
Plan Document

NASA Planetary Data System

PDS4 System

Build 4a 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	Sept 15, 2013	Cleaned up and removed not applicable test procedures	Richard Chen, Emily Law
4a	Nov 04, 2013	Added SCMA.1, TRPT.1, TRPT.2. Removed AATESTME.*per Test Plan. Addressed PDS4ORR-RFA1 and incorporated its recommendations partly by folding the test plan into the test procedures document.	Richard Chen, Emily Law

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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 4a is free of critical defects. This document describes the integration and test activities and contains test cases that demonstrate compliance to requirements. It documents the test scenarios for verification and validation of 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..

The System Integration Team coordinates the testing while defining the scope and depth of testing as confirmed by the Project Manager. Test resources include EN developers to support unit testing, and an Integration Team (which consists of EN and Node staff) to perform integration testing.

1.2 Scope

For PDS4 Build 4a, the following software will be deployed at the EN:

- Ingest: Harvest 1.5.0, Catalog 1.6.0
- Preparation: Core 1.4.0, Design (oxygen 14.1), Generate 0.6.0, Transform 0.2.1, Validate 1.4.0
- Registry 1.5.0
- Report (Sawmill 8.5)
- Search: Core 1.3.0, Service 1.3.0, Search-UI 1.3.0, Product-Search-UI 1.3.0
- Storage 0.5.0
- Security (OpenDS 2.2.0)
- Transport 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 4a Integration testing is the execution and management of tests by the Engineering Node to ensure that the release of Build 4a 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, August 2006.

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, 2013

2 Executive Summary

2.1 Assessment

The tools and services tested work with the versions specified.

2.2 Major Findings

Test results substantiate that all tested tools and services meet Build 4a requirements specified in and worked as described in the Service Software Requirements and Design documents above.

2.3 Success

Tools and services performed as documented.

2.4 Metrics

A summary of the test metrics

# of tests performed	# of tests passed	# of tests failed	# of high priority anomalies
35	35	0	0

3 Test Procedures

The following section lists procedures and results for the test cases identified in Section 3 of the PDS4 System Build 4a Test Plan. All tests below have been run for build 4a (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 tests in section 3.2 require the installation of the following PDS4 software:

- **Harvest**, <http://pds-engineering.jpl.nasa.gov/pds2010/development/4.0.0/ingest/harvest>
- **Registry**, <http://pds-engineering.jpl.nasa.gov/pds2010/development/4.0.0/registry>
- **Search**, <http://pds-engineering.jpl.nasa.gov/pds2010/development/4.0.0/search>
- **Validate**, <http://pds-engineering.jpl.nasa.gov/pds2010/development/4.0.0/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**, <http://pds-engineering.jpl.nasa.gov/pds2010/development/4.0.0/preparation/generate>
- **Catalog**, <http://pds-engineering.jpl.nasa.gov/pds2010/development/4.0.0/ingest/catalog>
- **Storage**, <http://pds-engineering.jpl.nasa.gov/pds2010/development/4.0.0/storage>
- **Transform**, <http://pds-engineering.jpl.nasa.gov/pds2010/development/4.0.0/preparation/transform>
- **Transport**, <http://pds-engineering.jpl.nasa.gov/pds2010/development/4.0.0/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

<i>testDir</i>	directory where input files are extracted
<i>binDir</i>	directory where the PDS4 software are installed
harvest	If the registry is uncontrolled, do not replace. Else: <div style="text-align: center;">harvest -uusername -ppassword</div> 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 -uusername:password -k
http://localhost:8080 or https://potato.jpl.nasa.gov	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	Get the latest "Test Data (.zip)" from http://pds-engineering.jpl.nasa.gov/index.cfm?pid=145&cid=188 , then <ul style="list-style-type: none"> • mkdir testDir • cd testDir • unzip PDS4test.build4a.zip • mkdir holdings

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. <i>dbDir</i> is the directory for the database, set during the initialization of Tomcat.
Test Steps	<pre> \$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 </pre>

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	<p>PASS L5.PRP.DE.1: The tool shall initiate a design session as follows...</p> <p>PASS L5.PRP.DE.2: The tool shall accept the following as input for specifying a schema file...</p> <p>PASS L5.PRP.DE.3: The tool shall facilitate modification of a schema file as follows...</p> <p>PASS L5.PRP.DE.4: The tool shall provide standard editing features as follows...</p> <p>PASS L5.PRP.DE.5: The tool shall indicate when a schema is not valid.</p> <p>PASS L5.PRP.DE.6: The tool shall generate an XML instance file from a schema.</p> <p>PASS L5.PRP.DE.7: The tool shall export the schema for use outside the tool.</p>
Success Criteria	Design tool produces a syntactically valid PDS Product Label else indicates where the label is invalid.
Test Steps	<p>In general:</p> <ul style="list-style-type: none"> 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	2013.10.28
Test Personnel	Richard Chen

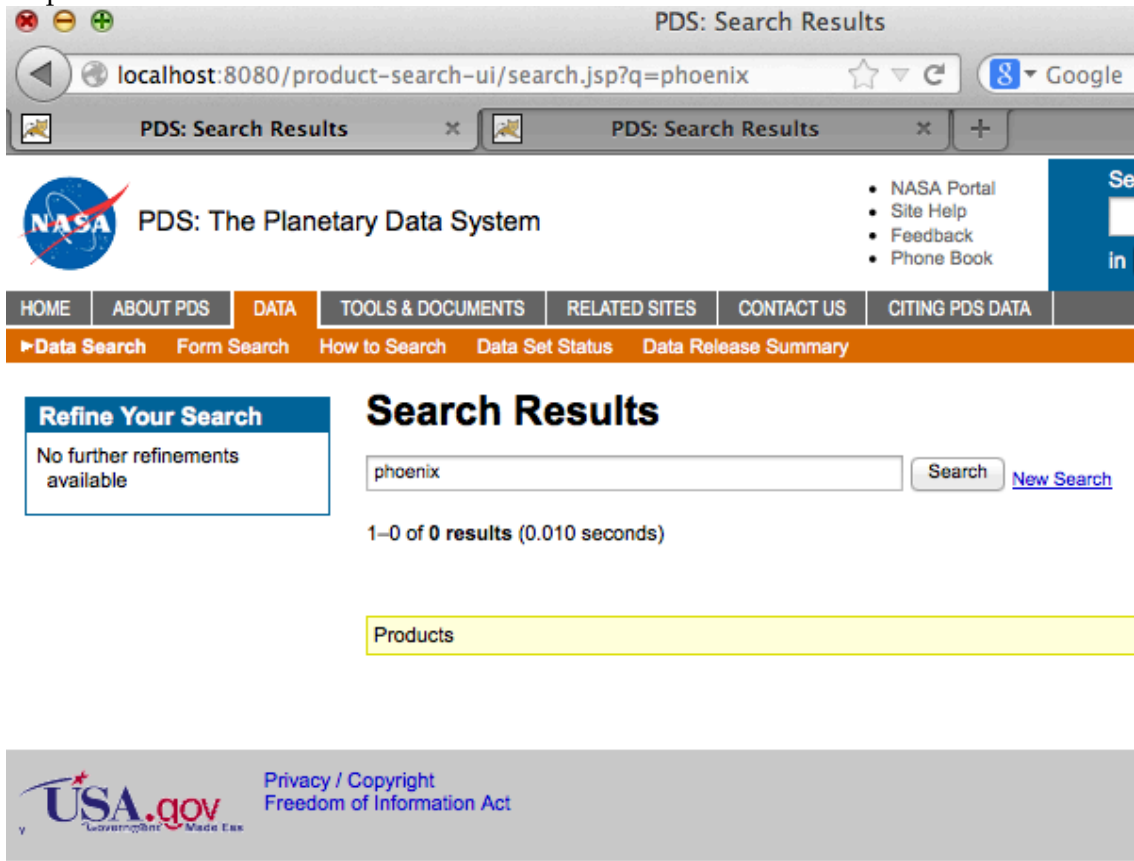
Test Case ID	AAFUNCTION.2
Description	Validate PDS4 label
Requirements	<p>PASS L5.PRP.VA.1: The tool shall accept the following as input for specifying the product(s) to be validated...</p> <p>PASS L5.PRP.VA.2: The tool shall traverse a directory tree and validate products</p> <p>PASS L5.PRP.VA.3: The tool shall validate aggregate products and all products referenced by such products.</p> <p>PASS L5.PRP.VA.5: The tool shall verify that a product label is well-formed XML.</p> <p>PASS L5.PRP.VA.6: The tool shall verify that a product label conforms to its associated schema file(s).</p> <p>PASS L5.PRP.VA.7: The tool shall accept the following as input for specifying the associated schema file(s)...</p> <p>PASS L5.PRP.VA.9: The tool shall indicate the schema(s) utilized during validation.</p>
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	<ol style="list-style-type: none"> cd <i>testDir</i> validate -t ra_bundle -x PDS4_PDS_1100.xsd -S PDS4_PDS_1100.sch -e "*.xml"
Test Results	<pre> PDS Validate Tool Report Configuration: Version 1.4.0 Date 2013-11-02T06:59:13Z Parameters: Targets [file:testDir/ra_bundle/] User Specified Schemas [PDS4_PDS_1100.xsd] User Specified Schematrons [PDS4_PDS_1100.sch] Severity Level Warnings Recurse Directories true File Filters Used [*.*xml] Validation Details: PASS: file:testDir/ra_bundle/bundle_1.xml PASS: file:testDir/ra_bundle/context/context_collection_1.xml PASS: file:testDir/ra_bundle/context/mars_planet.xml PASS: file:testDir/ra_bundle/context/phoenix.xml PASS: file:testDir/ra_bundle/context/phx.xml </pre>

