR size="1" noshade="noshade"> type Exception report message <u>java.io.IOException: Problem occurred during transformation: Array data type is not valid, null, or unsupported</u> description <u>The server encountered an internal error that prevented it from fulfilling this request.</u> exception <pre>javax.servlet.ServletException: java.io.IOException: Problem occurred during transformation: Array data type is not valid, null, or unsupported
		org.apache.oodt.grid.QueryServlet.doPost(QueryServlet.java:104)
		org.apache.oodt.grid.QueryServlet.doGet(QueryServlet.java:75)
		javax.servlet.http.HttpServlet.service(HttpServlet.java:620)
		javax.servlet.http.HttpServlet.service(HttpServlet.java:727)
		</pre> root cause <pre>java.io.IOException: Problem occurred during transformation: Array data type is not valid, null, or unsupported
		org.apache.oodt.xmlquery.ChunkedProductInputStream.fetchBlock(ChunkedProductInputStream.java:115)
		org.apache.oodt.xmlquery.ChunkedProductInputStream.read(ChunkedProductInputStream.java:90)
		java.io.BufferedInputStream.fill(BufferedInputStream.java:218)
		java.io.BufferedInputStream.read1(BufferedInputStream.java:258)
		java.io.BufferedInputStream.read(BufferedInputStream.java:317)
		java.io.FilterInputStream.read(FilterInputStream.java:90)
		org.apache.oodt.grid.ProductQueryServlet.deliverResult(ProductQueryServlet.java:95)

	org.apache.oodt.grid.ProductQueryServlet.handleQuery(ProductQueryServlet.java:62)
	org.apache.oodt.grid.QueryServlet.doPost(QueryServlet.java:100)
	org.apache.oodt.grid.QueryServlet.doGet(QueryServlet.java:75)
	javax.servlet.http.HttpServlet.service(HttpServlet.java:620)
	javax.servlet.http.HttpServlet.service(HttpServlet.java:727)
	</pre> note <u>The full stack trace of the root cause is available in the Apache Tomcat/7.0.56 logs.</u> <HR size="1" noshade="noshade"> Apache Tomcat/7.0.56 </body></html>
	Step 38:
	<html><head><title>Apache Tomcat/7.0.56 - Error report</title><style><!--H1 {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;font-size:22px;} H2 {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;font-size:16px;} H3 {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;font-size:14px;} BODY {font-family:Tahoma,Arial,sans-serif;color:black;background-color:white;} B {font-family:Tahoma,Arial,sans-serif;color:white;background-color:#525D76;} P {font-family:Tahoma,Arial,sans-serif;background:white;color:black;font-size:12px;}A {color : black;}A.name {color : black;}HR {color : #525D76;}--></style> </head><body> HTTP Status 500 - java.io.IOException: Problem occurred during transformation: Array data type is not valid, null, or unsupported <HR size="1" noshade="noshade"> type Exception report message <u>java.io.IOException: Problem occurred during transformation: Array data type is not valid, null, or unsupported</u> description <u>The server encountered an internal error that prevented it from fulfilling this request.</u> exception <pre>javax.servlet.ServletException: java.io.IOException: Problem occurred during transformation: Array data type is not valid, null, or unsupported
	org.apache.oodt.grid.QueryServlet.doPost(QueryServlet.java:104)
	org.apache.oodt.grid.QueryServlet.doGet(QueryServlet.java:75)
	javax.servlet.http.HttpServlet.service(HttpServlet.java:620)
	javax.servlet.http.HttpServlet.service(HttpServlet.java:727)
	</pre> root cause <pre>java.io.IOException: Problem occurred during transformation: Array data type is not valid, null, or unsupported
	org.apache.oodt.xmlquery.ChunkedProductInputStream.fetchBlock(ChunkedProductInputStream.java:115)
	org.apache.oodt.xmlquery.ChunkedProductInputStream.read(ChunkedProductInputStream.java:90)
	java.io.BufferedInputStream.fill(BufferedInputStream.java:218)
	java.io.BufferedInputStream.read1(BufferedInputStream.java:258)
	java.io.BufferedInputStream.read(BufferedInputStream.java:317)
	java.io.FilterInputStream.read(FilterInputStream.java:90)
	org.apache.oodt.grid.ProductQueryServlet.deliverResult(ProductQueryServlet.java:95)
	org.apache.oodt.grid.ProductQueryServlet.handleQuery(ProductQueryServlet.java:62)
	org.apache.oodt.grid.QueryServlet.doPost(QueryServlet.java:100)
	org.apache.oodt.grid.QueryServlet.doGet(QueryServlet.java:75)
	javax.servlet.http.HttpServlet.service(HttpServlet.java:620)
	javax.servlet.http.HttpServlet.service(HttpServlet.java:727)
	</pre> note <u>The full stack trace of the root cause is available in the Apache Tomcat/7.0.56 logs.</u> <HR size="1" noshade="noshade"> Apache Tomcat/7.0.56 </body></html>