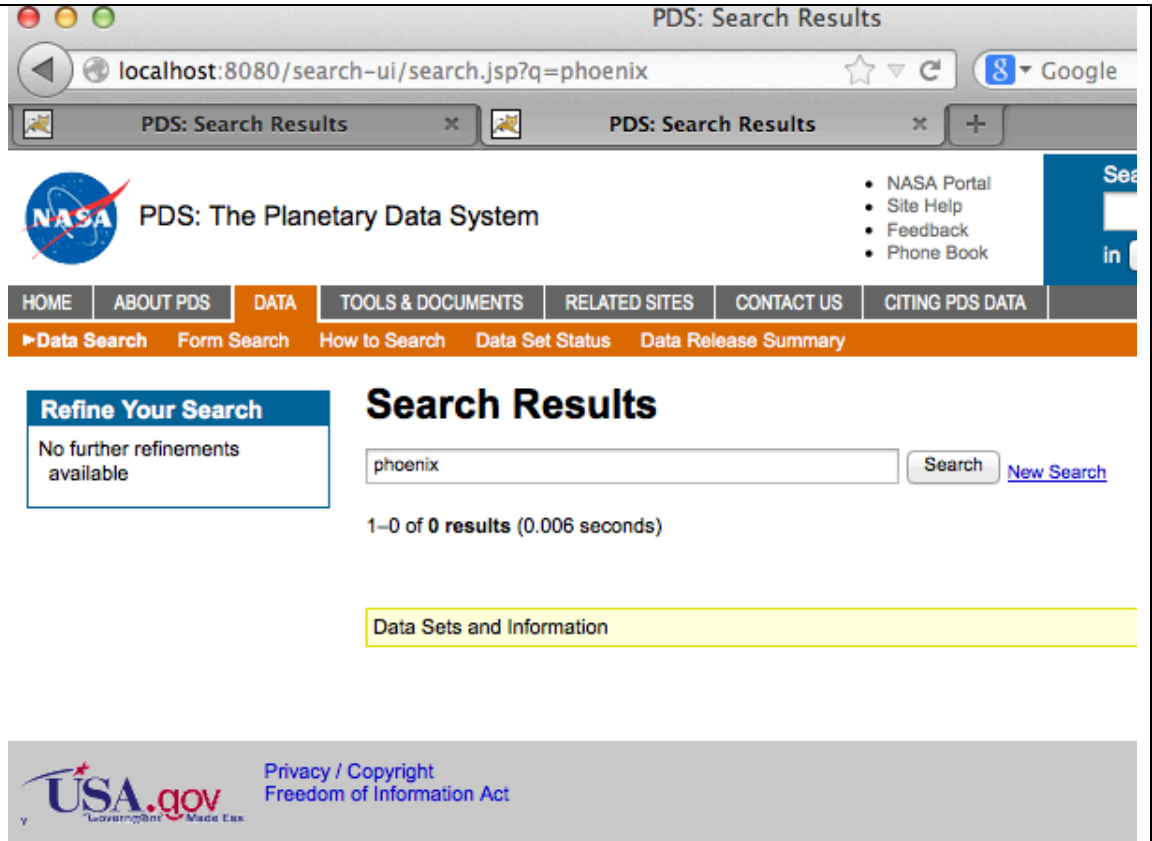
	PASS: file:testDir/ra_bundle/context/ra_phx.xml PASS: file:testDir/ra_bundle/data_derived/data_derived_collection_1.xml PASS: file:testDir/ra_bundle/data_derived/sol006.xml PASS: file:testDir/ra_bundle/data_derived/sol007.xml [snip...] PASS: file:testDir/ra_bundle/document/ra_instrument.xml PASS: file:testDir/ra_bundle/document/readme.xml Summary: 171 of 171 file(s) processed, 0 skipped 171 of 171 file(s) passed validation End of Report
Comments	Results met success criteria
Date of Testing	2013.11.02
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. harvest testDir/ra_bundle -c harvest-policy-master.xml -l h2.out -e "*.xml"
Test Results	Step 2: The output file is large, so filter with <ul style="list-style-type: none"> grep -v "SUCCESS\ INFO" h1.out uniq PDS Harvest Tool Log Version Version 1.5.0 Time Sat, Nov 02 2013 at 12:07:27 AM Target(s) [testDir/contextPDS4onlyPHX] File Inclusions [*.xml] Registry Location http://localhost:8080/registry Registry Package Name Harvest-Package_20131102000727 Registration Package GUID urn:uuid:5b9ce127-fe21-47a6-93b8-a15bcc776114 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:

	<pre> 150 Product_Context 1 Product_Bundle 6 Product_Collection 163 Product_File_Repository 183 of 183 associations registered. End of Log Step 3: The output file is large, so filter with • grep -v "SUCCESS\ INFO" h2.out uniq PDS Harvest Tool Log Version Version 1.5.0 Time Sat, Nov 02 2013 at 12:22:03 AM Target(s) [testDir/ra_bundle] File Inclusions [*.xml] Registry Location http://localhost:8080/registry Registry Package Name Harvest-Package_20131102002203 Registration Package GUID urn:uuid:c61ece3b-840b-49d2-9990-3854823bc7c5 SKIP: [testDir/ra_bundle/context/mars_planet.xml] Not a primary member. SKIP: [testDir/ra_bundle/context/phx.xml] Not a primary member. SKIP: [testDir/ra_bundle/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 496 of 496 associations registered. End of Log </pre>
Comments	<p>Results met success criteria.</p> <p>In the product bundle, the 3 SKIPS are for files deemed secondary in their respective collections via their lidvids.</p>
Date of Testing	2013.11.02
Test Personnel	Richard Chen

Test Case ID	AAFUNCTION.4
Description	Search for PDS4 data at the product level and the context level.
Requirements	<p>PASS L5.SCH.1: The service shall provide a user interface for entering of queries and display of search results...</p> <p>PASS L5.SCH.5: The service shall provide the capability to retrieve metadata associated with registered artifacts for the purpose of generating search indexes.</p> <p>PASS L5.SCH.6: The service shall support searching by accepting criteria as a sequence of open text keywords.</p> <p>PASS L5.SCH.8: The service shall support narrowing of additional index results based on specifications of terms and/or values on indexes.</p> <p>PASS L5.SCH.10: The service shall provide results to a search as a sequence of matching URIs to resources that contain search desiderata.</p> <p>PASS L5.SCH.11: The service shall annotate each URI of a result with metadata describing the URI.</p> <p>PASS L5.SCH.12: The service shall support configuration on the kinds of indexes maintained on indexed data</p>
Success Criteria	After configuration (e.g. regenerating search indices), Search returns the data harvested in the previous step.
Test Steps	<p>Build the search index</p> <ol style="list-style-type: none"> 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. <code>search-core -H binDir/search-service/pds -p binDir/search-</code>

	<p>core/conf/pds/pds4/core.properties</p> <ol style="list-style-type: none">Repeat step 2Repeat step 4
Test Results	<p>Step 2:</p>  <p>Step 4:</p>



Step 5:

```

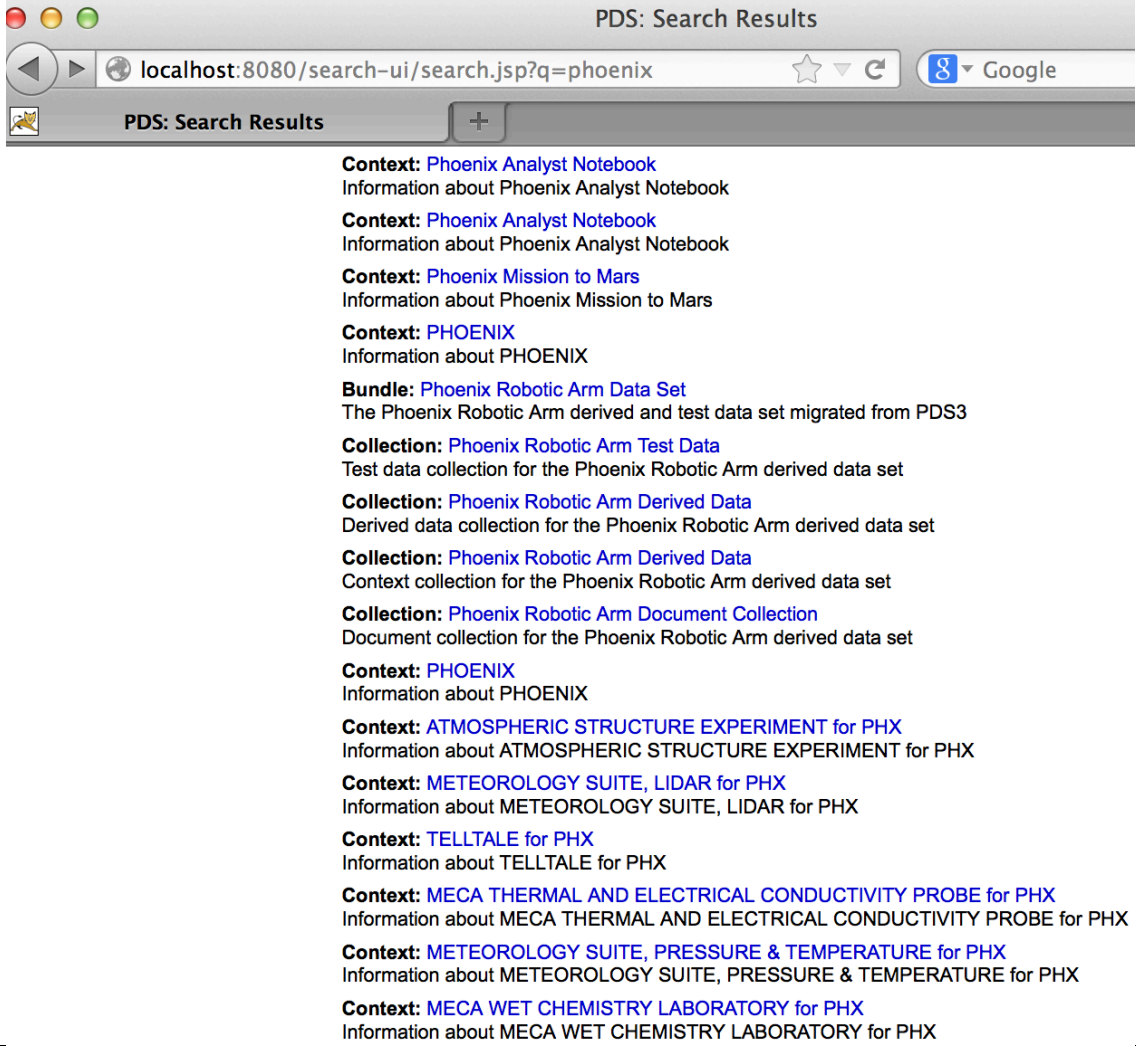
Processing config: bundle.xml
Processing config: bundle.xml
Processing config: collection.xml
Processing config: context.xml
Processing config: observational.xml
PDS Search Core Run Log
Version          Version 1.3.0
Time             Sat, Nov 02 2013 at 12:40:48 AM
Severity Level   INFO
Search Home      /PDS4tools/search-service/pds
Search Service URL http://localhost:8080/search-service
Search Core Properties /PDS4tools/search-core/conf/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 ...
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, 22 s
=====
Total Processing Time: 0 h, 1 m, 32 s
    
```

End of Log

Step 6:

The screenshot shows a web browser window with the URL `localhost:8080/product-search-ui/search.jsp?q=phoen`. The page title is "PDS: Search Results". The browser's address bar shows the search term "phoenix" and a "Search" button. The page content includes the NASA logo, the text "PDS: The Planetary Data System", and a search bar with "PDS data" entered. A navigation menu contains links for HOME, ABOUT PDS, DATA, TOOLS & DOCUMENTS, RELATED SITES, CONTACT US, and CITING PDS DATA. Below the navigation menu, there are links for Data Search, Form Search, How to Search, Data Set Status, and Data Release Summary. The main content area is titled "Search Results" and shows the search term "phoenix" in a search box. Below the search box, it indicates "1-50 of 125 results (0.008 seconds)". The results are organized into sections: "Bundles and Collections" and "Products". Under "Bundles and Collections", there are two entries: "Bundle: Phoenix Robotic Arm Data Set" and "Collection: Phoenix Robotic Arm Document Collection". Under "Products", there are five entries, each starting with "Observational Product: Phoenix Robotic Arm Derived Product: solXXXX" followed by the filename "HeaderTable_Delimited - solXXXX.csv".

Step 7:

	
Comments	<p>Results met success criteria.</p> <p>https://oodt.jpl.nasa.gov/jira/browse/PDS-220, created during testing of build 4a, requests an improvement: do not return multiple, cluttering "Context: Phoenix Analyst Notebook".</p>
Date of Testing	2013.11.02
Test Personnel	Richard Chen

3.3 Testing for Complete Coverage of PDS4 Level 5 Requirements

The following test cases test all Build 4a functions, including those not covered above. These tests ensure complete verification and validation of Build 4a 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 generates report with differences.

<p>Test Steps</p>	<ol style="list-style-type: none"> 1. <code>cd testDir</code> 2. <code>catalog -mcompare testCatalog/CORPWS_0164 testCatalog/CORPWS_0180</code> 3. <code>catalog -mcompare testCatalog/CORPWS_0164/RAWDS.CAT testCatalog/CORPWSrawX.CAT</code>
<p>Test Results</p>	<p>Step 2:</p> <pre> PDS Catalog Ingest Tool Report Configuration: Version Version 1.6.0 Date Sat, Nov 02 2013 at 03:25:13 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 </pre>

	<pre> < 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 1.6.0 Date Sat, Nov 02 2013 at 03:30:10 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 </pre>
Comments	Results met success criteria.
Date of Testing	2013.11.02
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	catalog -mvalidate -d testCatalog/pdsdd.full -t testCatalog/LRO_diviner/
Test Results	<pre> PDS Catalog Ingest Tool Report Configuration: Version Version 1.6.0 Date Sat, Nov 02 2013 at 03:32:11 PM </pre>

	<pre> Parameters: Mode validate Target file:testDir/testCatalog/LRO_diviner/ Directory Recursion true Dictionary File(s) [testCatalog/pdsdd.full] Severity Level WARNING Aliasing Enabled false Validation Details: PASS: file:testDir/testCatalog/LRO_diviner/dsmap.cat PASS: file:testDir/testCatalog/LRO_diviner/dsmap_polar.cat PASS: file:testDir/testCatalog/LRO_diviner/gdrds.cat PASS: file:testDir/testCatalog/LRO_diviner/inst.cat PASS: file:testDir/testCatalog/LRO_diviner/insthost.cat PASS: file:testDir/testCatalog/LRO_diviner/mission.cat PASS: file:testDir/testCatalog/LRO_diviner/person.cat PASS: file:testDir/testCatalog/LRO_diviner/prpds.cat PASS: file:testDir/testCatalog/LRO_diviner/rdrds.cat PASS: file:testDir/testCatalog/LRO_diviner/ref.cat FAIL: file:testDir/testCatalog/LRO_diviner/voldesc.cat Begin Fragment: file:testDir/testCatalog/LRO_diviner/REF.CAT WARNING The label fragment, "REF.CAT", should not contain a PDS_VERSION_ID. End Fragment: file:testDir/testCatalog/LRO_diviner/REF.CAT Begin Fragment: file:testDir/testCatalog/LRO_diviner/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/GDRDS.CAT WARNING The label fragment, "GDRDS.CAT", should not contain a PDS_VERSION_ID. End Fragment: file:testDir/testCatalog/LRO_diviner/GDRDS.CAT Begin Fragment: file:testDir/testCatalog/LRO_diviner/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/MISSION.CAT WARNING The label fragment, "MISSION.CAT", should not contain a PDS_VERSION_ID. ERROR line 40: Found a reference, "SAYLOR2006A", which is not defined in a REFERENCE_KEY_ID within the label. ERROR line 40: Found a reference, "SAYLOR2006B", which is not defined in a REFERENCE_KEY_ID within the label. End Fragment: file:testDir/testCatalog/LRO_diviner/MISSION.CAT Referential Integrity Details: PASS: Instrument Parent File(s): [inst.cat] Begin checking children End checking children FAIL: Reference Parent File(s): [ref.cat] Begin checking children dsmap.cat: "REFERENCE_KEY_ID = SEIDELMANNETAL2002" is not found in a(n) "ref.cat". dsmap.cat: "REFERENCE_KEY_ID = SNYDER1987" is not found in a(n) "ref.cat". dsmap_polar.cat: "REFERENCE_KEY_ID = SEIDELMANNETAL2002" is not found in a(n) "ref.cat". dsmap_polar.cat: "REFERENCE_KEY_ID = SNYDER1987" is not found in a(n) "ref.cat". End checking children PASS: Data Set Parent File(s): [gdrds.cat, prpds.cat, rdrds.cat] Begin checking children End checking children PASS: Personnel Parent File(s): [person.cat] Begin checking children End checking children PASS: Mission Parent File(s): [mission.cat] Begin checking children End checking children PASS: Instrument Host Parent File(s): [insthost.cat] Begin checking children End checking children New Standard Values: Referential Integrity Summary: </pre>
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	<p>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</p>
Comments	Results met success criteria. All warnings and errors are either expected or carried over from PDS3, they do not affect meeting success criteria.
Date of Testing	2013.11.02
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	<p>The catalog ingest requires access to a storage service (as of build 4a, only the URL of a transport service is needed). In its own terminal window:</p> <ul style="list-style-type: none"> • storage-service stop # warning message if storage-service was not running • cd binDir/storage-service • \rm -r archive/ logs/ run/ • storage-service start <p>Also clean database as described in RESETREGISTRY in Section 3.1</p> <ol style="list-style-type: none"> 1. catalog testCatalog/CORPWS_0180 -m ingest -s http://localhost:9000 -T http://localhost:9999 -r c1.out 2. In a browser: http://localhost:8080/registry-ui to see registrations 3. catalog testCatalog/MPC_review -m ingest -s http://localhost:9000 -T http://localhost:9999 4. catalog testCatalog/LRO_diviner -m ingest -s http://localhost:9000 -T http://localhost:9999 -r c4.out 5. catalog testCatalog/CORPWS_0180
Test Results	<p>Step 1: c1.out:</p> <pre> PDS Catalog Ingest Tool Report Configuration: Version Version 1.6.0 Date Sat, Nov 02 2013 at 11:14:07 PM Parameters: Mode ingest Target file:testDir/testCatalog/CORPWS_0180/ Directory Recursion true Severity Level WARNING Report File c1.out Ingest Details: PASS: file:testDir/testCatalog/CORPWS_0180/INSTHOST.CAT PASS: file:testDir/testCatalog/CORPWS_0180/KEYDS.CAT PASS: file:testDir/testCatalog/CORPWS_0180/LRFULLDS.CAT PASS: file:testDir/testCatalog/CORPWS_0180/MISSION.CAT PASS: file:testDir/testCatalog/CORPWS_0180/PERSON.CAT WARNING: This file is not required to ingest into the registry. PASS: file:testDir/testCatalog/CORPWS_0180/PROJREF.CAT WARNING: This file is not required to ingest into the registry. PASS: file:testDir/testCatalog/CORPWS_0180/RAWDS.CAT PASS: file:testDir/testCatalog/CORPWS_0180/REF.CAT </pre>

WARNING: This file is not required to ingest into the registry.
 PASS: file:testDir/testCatalog/CORPWS_0180/RPWSINST.CAT
 PASS: file:testDir/testCatalog/CORPWS_0180/VOLDESC.CAT
 PASS: file:testDir/testCatalog/CORPWS_0180/WBFULLDS.CAT
 PASS: file:testDir/testCatalog/CORPWS_0180/WFFULLDS.CAT
 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_20131102231407
 End of Report

Step 2:

<input type="checkbox"/>	Name	LID	Version	Object Type	Status
<input type="checkbox"/>	CORPWS_0180	urn:nasa:pds:context_pds3:volume:volume.corpws_0180_	1.0	Product_Volume_PDS3	Submitted
<input type="checkbox"/>	RADIO AND PLASMA WAVE SCIENCE for CO	urn:nasa:pds:context_pds3:instrument:instrument.rpws_cc	1.0	Product_Instrument_PDS3	Submitted
<input type="checkbox"/>	RPWSINST	urn:nasa:pds:context_pds3:instrument:instrument.rpws_cc	1.0	Product_File_Repository	Submitted
<input type="checkbox"/>	LRFULLDS	urn:nasa:pds:context_pds3:data_set:data_set.co-v-e-j-s-ss-	1.0	Product_File_Repository	Submitted
<input type="checkbox"/>	CASSINI-HUYGENS	urn:nasa:pds:context_pds3:investigation:mission.cassini-hu	1.0	Product_Mission_PDS3	Submitted
<input type="checkbox"/>	RAWDS	urn:nasa:pds:context_pds3:data_set:data_set.co-v-e-j-s-ss-	1.0	Product_File_Repository	Submitted
<input type="checkbox"/>	WBFULLDS	urn:nasa:pds:context_pds3:data_set:data_set.co-v-e-j-s-ss-	1.0	Product_File_Repository	Submitted
<input type="checkbox"/>	VOLDESC	urn:nasa:pds:context_pds3:volume:volume.corpws_0180_	1.0	Product_File_Repository	Submitted
<input type="checkbox"/>	CASSINI VIE/J/S/SS RPWS EDITED WAVEFO	urn:nasa:pds:context_pds3:data_set:data_set.co-v-e-j-s-ss-	1.0	Product_Data_Set_PDS3	Submitted
<input type="checkbox"/>	KEYDS	urn:nasa:pds:context_pds3:data_set:data_set.co-v-e-j-s-ss-	1.0	Product_File_Repository	Submitted
<input type="checkbox"/>	CASSINI VIE/J/S/SS RPWS SUMMARY KEY F	urn:nasa:pds:context_pds3:data_set:data_set.co-v-e-j-s-ss-	1.0	Product_Data_Set_PDS3	Submitted
<input type="checkbox"/>	INSTHOST	urn:nasa:pds:context_pds3:instrument_host:instrument_hos	1.0	Product_File_Repository	Submitted
<input type="checkbox"/>	CASSINI VIE/J/S/SS RPWS EDITED WIDEBAI	urn:nasa:pds:context_pds3:data_set:data_set.co-v-e-j-s-ss-	1.0	Product_Data_Set_PDS3	Submitted
<input type="checkbox"/>	CASSINI VIE/J/S/SS RPWS CALIBRATED LOI	urn:nasa:pds:context_pds3:data_set:data_set.co-v-e-j-s-ss-	1.0	Product_Data_Set_PDS3	Submitted
<input type="checkbox"/>	CASSINI ORBITER	urn:nasa:pds:context_pds3:instrument_host:instrument_hos	1.0	Product_Instrument_Host_PDS3	Submitted
<input type="checkbox"/>	REF	urn:nasa:pds:context_pds3:data_set:data_set.co-v-e-j-s-ss-	1.0	Product_File_Repository	Submitted
<input type="checkbox"/>	WFFULLDS	urn:nasa:pds:context_pds3:data_set:data_set.co-v-e-j-s-ss-	1.0	Product_File_Repository	Submitted
<input type="checkbox"/>	CASSINI VIE/J/S/SS RPWS RAW COMPLETE	urn:nasa:pds:context_pds3:data_set:data_set.co-v-e-j-s-ss-	1.0	Product_Data_Set_PDS3	Submitted
<input type="checkbox"/>	PERSON	urn:nasa:pds:context_pds3:investigation:mission.cassini-hu	1.0	Product_File_Repository	Submitted
<input type="checkbox"/>	PROJREF	urn:nasa:pds:context_pds3:investigation:mission.cassini-hu	1.0	Product_File_Repository	Submitted

Step 3: 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.
 Nov 2, 2013 11:25:51 PM org.apache.oodt.cas.filemgr.datatransfer.RemoteDataTransferFactory <init>
 INFO: RemoteDataTransfer enabled: using chunk size: [1024]
 Nov 2, 2013 11:25:51 PM 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 4: similar to step 1's output. Used to die upon hitting dsmat.cat. c4.out::

PDS Catalog Ingest Tool Report
 Configuration:
 Version Version 1.6.0
 Date Sat, Nov 02 2013 at 11:36:41 PM
 Parameters:
 Mode ingest
 Target file:testDir/testCatalog/LRO_diviner/
 Directory Recursion true
 Severity Level WARNING
 Report File c4.out
 Ingest Details:

	<p>SKIP: file:testDir/testCatalog/LRO_diviner/dsmap.cat WARNING: This file is not required to ingest into the registry service. SKIP: file:testDir/testCatalog/LRO_diviner/dsmap_polar.cat WARNING: This file is not required to ingest into the registry service. 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</p> <p>Summary: 9 of 11 file(s) ingested, 2 skipped Number of successful file object ingestion: 9 Number of successful storage service ingestion: 9 Number of successful registry ingestion: 7 Name of the registry package: Catalog-Package_LRODLR_1001_20131102233642</p> <p>End of Report</p> <p>Step 5: upon forgetting to specify a config file or command-line parameters: Exception: No mode specified. 'm' flag must be specified. The error message used to be meaningless</p>
Comments	Results met success criteria.
Date of Testing	2013.11.02
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	<p>This is from test REG.1 below but posts to a different machine</p> <ol style="list-style-type: none"> 1. http://xxxx.jpl.nasa.gov:8080/registry/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/extrinsics 3. Repeat step 1 to see the lid 4. curl -X DELETE --verbose http://xxxx.jpl.nasa.gov:8080/registry/extrinsics/testing.REG.1.v1.0 5. Repeat step 1 to ensure lid no longer exist
Test Results	Step 1:

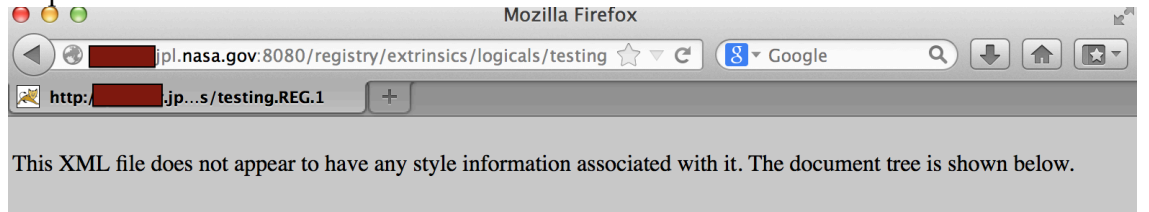


Step 2:

```

* About to connect() to xxxx.jpl.nasa.gov port 8080 (#0)
* Trying 128.149.xx.xx...
* connected
* Connected to xxxx.jpl.nasa.gov (128.149.xx.xx) port 8080 (#0)
> POST /registry/extrinsics HTTP/1.1
> User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8r 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/extrinsics/testing.REG.1.v1.0
< Content-Type: application/xml
< Transfer-Encoding: chunked
< Date: Sun, 03 Nov 2013 06:59:06 GMT
* Connection #0 to host xxxx.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)
    
```

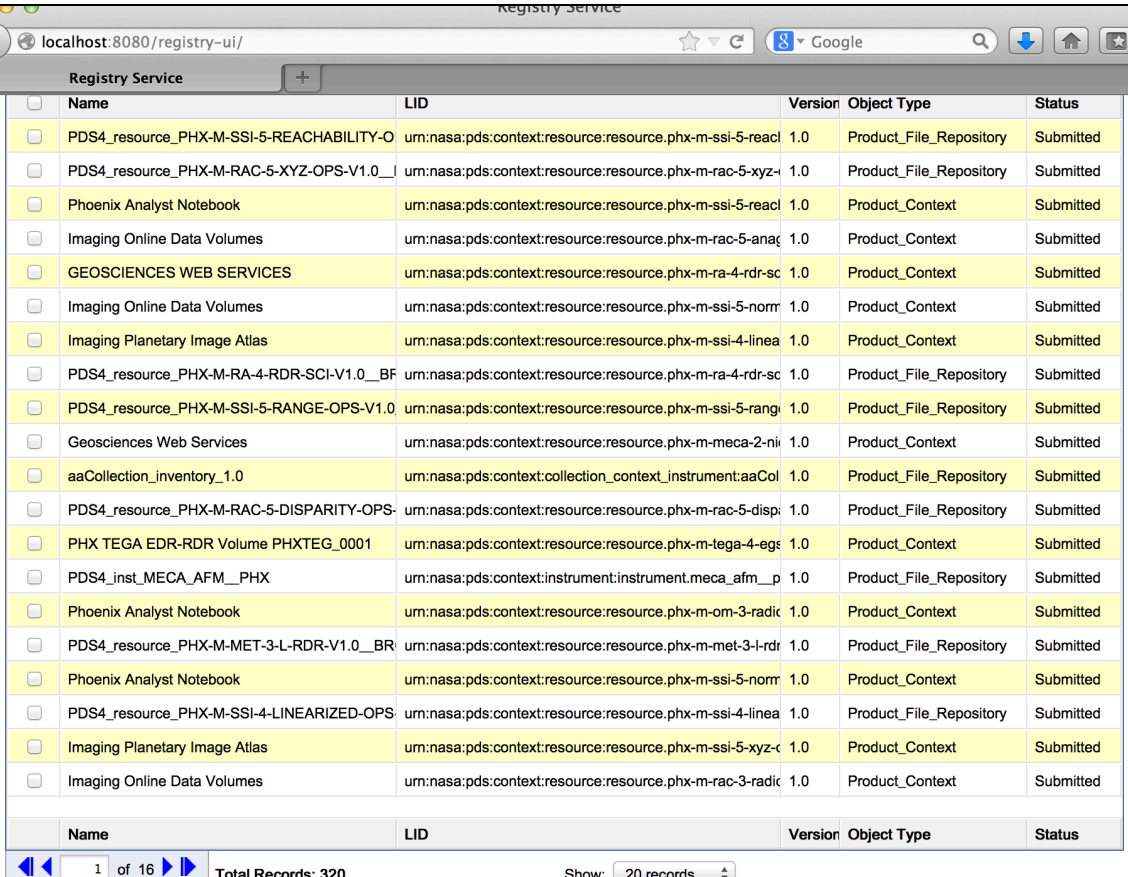
	<pre>> DELETE /registry/extrinsics/testing.REG.1.v1.0 HTTP/1.1 > User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8r zlib/1.2.5 > Host: xxxx.jpl.nasa.gov:8080 > Accept: */* < HTTP/1.1 200 OK < Server: Apache-Coyote/1.1 < Content-Type: application/xml < Content-Length: 0 < Date: Sun, 03 Nov 2013 07:00:45 GMT * Connection #0 to host xxxx.jpl.nasa.gov left intact * Closing connection #0</pre> <p>Step 5 same as step 1</p>
Comments	Results met success criteria.
Date of Testing	2013.11.02
Test Personnel	Richard Chen

Test Case ID	GEN.4 *not ready for build 4a. 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	