Comments	Results met test criteria https://oodt.jpl.nasa.gov/jira/browse/PDS-322, created during build 5A, requests: 1) (from Step 27) PDS3_TO_PDS4_LABEL translate PDS3's SPREADSHEET/FIELD/DESCRIPTION to PDS4's Field_Delimited/description 2) (from Step 28) PDS_LABEL correctly carry over PDS3 constructs GROUP, namespaces, post-value units, and pointers to documentation 3) (from Step 29) PDS_ZIP use the operating system's case for files referenced in the label instead of the the label's value, which often does not match in PDS3. This part became PDS-325, which has been resolved/rejected. https://oodt.jpl.nasa.gov/jira/browse/PDS-323, created during build 5A, requests that transport PDS4_TO_CSV accept data_type ASCII_Date_Time. Step 36. This has been resolved as a duplicate of issues PDS-296. https://oodt.jpl.nasa.gov/jira/browse/PDS-324, created during build 5A, requests

	that transport PDS_TO_JPG handle FITS and CDF files.
Date of Testing	2014.10.26
Test Personnel	Richard Chen

Test Case ID	TPRT.4
Description	Request data using the Transport Proxy, a proxy layer for PDS3 product servers
Requirements	PASS L5.TRS.1: The service shall accept requests for download of PDS products.
Success Criteria	The transport service returns the requested data.
Test Steps	determines where the transport service retrieves files from. After setting oodt: 1. In $CATALINA_HOME/webapps/transport-ofsn/WEB-INF/ofsn-ps.xml, set oodt:ofsn's productRoot to *binDir*/transport-ofsn/testdata 2. shutdown.sh; startup.sh 3. http://localhost:8080/transport-ofsn/prod?q=OFSN+EQ+/i943630r.xml+AND+RT+EQ+PDS_TO_JPG
Test Results	Step 3: 
Comments	Results met test criteria
Date of Testing	2014.10.22
Test Personnel	Richard Chen

4 Anomalies

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

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

In the tables below:

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

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

closed	PDS-1	major	REG.1	Registry: >1 copy of associations if reregistration of a deleted product

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

closed	PDS-34	improve	n/a – expected behavior	Registry: association to obsoleted product not automatically updated
closed	PDS-35	minor	n/a – expected behavior	Validate: -x fails unexpectedly

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

closed	PDS-45	improve	REG.9	Registry: curl –X DELETE …/registry/packages/<guid>/members fails
closed	PDS-46	minor	REG.4	Validate: -x fails unexpectedly
closed	PDS-47	minor	REG.6	Registry: product's initial status is "Unknown"
closed	PDS-48	improve	n/a – expected behavior	Validate: files within bundle.xml are not validated
closed	PDS-49	major	HVT.2	Harvest: HarvestController does not start

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

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

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

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

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

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

open	PDS-113	improve	PRG.1	Generate: handle attached files in labels
open	PDS-114	improve	PRG.1	Generate: update tool scenario documentation
closed	PDS-123	improve	CTLG.3	Catalog: poor error message if no config file or command-line params
closed	PDS-125	minor	SCH.3, SCH.5	Search: superseded data sets appear, and search tools don't
closed	PDS-134	minor	SCH.5	Search: incorrectly handles slashes in dataset ID

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

closed	PDS-161	improve	CTLG.1	Catalog: -m compare should compare token by token, not line by line
closed	PDS-162	improve	n/a – expected behavior	Catalog: -m ingest does nothing with reference.cat
closed	PDS-163	improve	CTLG.3	Catalog: -m ingest reregisters files if listed in multiple voldescs
closed	PDS-164	minor	n/a – expected behavior	Search: search-ui returns differently than search-service
open	PDS-165	improve	SRCH.5	Search: for targets, show PRIMARY_BODY_NAME when not N/A.
open	PDS-166	improve	HVT.5	Harvest: check if secondary members match primary members

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

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

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

closed	PDS-257	minor	PRV.2	Transform tool does nothing with TABLEs and COLUMNs for PDS3->PDS4
open	PDS-258	improve	SCH.5	In search-ui's results, merge 2 related facets into 1
closed	PDS-259	minor	SCH.5	Generate balks at a getRecords() call that previously worked