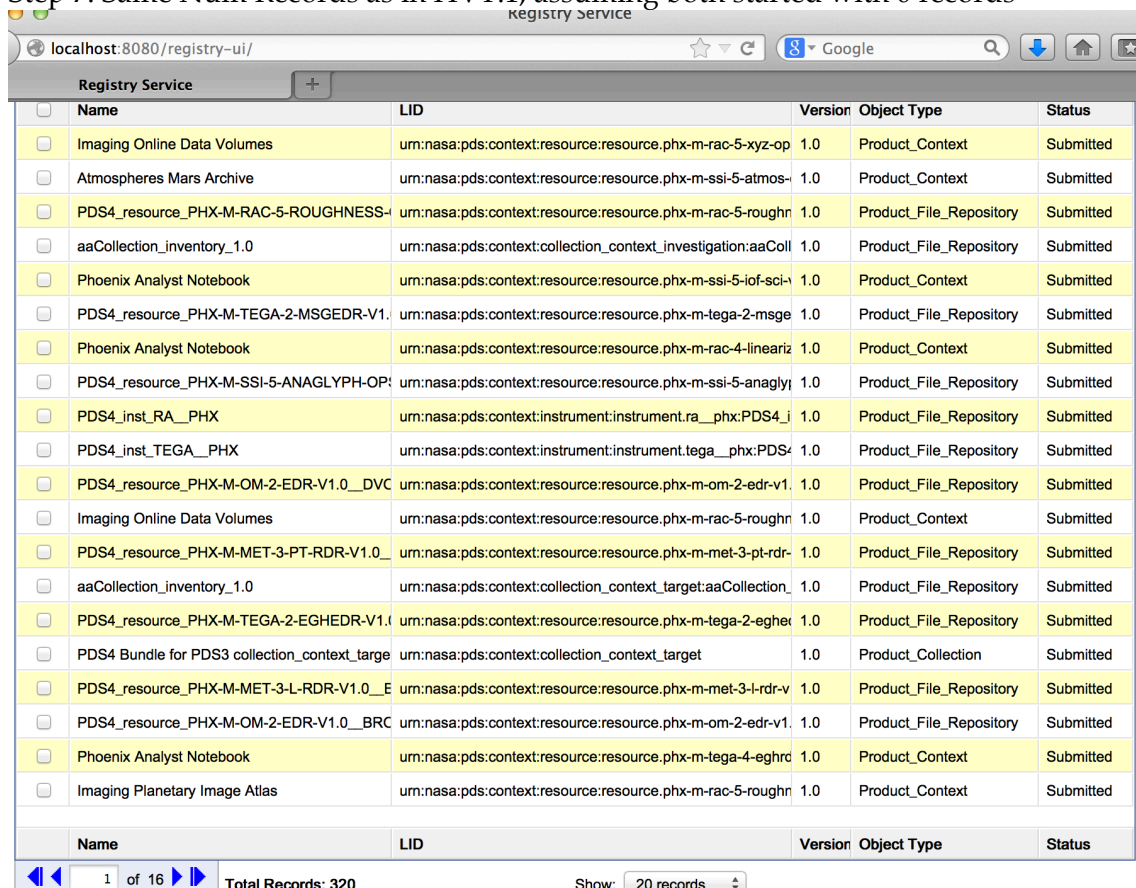
Test Case ID	GEN.7
Description	Document components' capabilities, dependencies, interfaces, installation, operation
Requirements	PASS L5.GEN.11: Components shall provide documentation detailing their capabilities, dependencies, interfaces, installation and operation
Success Criteria	Documentation of components show capabilities, dependencies, interfaces, installation and operation.
Test Steps	Examine such documentation, currently accessible from http://pds-engineering.jpl.nasa.gov/pds2010/development/4.0.0
Test Results	Documents were available and examined.
Comments	Results met success criteria.
Date of Testing	2013.11.03
Test Personnel	Richard Chen

Test Case ID	HVT.1
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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	<p>PASS L5.HVT.1: The tool shall accept a configuration file specifying policy for tool behavior.</p> <p>PASS L5.HVT.2: The tool shall provide a command-line interface for execution.</p> <p>PASS L5.HVT.4: The tool shall recursively traverse the specified directory or directories...</p> <p>PASS L5.HVT.5: The tool shall determine candidate products for registration through a combination of the following...</p> <p>PASS L5.HVT.6: The tool shall capture metadata for a candidate product specified by the product type.</p> <p>PASS L5.HVT.7: The tool shall submit the associated metadata for a candidate product to the [Registry].</p> <p>PASS L5.HVT.8: The tool shall track each product registration.</p> <p>PASS L5.GEN.7: Tools shall generate a report detailing results from a single execution of the tool.</p>
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	<p>The harvesting in this test is redundant to tests AAFUNCTION.*. The deleting (not a core function) is different, so if desired:</p> <ol style="list-style-type: none"> 1. Clean database as described in RESETREGISTRY in Section 3.1 2. <code>cd testDir; harvest testDir/contextPDS4onlyPHX -c harvest-policy-master.xml -l h.out -e "*.xml"</code> 3. In browser, check for harvested files. <code>http://localhost:8080/registry-ui/</code> 4. <code>grep "Registration Package GUID" h.out</code> 5. Replace <i>guid</i> with the GUID from the previous line: <code>curl -X DELETE -v http://localhost:8080/registry/packages/guid/members</code> 6. In browser, <code>http://localhost:8080/registry-ui/</code>
Test Results	<p>Step 2: The output file is large, so filter with</p> <ul style="list-style-type: none"> • <code>grep -v "SUCCESS\ INFO" h.out uniq</code> <pre> PDS Harvest Tool Log Version Version 1.5.0 Time Sun, Nov 03 2013 at 12:12:49 AM Target(s) [testDir/contextPDS4onlyPHX] File Inclusions [*.*xml] Registry Location http://localhost:8080/registry Registry Package Name Harvest-Package_20131103001249 Registration Package GUID urn:uuid:f5d585db-d13b-41d6-ae4-1c70786b8764 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 183 of 183 associations registered. End of Log </pre> <p>Step 3:</p>

<p>Step 5:</p> <pre> * About to connect() to localhost port 8080 (#0) * Trying ::1... * connected * Connected to localhost (::1) port 8080 (#0) > DELETE /registry/packages/urn:uuid:f5d585db-d13b-41d6-ae4-1c70786b8764/members HTTP/1.1 > User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8x zlib/1.2.5 > Host: localhost:8080 > Accept: */* << HTTP/1.1 200 OK < Server: Apache-Coyote/1.1 < Content-Length: 0 < Date: Sun, 03 Nov 2013 07:17:46 GMT * Connection #0 to host localhost left intact * Closing connection #0 </pre> <p>Step 6: "There is no data to display"</p>	 <p>Step 5:</p> <pre> * About to connect() to localhost port 8080 (#0) * Trying ::1... * connected * Connected to localhost (::1) port 8080 (#0) > DELETE /registry/packages/urn:uuid:f5d585db-d13b-41d6-ae4-1c70786b8764/members HTTP/1.1 > User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8x zlib/1.2.5 > Host: localhost:8080 > Accept: */* << HTTP/1.1 200 OK < Server: Apache-Coyote/1.1 < Content-Length: 0 < Date: Sun, 03 Nov 2013 07:17:46 GMT * Connection #0 to host localhost left intact * Closing connection #0 </pre> <p>Step 6: "There is no data to display"</p>
<p>Comments</p>	<p>Results met success criteria.</p>
<p>Date of Testing</p>	<p>2013.11.03</p>
<p>Test Personnel</p>	<p>Richard Chen</p>

<p>Test Case ID</p>	<p>HVT.2</p>
<p>Description</p>	<p>Execute from a scheduler, accept a configuration file, recursively traverse directories, determine candidates for registration, capture metadata, submit metadata to the Registry Service.</p>
<p>Requirements</p>	<p>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.</p>

<p>Success Criteria</p>	<p>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.</p>
<p>Test Steps</p>	<ol style="list-style-type: none"> 1. Clean database as described in RESETREGISTRY in Section 3.1 2. <code>cd testDir/; mkdir x; mv contextPDS4onlyPHX/* x</code> 3. <code>harvest testDir/contextPDS4onlyPHX -c harvest-policy-master.xml -l log.txt -P 9001 -w 120</code> 4. In browser, http://localhost:8080/registry-ui/ shows no data <p>In a different terminal window</p> <ol style="list-style-type: none"> 5. <code>harvest-ctrl --url http://localhost:9001/xmlrpc --operation --isRunning</code> 6. <code>cd testDir; mv x/* contextPDS4onlyPHX; rmdir x</code> 7. In browser, after at most 120 seconds note changing Num Records. http://localhost:8080/registry-ui/ <p>After Num Records stops increasing</p> <ol style="list-style-type: none"> 8. <code>harvest-ctrl --url http://localhost:9001/xmlrpc --operation --stop</code> 9. <code>grep "products registered" log.txt</code> 10. <code>grep Registration log.txt</code> 11. Replace <i>guid</i> with the GUID from the previous line: <code>curl -X DELETE -v http://localhost:8080/registry/packages/guid/members</code> 12. Check Num Records is original value: http://localhost:8080/registry-ui
<p>Test Results</p>	<p>Step 5: Yes</p> <p>Step 7: Same Num Records as in HVT.1, assuming both started with 0 records</p>  <p>Step 8: Crawl Daemon: [http://localhost:9001/xmlrpc]: shutdown successful</p>

	<p>Step 9:</p> <p>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.</p> <p>Step 11: Same as HVT.1's step 5:</p> <pre>* About to connect() to localhost port 8080 (#0) * Trying ::1... * connected * Connected to localhost (::1) port 8080 (#0) > DELETE /registry/packages/urn:uuid:b3530136-c771-4352-8271-5ead5e609332/members HTTP/1.1 > User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8x zlib/1.2.5 > Host: localhost:8080 > Accept: */* < HTTP/1.1 200 OK < Server: Apache-Coyote/1.1 < Content-Length: 0 < Date: Sun, 03 Nov 2013 07:33:25 GMT * Connection #0 to host localhost left intact * Closing connection #0</pre> <p>Step 12: "There is no data to display" (same as HVT.1's step 6)</p>
Comments	Results met success criteria.
Date of Testing	2013.11.03
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	<ol style="list-style-type: none"> 1. Clean database as described in RESETREGISTRY in Section 3.1 2. <code>cd testDir</code> 3. <code>harvest testDir/contextPDS3 -c harvest-policy-master.xml -l h.out -e "*.xml"</code> 4. Check for harvested files. <code>http://localhost:8080/registry-ui/</code>
Test Results	<p>Step 3: The bottom of h.out should have:</p> <pre>Summary: 27037 of 27037 file(s) processed, 0 other file(s) skipped 0 error(s), 0 warning(s) 27037 of 27037 products registered. 27050 of 27050 ancillary products registered. Product Types Registered: 4195 Product_Target_PDS3 2103 Product_Data_Set_PDS3 1993 Product_Attribute_Definition 593 Product_Instrument_PDS3 69 Product_Mission_PDS3 1472 Product_Subscription_PDS3 79 Product_Class_Definition 8260 Product_Context 191 Product_Instrument_Host_PDS3 13 Product_Collection 5380 Product_Volume_PDS3 2688 Product_Volume_Set_PDS3 1 Product_Bundle 27050 Product_File_Repository 54073 of 54073 associations registered. End of Log</pre> <p>Step 4:</p>

Comments	Results met success criteria.
Date of Testing	2013.11.02
Test Personnel	Richard Chen