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

closed	PDS-312	improve	AAFUNCTION.3	http://localhost:8080/registry-ui needs one unexpected click
open	PDS-313	minor	PRT.1	transform transforms only the first column of a table
closed	PDS-314	minor	PRV.1	validate dirX passes, but validate 1fileInDirX fails
closed	PDS-315	minor	PRV.2	validate misses invalid directory_path_name
closed	PDS-316	improve	PRV.3	clarify and check for proper usage of referential integrity feature
open	PDS-317	improve	SRCH.3	registry-ui takes FOREVER to approve a large package
open	PDS-319	improve	SRCH.6	search-ui returns different results for "target:mercury" and "target: mercury"
closed	PDS-321	minor	TPRT.1	transport TGZ_SIZE, ZIPD_SIZE oddly return the sum of size of raw files
open	PDS-322	improve	TPRT.3	transport with various RTs could handle some PDS3 features better
closed	PDS-323	improve	TPRT.3	transport PDS4_TO_CSV chokes on data_type ASCII_Date_Time
open	PDS-324	improve	TPRT.3	transport doesn't transform FITS or CDF files

5 Requirements Traceability

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

Requirement #	System Component	Test case ID	Test Status
L5.GEN.1	General System	GEN.1	pass
L5.GEN.2	General System	GEN.1	pass
L5.GEN.3	General System	REG.1, SRCH.3, TPRT.1	pass
L5.GEN.4	General System	PRV.1, PRT.1	pass
L5.GEN.5	General System	SRCH.3, TPRT.1	pass
L5.GEN.6	General System	SRCH.5, REG.6	pass
L5.GEN.7	General System	HVT.1, PRV.1	pass
L5.GEN.8	General System	GEN.4	skip
L5.GEN.9	General System	SRCH.2	pass
L5.GEN.10	General System	GEN.2	pass
L5.GEN.11	General System	GEN.7	pass
L5.HVT.1	Harvest Tool	AAFUNCTION.3, HVT.1, HVT.2, HVT.5	pass
L5.HVT.2	Harvest Tool	AAFUNCTION.3, HVT.1	pass
L5.HVT.3	Harvest Tool	HVT.2	pass
L5.HVT.4	Harvest Tool	AAFUNCTION.3, HVT.1, HVT.2	pass
L5.HVT.5	Harvest Tool	AAFUNCTION.3, HVT.1, HVT.2, HVT.5	pass
L5.HVT.6	Harvest Tool	AAFUNCTION.3, HVT.1, HVT.2	pass
L5.HVT.7	Harvest Tool	AAFUNCTION.3, HVT.1, HVT.2	pass
L5.HVT.8	Harvest Tool	AAFUNCTION.3, HVT.1, HVT.2, HVT.5	pass
L5.PRP.DE.1	Prep: Design Tool	AAFUNCTION.1	pass
L5.PRP.DE.2	Prep: Design Tool	AAFUNCTION.1	pass
L5.PRP.DE.3	Prep: Design Tool	AAFUNCTION.1	pass
L5.PRP.DE.4	Prep: Design Tool	AAFUNCTION.1	pass
L5.PRP.DE.5	Prep: Design Tool	AAFUNCTION.1	pass
L5.PRP.DE.6	Prep: Design Tool	AAFUNCTION.1	pass
L5.PRP.DE.7	Prep: Design Tool	AAFUNCTION.1	pass
L5.PRP.VA.1	Prep: Validation Tool	AAFUNCTION.2, PRV.1	pass
L5.PRP.VA.2	Prep: Validation Tool	AAFUNCTION.2, PRV.1	pass
L5.PRP.VA.3	Prep: Validation Tool	AAFUNCTION.2, PRV.3	pass
L5.PRP.VA.4	Prep: Validation Tool	PRV.4	pass
L5.PRP.VA.5	Prep: Validation Tool	AAFUNCTION.2, PRV.1	pass
L5.PRP.VA.6	Prep: Validation Tool	AAFUNCTION.2, PRV.1	pass
L5.PRP.VA.7	Prep: Validation Tool	AAFUNCTION.2, PRV.6	pass