Test Case ID	HVT.4
Description	Authorize only authenticated users access to a controlled capacity.
Requirements	<p>PASS L5.GEN.10: Components shall control access to interfaces that alter content.</p> <p>PASS L5.SEC.1: The service shall authenticate a user given identifying credentials for that user.</p> <p>PASS L5.SEC.3: The service shall authorize an authenticated user for access to a controlled capability.</p>
Success Criteria	Registration fails when given invalid credentials.
Test Steps	<ol style="list-style-type: none"> 1. <code>cd binDir/harvest/bin; cp harvest harvest2</code> 2. edit harvest2; change "localhost:8080" to a host:port with a secure registry 3. <code>harvest2 testDir/ contextPDS4onlyPHX -username pBAD_PASSWORD -k badkey -c harvest-policy-master.xml</code>
Test Results	<p>Step 3:</p> <pre><html><head><title>Apache Tomcat/7.0.4 - 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><h1>HTTP Status 401 - </h1><HR size="1" noshade="noshade"><p>type Status report</p><p>message <u></u></p><p>description <u>This request requires HTTP authentication (</u></p><HR size="1" noshade="noshade"><h3>Apache Tomcat/7.0.4</h3></body></html></pre> <p>Summary: 0 of 0 file(s) processed, 0 skipped 0 of 0 products registered. 0 of 0 associations registered, 0 skipped</p>

	End of Log
Comments	Results met success criteria.
Date of Testing	2013.11.03
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	<p>Run harvest with config file that does not accept Product_Document</p> <ol style="list-style-type: none"> 1. harvest <i>testDir/ra_bundle</i> -c harvestPolicyNoDoc.xml -l h.out -e "*.xml" 2. grep -v "SUCCESS\ INFO" h.out uniq 3. In browser, check that no Product_Document was registered: http://localhost:8080/registry-ui <p>Repeat to show nothing more gets registered.</p> <ol style="list-style-type: none"> 4. harvest <i>testDir/ra_bundle</i> -c harvestPolicyNoDoc.xml -l h.out -e "*.xml" 5. http://localhost:8080/registry-ui <p>Run harvest with config file that accepts Product_Document</p> <ol style="list-style-type: none"> 6. harvest <i>testDir/ra_bundle</i> -c harvest-policy-master.xml -l h.out -e "*.xml" 7. grep -v "SUCCESS\ INFO" h.out uniq 8. http://localhost:8080/registry-ui. Click "Object Type", then on the bottom select "Show: 50 records"
Test Results	<p>Step 2: Note the SKIPs of Product_Document:</p> <pre> PDS Harvest Tool Log Version Version 1.5.0 Time Sun, Nov 03 2013 at 01:00:44 AM Target(s) [testDir/ra_bundle] File Inclusions [*.*xml] Registry Location http://localhost:8080/registry Registry Package Name Harvest-Package_20131103010044 Registration Package GUID urn:uuid:e2535639-e5c3-4e53-b2aa-77e090d21d6b SKIP: [testDir/ra_bundle/document/activity_table_desc.xml] 'Product_Document' is not an object type found in the policy file. SKIP: [testDir/ra_bundle/document/ra_dataset.xml] 'Product_Document' is not an object type found in the policy file. SKIP: [testDir/ra_bundle/document/ra_instrument.xml] 'Product_Document' is not an object type found in the policy file. SKIP: [testDir/ra_bundle/document/readme.xml] 'Product_Document' is not an object type found in the policy file. SKIP: [testDir/ra_bundle/context/mars_planet.xml] Not a primary member. SKIP: [testDir/ra_bundle/context/phx.xml] Not a primary member. SKIP: [testDir/ra_bundle/context/ra_phx.xml] Not a primary member. WARNING: [testDir/ra_bundle/document/document_collection_1.xml] Product not found in registry for reference: urn:nasa:pds:phx_ra:document:activity_table_desc::1.0. LIDVID will be used as the target reference for the association. WARNING: [testDir/ra_bundle/document/document_collection_1.xml] Product not found in registry for reference: urn:nasa:pds:phx_ra:document:ra_dataset::1.0. LIDVID will be used as the target reference for the association. WARNING: [testDir/ra_bundle/document/document_collection_1.xml] Product not found in registry for reference: urn:nasa:pds:phx_ra:document:ra_instrument::1.0. LIDVID will be used as the target reference for the association. WARNING: [testDir/ra_bundle/document/document_collection_1.xml] Product not found in registry for reference: urn:nasa:pds:phx_ra:document:readme::1.0. LIDVID will be used as the target reference for the association. Summary: 164 of 164 file(s) processed, 7 other file(s) skipped </pre>

0 error(s), 4 warning(s)
 164 of 164 products registered.
 326 of 326 ancillary products registered.
 Product Types Registered:
 38 Product_Browse
 120 Product_Observational
 1 Product_Context
 1 Product_Bundle
 4 Product_Collection
 326 Product_File_Repository
 488 of 488 associations registered.
 End of Log

Step 3: Note that 490 products are registered

Name	LID	Version	Object Type	Status
Phoenix Robotic Arm Derived Product: sol069	urn:nasa:pds:phx_ra:data_derived:sol069	1.0	Product_Observational	Submitted
pit_test_icy_soil_pic5	urn:nasa:pds:phx_ra:data_test:pit_test_icy_soil_pic5	1.0	Product_Browse	Submitted
pit_test_scraping_pic1	urn:nasa:pds:phx_ra:data_test:pit_test_scraping_pic1	1.0	Product_Browse	Submitted
PHX Robotic Arm Derived Data	urn:nasa:pds:phx_ra:data_test:pit_test_trench_wall_failure_b	1.0	Product_Observational	Submitted
pit_test_duricrust_dig1_pic10	urn:nasa:pds:phx_ra:data_test:pit_test_duricrust_dig1_pic10	1.0	Product_Browse	Submitted
sol049	urn:nasa:pds:phx_ra:data_derived:sol049:sol049.csv	1.0	Product_File_Repository	Submitted
sol034	urn:nasa:pds:phx_ra:data_derived:sol034:sol034.xml	1.0	Product_File_Repository	Submitted
pit_test_duricrust_dig2_pic11	urn:nasa:pds:phx_ra:data_test:pit_test_duricrust_dig2_pic11	1.0	Product_File_Repository	Submitted
pit_test_duricrust_dig1_pic3	urn:nasa:pds:phx_ra:data_test:pit_test_duricrust_dig1_pic3	1.0	Product_Browse	Submitted
sol062	urn:nasa:pds:phx_ra:data_derived:sol062:sol062.xml	1.0	Product_File_Repository	Submitted
Phoenix Robotic Arm Derived Product: sol147a	urn:nasa:pds:phx_ra:data_derived:sol147a	1.0	Product_Observational	Submitted
document_collection_inventory_1	urn:nasa:pds:phx_ra:document:document_collection_inventc	1.0	Product_File_Repository	Submitted
sol090	urn:nasa:pds:phx_ra:data_derived:sol090:sol090.xml	1.0	Product_File_Repository	Submitted
pit_test_duricrust_dig1_pic4	urn:nasa:pds:phx_ra:data_test:pit_test_duricrust_dig1_pic4	1.0	Product_Browse	Submitted
pit_test_post_trench_wall_failure_2	urn:nasa:pds:phx_ra:data_test:pit_test_post_trench_wall_fail	1.0	Product_File_Repository	Submitted
sol099a	urn:nasa:pds:phx_ra:data_derived:sol099a:sol099a.csv	1.0	Product_File_Repository	Submitted
sol074a	urn:nasa:pds:phx_ra:data_derived:sol074a:sol074a.xml	1.0	Product_File_Repository	Submitted
sol006	urn:nasa:pds:phx_ra:data_derived:sol006:sol006.xml	1.0	Product_File_Repository	Submitted
Phoenix Robotic Arm Derived Product: sol071a	urn:nasa:pds:phx_ra:data_derived:sol071a	1.0	Product_Observational	Submitted
Phoenix Robotic Arm Derived Product: sol110	urn:nasa:pds:phx_ra:data_derived:sol110	1.0	Product_Observational	Submitted

1 of 25 Total Records: 490 Show: 20 records

Step 5: Note that still only 490 products are registered

Step 7: Many ERRORS for "Product already exists".

Step 8: Note that 1) 502 products are registered and 2) there are 4 Product Documents

<input type="checkbox"/>	Name	LID	Version Name	Object Type	Status
<input type="checkbox"/>	pit_test_scraping_pic1	urn:nasa:pds:phx_ra:data_test:pit_test_scraping	1.0	Product_Browse	Submitted
<input type="checkbox"/>	pit_test_pre_trench_wall_failure	urn:nasa:pds:phx_ra:data_test:pit_test_pre_trench	1.0	Product_Browse	Submitted
<input type="checkbox"/>	pit_test_post_trench_wall_failure_2	urn:nasa:pds:phx_ra:data_test:pit_test_post_trench	1.0	Product_Browse	Submitted
<input type="checkbox"/>	pit_test_post_trench_wall_failure_1	urn:nasa:pds:phx_ra:data_test:pit_test_post_trench	1.0	Product_Browse	Submitted
<input type="checkbox"/>	Phoenix Robotic Arm Data Set	urn:nasa:pds:phx_ra	1.0	Product_Bundle	Submitted
<input type="checkbox"/>	Phoenix Robotic Arm Derived Data	urn:nasa:pds:phx_ra:context	1.0	Product_Collection	Submitted
<input type="checkbox"/>	Phoenix Robotic Arm Derived Data	urn:nasa:pds:phx_ra:data_derived	1.0	Product_Collection	Submitted
<input type="checkbox"/>	Phoenix Robotic Arm Test Data	urn:nasa:pds:phx_ra:data_test	1.0	Product_Collection	Submitted
<input type="checkbox"/>	Phoenix Robotic Arm Document Collection	urn:nasa:pds:phx_ra:document	1.0	Product_Collection	Submitted
<input type="checkbox"/>	Phoenix Mission to Mars	urn:nasa:pds:context:investigation:phoenix	1.0	Product_Context	Submitted
<input type="checkbox"/>	Introduction for Phoenix Robotic Arm Dataset	urn:nasa:pds:phx_ra:document:readme	1.0	Product_Document	Submitted
<input type="checkbox"/>	Phoenix Robotic Arm Instrument Description	urn:nasa:pds:phx_ra:document:ra_instrument	1.0	Product_Document	Submitted
<input type="checkbox"/>	Phoenix Robotic Arm Dataset Description	urn:nasa:pds:phx_ra:document:ra_dataset	1.0	Product_Document	Submitted
<input type="checkbox"/>	Description of Phoenix Robotic Arm Activities	urn:nasa:pds:phx_ra:document:activity_table_de	1.0	Product_Document	Submitted
<input type="checkbox"/>	readme	urn:nasa:pds:phx_ra:document:readme:readme	1.0	Product_File_Repository	Submitted
<input type="checkbox"/>	readme	urn:nasa:pds:phx_ra:document:readme:readme	1.0	Product_File_Repository	Submitted


Total Records: 502
 Show:

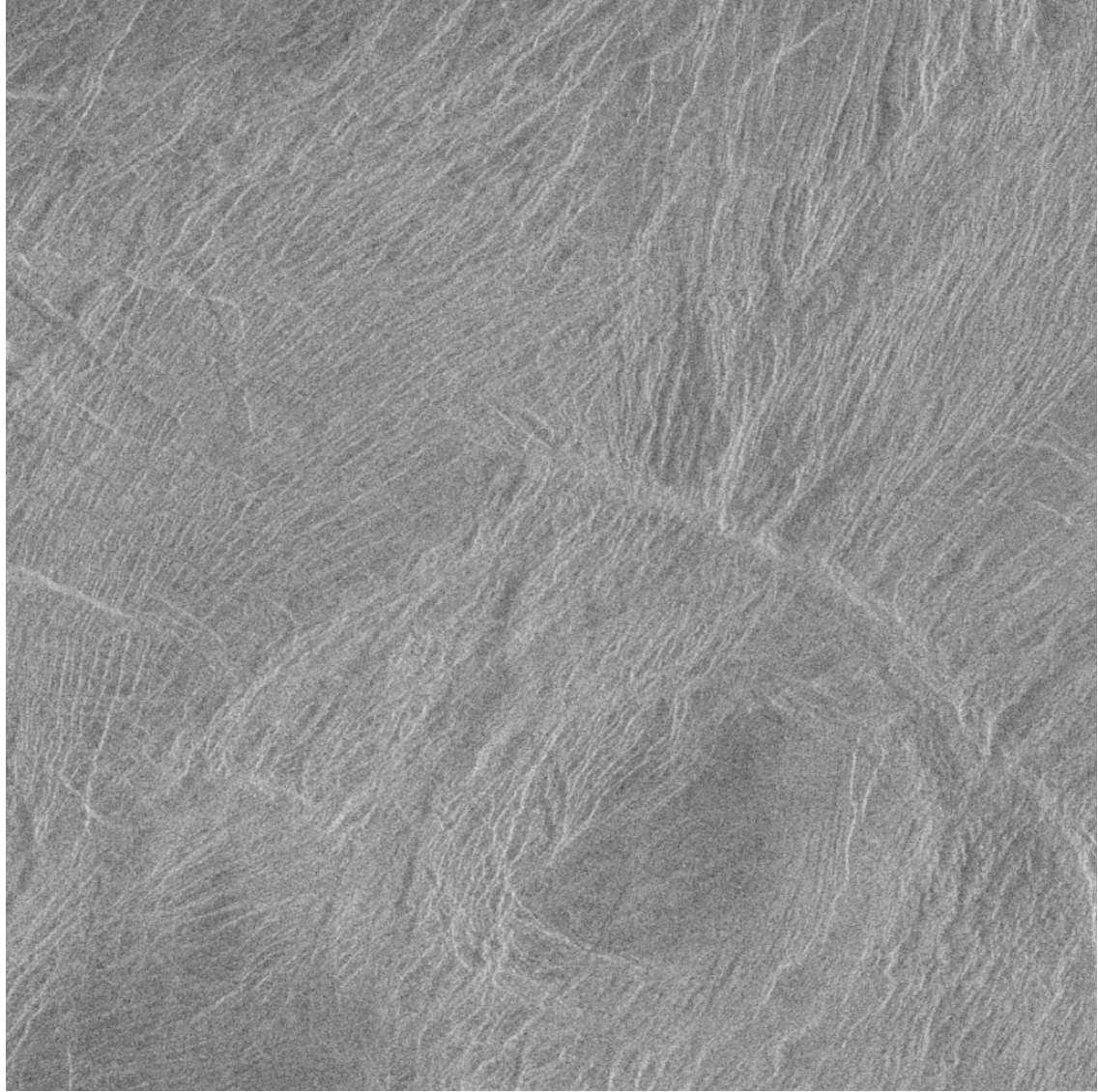
Comments	Results met success criteria.
Date of Testing	2013.11.03 https://oodt.jpl.nasa.gov/jira/browse/PDS-166 , created during testing of build 3b, requests an improvement: check if secondary members match primary members.
Test Personnel	Richard Chen

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	<p>Some files in testDir/testHarvest/ come from PDS3 labels. Generate automatically and compare. Step 3 would be better with an xml diff.</p> <ol style="list-style-type: none"> cd testDir/ generate -p testPrep/gen_ELE_MOM.LBL -t testPrep/gen_data.vm -o ele_mom.pds4.lbl diff -w testPrep/gen_ele_mom_pds4.xml ele_mom.pds4.lbl
Test Results	<p>Step 2: New PDS4 Label: testDir/ele_mom.pds4.lbl</p> <p>Step 3:</p> <pre> 1,7c1 <<Product_Observational xmlns="http://pds.nasa.gov/schema/pds4/pds/v06" < xmlns:pds="http://pds.nasa.gov/schema/pds4/pds/v06" < xmlns:dph="http://pds.nasa.gov/schema/pds4/dph/v01" < 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"> < < ---</pre>

	<pre> > <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"> 24d17 < 71d63 < 80,81c72 < <Node_Area> < </Node_Area> --- > <Node_Area/> 83d73 < 102,129d91 < <Field_Character> < <name>TIME</name> < <field_number>1</field_number> < <field_location>1</field_location> < <data_type>ASCII_Time</data_type> < <field_length>24</field_length> < <description> < Time column. This field contains time in PDS format < yyyy-mm-ddThh:mm:ss.sssZ. The individual elements of the < time field can be read using the format < (i4,4(1x,i2),1x,f6.3) yr, mon, day, hr, min, sec. < </description> < </Field_Character> < <Field_Character> < <name>ELE_DEN</name> < <field_number>2</field_number> < <field_location>25</field_location> < <data_type>ASCII_Real</data_type> < <field_length>10</field_length> < <unit>count/cm**3</unit> < <description> < Column contains total electron moment density in counts/cm^3. < </description> < <Special_Constants> < <missing_constant>-9.99e+10</missing_constant> < </Special_Constants> < </Field_Character> 134c96 < <data_type>ASCII_Real</data_type> --- > <data_type>ASCII_REAL</data_type> 136,140c98 < <unit>electronvolt</unit> < <description> < Column contains total electron moment temperature in units of < electron volts. < </description> --- > <description>Column contains total electron moment temperature in units of electron volts.</description> </pre>
<p>Comments</p>	<p>Generate converts most constructs in a PDS3 label into a PDS4 label.</p> <p>Results met success criteria.</p> <p>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.</p>
<p>Date of Testing</p>	<p>2013.11.03</p>

Test Personnel	Richard Chen
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Test Case ID	PRT.1
Description	Transform PDS4 images into other formats. Transform is built upon a Java API.
Requirements	PASS L4.PRP.4: The system shall provide a tool for transforming PDS products as follows... PASS L5.GEN.4: Tools shall have an application programming interface.
Success Criteria	Input and output images look the same.
Test Steps	<ol style="list-style-type: none"> 1. <code>cd testDir/</code> 2. <code>transform testPrep/i943630r.xml -o x.jpg -f jpg</code> 3. <code>transform testPrep/tfm_FF01.LBL -o x.bmp -f bmp</code>
Test Results	<p>Step 2 x.jpg:</p>  <p>Step 3:</p>

	
Comments	Results met success criteria.
Date of Testing	2013.11.03
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	<p>PASS L5.PRP.VA.1: The tool shall accept the following as input for specifying the product(s) to be validated...</p> <p>PASS L5.PRP.VA.2: The tool shall traverse a directory tree and validate products discovered within that tree.</p> <p>PASS L5.PRP.VA.5: The tool shall verify that a product label is well-formed XML.</p> <p>PASS L5.PRP.VA.6: The tool shall verify that a product label conforms to its associated schema file(s).</p> <p>PASS L5.PRP.VA.9: The tool shall indicate the schema(s) utilized during validation.</p> <p>PASS L5.GEN.4: Tools shall have an application programming interface.</p> <p>PASS L5.GEN.7: Tools shall generate a report detailing results from a single execution of the tool.</p>
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

	<p>the validation. Ensures that a product label is well-formed XML and conforms to its schemas.</p>
<p>Test Steps</p>	<ol style="list-style-type: none"> 1. <code>cd testDir/</code> 2. <code>validate clem_bundle/data/collection_1.0.xml -m0300a</code> <p>The clem_bundle was created using PDS schema 0300a. An alternative to -m0300a is -x clem_bundle/XML_Schema/PDS4_PDS_0300a.xsd -S clem_bundle/XML_Schema/PDS4_PDS_0300a.sch</p> <ol style="list-style-type: none"> 3. <code>validate clem_bundle -e "*.xml" -m0300a</code> <p>Clear errors caused by missing local data dictionary.</p> <ol style="list-style-type: none"> 4. <code>validate clem_bundle -e "*.xml" -m0300a -x clem_bundle/XML_Schema/imaging_dictionary.xsd clem_bundle/XML_Schema/PDS4_PDS_0300a.xsd</code>
<p>Test Results</p>	<p>Step 2:</p> <pre> PDS Validate Tool Report Configuration: Version 1.4.0 Date 2013-11-04T04:02:55Z Core Schemas [PDS4_OPS_0300a.xsd] Core Schematrons [PDS4_OPS_0300a.sch] Model Version 0300a Parameters: Targets [file:testDir/clem_bundle/data/collection_1.0.xml] Severity Level Warnings Recurse Directories true Validation Details: PASS: file:testDir/clem_bundle/data/collection_1.0.xml Summary: 1 of 1 file(s) processed, 0 skipped 1 of 1 file(s) passed validation End of Report </pre> <p>Step 3: the files with locally defined keywords (in this example, "img:") fail.</p> <pre> PDS Validate Tool Report Configuration: Version 1.4.0 Date 2013-11-04T04:05:22Z Core Schemas [PDS4_OPS_0300a.xsd] Core Schematrons [PDS4_OPS_0300a.sch] Model Version 0300a Parameters: Targets [file:testDir/clem_bundle/] Severity Level Warnings Recurse Directories true File Filters Used [*.*xml] Validation Details: PASS: file:testDir/clem_bundle/bundle_1.xml PASS: file:testDir/clem_bundle/data/collection_1.0.xml FAIL: file:testDir/clem_bundle/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/clem_bundle/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/clem_bundle/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'. </pre>