L5.PRP.VA.8	Prep: Validation Tool	PRV.5	pass
L5.PRP.VA.9	Prep: Validation Tool	AAFUNCTION.2, PRV.1	pass
L5.PRP.VA.10	Prep: Validation Tool	PRV.2	pass
L5.REG.1	Registry Service	AAFUNCTION.3, REG.1	pass
L5.REG.2	Registry Service	AAFUNCTION.3, REG.2	pass
L5.REG.3	Registry Service	REG.3	pass
L5.REG.4	Registry Service	AAFUNCTION.3, REG.1	pass
L5.REG.5	Registry Service	REG.1	pass
L5.REG.6	Registry Service	AAFUNCTION.3, REG.4	pass
L5.REG.7	Registry Service	REG.5	pass
L5.REG.8	Registry Service	AAFUNCTION.3	pass
L5.REG.9	Registry Service	REG.6	pass
L5.REG.10	Registry Service	REG.6	pass
L5.REG.11	Registry Service	REG.6	pass
L5.REG.12	Registry Service	REG.6	pass
L5.REG.13	Registry Service	REG.1, REG.2, REG.4	pass
L5.REG.14	Registry Service	REG.1, REG.2, REG.4	pass
L5.REG.15	Report Service	REG.7	skip
L5.REG.16	Report Service	REG.8	skip
L5.RPT.1	Report Service	RPT.1	pass
L5.RPT.2	Report Service	RPT.1	pass
L5.RPT.3	Report Service	RPT.1	pass
L5.RPT.4	Report Service	RPT.1	pass
L5.RPT.5	Report Service	RPT.1	pass
L5.RPT.6	Report Service	RPT.1	pass
L5.RPT.7	Report Service	RPT.1	pass
L5.RPT.8	Report Service	RPT.1	pass
L5.RPT.9	Report Service	RPT.1	pass
L5.RPT.10	Report Service	RPT.1	pass
L5.RPT.11	Report Service	RPT.1	pass
L5.SCH.1	Search Service	AAFUNCTION.4, DSV.1, SRCH.5	pass
L5.SCH.2	Search Service	SRCH.1	skip
L5.SCH.3	Search Service	SRCH.2	pass
L5.SCH.4	Search Service	SRCH.3	pass
L5.SCH.5	Search Service	AAFUNCTION.4, SRCH.4	pass
L5.SCH.6	Search Service	AAFUNCTION.4, SRCH.5	pass
L5.SCH.7	Search Service	SRCH.6	pass
L5.SCH.8	Search Service	AAFUNCTION.4, SRCH.6	pass
L5.SCH.9	Search Service	AAFUNCTION.4, SRCH.6	pass
L5.SCH.10	Search Service	AAFUNCTION.4, SRCH.6	pass

L5.SCH.11	Search Service	AAFUNCTION.4, SRCH.6	pass
L5.SCH.12	Search Service	AAFUNCTION.4	pass
L5.SCH.13	Search Service	SRCH.9	skip
L5.SEC.1	Security Service	GEN.2, SEC.1	pass
L5.SEC.2	Security Service	AAFUNCTION.3, SEC.1	pass
L5.SEC.3	Security Service	GEN.2, SEC.1	pass
L5.SEC.4	Security Service	SEC.1	pass
L5.SEC.5	Security Service	SEC.1	pass
L5.SEC.6	Security Service	SEC.1	pass
L5.SEC.7	Security Service	SEC.1	pass
L5.TRS.1	Transport Service	TPRT.1, TPRT.3, TPRT.4	pass
L5.TRS.2	Transport Service	TPRT.1	pass
L5.TRS.3	Transport Service	TPRT.3	pass
L5.TRS.4	Transport Service	TPRT.1	pass
L5.TRS.5	Transport Service	TPRT.1	pass
L5.TRS.6	Transport Service	TPRT.1	pass
4.2.4	Catalog Tool	CTLG.1	pass
4.2.4	Catalog Tool	CTLG.2	pass
4.2.4	Catalog Tool	CTLG.3	pass
4.2.4	Harvest Tool	HVT.6	pass
L4.PRP.2	Prep: Generate Tool	PRG.1	pass
L4.PRP.4	Prep: Transform Tool	PRT.1	pass
1.3.3	PDS Requirements	SCMA.1	pass

Test Status: "skip" signifies requirements not implemented nor tested in Build 5a. Those test cases are included for future builds only.

Of the 96 requirements listed above, 91 were tested during Build 5a integration and test.

6 Miscellaneous

6.1 Test Data

https://pds-engineering.jpl.nasa.gov/content/build-5a-deliverables has this document as well as test data PDS4test.build5a.zip.

6.2 Test Environment

Build 5a integration and test environment encompasses the following:

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

6.3 Configuration Management

The PDS Configuration Management (CM) process will uniquely identify the build 5a and other releases. It will be followed and maintained by the Operations Team, which will act as the configuration management process engineer.

6.4 Acronyms

CM – Configuration Management
DN – PDS Discipline or Data Node
EN – PDS Engineering Node
I&T – Integration and Test
NASA – National Aeronautics and Space Administration
OS – Operating System
PDS – Planetary Data System
PDS3 – Version 3.8 of the PDS Data Standards
PDS4 – Version 4.0 of the PDS Data Standards

PDS MC – PDS Management Council
SDD – Software Design Document
SRD – Software Requirements Document
UI – User Interface