	<pre> 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/clem_bundle/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/clem_bundle/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/clem_bundle/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/clem_bundle/document/collection_1.0.xml PASS: file:testDir/clem_bundle/document/volinfo.xml PASS: file:testDir/clem_bundle/miscellaneous/transfer_manifest.xml PASS: file:testDir/clem_bundle/XML_Schema/collection_1.0.xml PASS: file:testDir/clem_bundle/XML_Schema/imaging_dictionary.xml PASS: file:testDir/clem_bundle/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 4: PDS Validate Tool Report Configuration: Version 1.4.0 Date 2013-11-04T04:13:12Z Core Schematrons [PDS4_OPS_0300a.sch] Model Version 0300a Parameters: Targets [file:testDir/clem_bundle/] User Specified Schemas [clem_bundle/XML_Schema/imaging_dictionary.xsd, clem_bundle/XML_Schema/PDS4_PDS_0300a.xsd] Severity Level Warnings Recurse Directories true File Filters Used [*.*xml] Validation Details: PASS: file:testDir/clem_bundle/bundle_1.xml PASS: file:testDir/clem_bundle/data/collection_1.0.xml PASS: file:testDir/clem_bundle/data/bi00_35n/bi03n003.xml PASS: file:testDir/clem_bundle/data/bi00_35n/bi03n009.xml PASS: file:testDir/clem_bundle/data/bi35_70n/bi38n065.xml PASS: file:testDir/clem_bundle/data/bi35_70n/bi38n075.xml PASS: file:testDir/clem_bundle/data/bi70_35s/bi38s245.xml PASS: file:testDir/clem_bundle/data/bi70_35s/bi38s255.xml PASS: file:testDir/clem_bundle/document/collection_1.0.xml PASS: file:testDir/clem_bundle/document/volinfo.xml PASS: file:testDir/clem_bundle/miscellaneous/transfer_manifest.xml PASS: file:testDir/clem_bundle/XML_Schema/collection_1.0.xml PASS: file:testDir/clem_bundle/XML_Schema/imaging_dictionary.xml PASS: file:testDir/clem_bundle/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 </pre>
<p>Comments</p>	<p>Results met success criteria.</p> <p>http://oodt.jpl.nasa.gov/jira/browse/PDS-85, created during testing of build 2c, requests a new feature: that validate tool 1) try the default schematron, and 2) upon</p>

	failure, try the schematron listed in the file and note that in the output.
Date of Testing	2013.11.03
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	<ol style="list-style-type: none"> 1. mv clem_bundle/ data/ collection_1.0.tab . 2. validate clem_bundle/ data/ collection_1.0.xml -m0300a 3. mv collection_1.0.tab clem_bundle/ data/ 4. validate clem_bundle/ data/ collection_1.0.xml -m0300a
Test Results	<p>Step 2:</p> <pre> PDS Validate Tool Report Configuration: Version 1.4.0 Date 2013-11-04T04:31:45Z Core Schemas [PDS4_OPS_0300a.xsd] Core Schematrons [PDS4_OPS_0300a.sch] Model Version 0300a Parameters: Targets [file:testDir/clem_bundle/data/collection_1.0.xml] Severity Level Warnings Recurse Directories true Validation Details: FAIL: file:testDir/clem_bundle/data/collection_1.0.xml ERROR line 103: URI reference does not exist: file:testDir/clem_bundle/data/collection_1.0.tab Summary: 1 of 1 file(s) processed, 0 skipped 0 of 1 file(s) passed validation End of Report </pre> <p>Step 4:</p> <pre> PDS Validate Tool Report Configuration: Version 1.4.0 Date 2013-11-04T04:32:46Z Core Schemas [PDS4_OPS_0300a.xsd] Core Schematrons [PDS4_OPS_0300a.sch] Model Version 0300a Parameters: Targets [file:testDir/clem_bundle/data/collection_1.0.xml] Severity Level Warnings Recurse Directories true Validation Details: PASS: file:testDir/clem_bundle/data/collection_1.0.xml Summary: 1 of 1 file(s) processed, 0 skipped 1 of 1 file(s) passed validation End of Report </pre>
Comments	Results met success criteria.
Date of Testing	2013.11.03
Test Personnel	Richard Chen

Test Case ID	PRV.4 *not ready for build 4a. This is reserved for future testing
Description	Merge label fragments

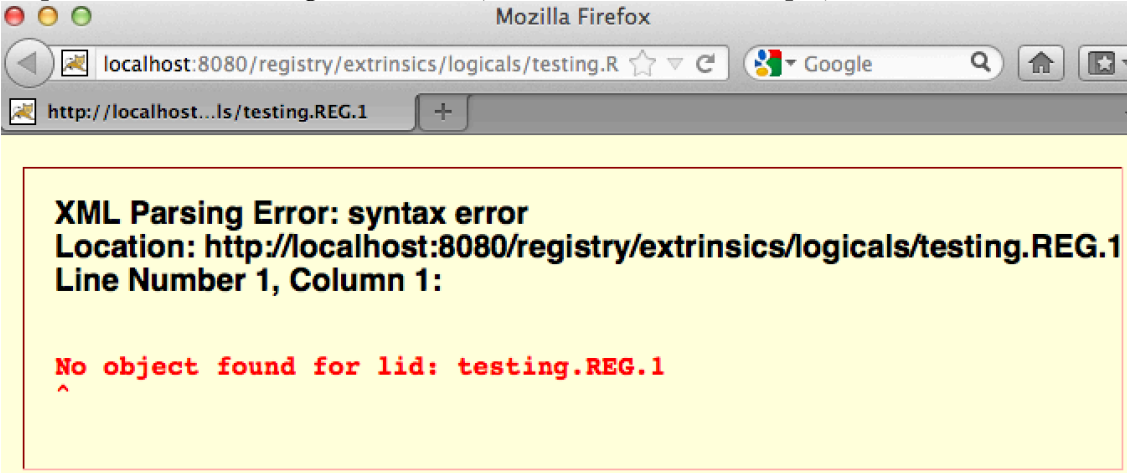
Requirements	SKIP L5.PRP.VA.4: The tool shall merge the contents of label fragments referenced by include elements with the contents of the parent label when validating a product.
Success Criteria	After merging, resulting label validates as if the fragments were physically merged.
Test Steps	
Test Results	
Comments	
Date of Testing	
Test Personnel	

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	<p>The validate tool does not accept a schema as its target, i.e. this does not work validate PDS4_PDS_1100.xsd</p> <p>However, validate, when validating a label file, does complain when the schema is bad</p> <ol style="list-style-type: none"> validate ra_bundle/bundle_1.xml -x PDS4_PDS_1100.xsd diff -C1 PDS4_PDS_1100.xsd testPrep/PDS4_PDS_1100.bad.xsd validate ra_bundle/bundle_1.xml -x testPrep/PDS4_PDS_1100.bad.xsd
Test Results	<p>Step 1:</p> <pre> PDS Validate Tool Report Configuration: Version 1.4.0 Date 2013-11-04T04:46:30Z Core Schematrons [PDS4_PDS_1100.sch] Model Version 1100 Parameters: Targets [file:testDir/ra_bundle/bundle_1.xml] User Specified Schemas [PDS4_PDS_1100.xsd] Severity Level Warnings Recurse Directories true Validation Details: PASS: file:testDir/ra_bundle/bundle_1.xml Summary: 1 of 1 file(s) processed, 0 skipped 1 of 1 file(s) passed validation End of Report </pre> <p>Step 2:</p> <pre> *** PDS4_PDS_1100.xsd 2013-10-01 08:58:01.000000000 -0700 --- testPrep/PDS4_PDS_1100.bad.xsd 2013-11-03 20:47:53.000000000 -0800 ***** *** 12,14 **** <xs:complexType name="Ingest_LDD"> ! <xs:annotation> <xs:documentation> The Ingest_LDD class provides a form for collecting class and attribute definitions. </xs:documentation> --- 12,14 --- <xs:complexType name="Ingest_LDD"> ! <!--xs:annotation--> <xs:documentation> The Ingest_LDD class provides a form for collecting class and attribute definitions. </xs:documentation> </pre> <p>Step 3:</p> <pre> PDS Validate Tool Report Configuration: Version 1.4.0 Date 2013-11-04T04:49:05Z </pre>

	<p>Core Schematrons [PDS4_PDS_1100.sch] Model Version 1100 Parameters: Targets [file:testDir/ra_bundle/bundle_1.xml] User Specified Schemas [testPrep/PDS4_PDS_1100.bad.xsd] Severity Level Warnings Recurse Directories true Validation Details: FAIL: file:testDir/ra_bundle/bundle_1.xml FATAL_ERROR line 15, 7: The element type "xs:complexType" must be terminated by the matching end-tag "</xs:complexType>". Summary: 1 of 1 file(s) processed, 0 skipped 0 of 1 file(s) passed validation End of Report</p>
Comments	Results met success criteria.
Date of Testing	2013.11.03
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	2013.11.03
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	<p>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.</p>
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	<p>Clean database as described in RESETREGISTRY in Section 3.1</p> <ol style="list-style-type: none"> cd testDir http://localhost:8080/registry/extrinsics/logicals/testing.REG.1 in a browser shows no current product has lid "testing.REG.1", which input

	<p>files test.REG.1[ab].xml have.</p> <ol style="list-style-type: none"> 3. curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.1a.xml http://localhost:8080/registry/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/extrinsics registers a good input file 6. Repeat step 2 to see the lid 7. curl -X DELETE --verbose http://localhost:8080/registry/extrinsics/testing.REG.1.v1.0 8. Repeat step 2 to ensure lid no longer exists 9. curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.1c.xml http://localhost:8080/registry/extrinsics registers a good input file with different values for the phone numbers 10. Repeat step 2 to see the changed values
<p>Test Results</p>	<p>Step 2: The error message should be (if lid does exist, run step 7):</p>  <p>Step 3:</p> <pre> * About to connect() to localhost port 8080 (#0) * Trying ::1... * connected * Connected to localhost (::1) port 8080 (#0) > POST /registry/extrinsics HTTP/1.1 > User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8x 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-Length: 990 < Date: Mon, 04 Nov 2013 06:23:03 GMT < Connection: close * Closing connection #0 <html><head><title>Apache Tomcat/7.0.30 - 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><h1>HTTP Status 400 - Bad Request</h1><hr size="1" noshade="noshade"><p>type Status report</p><p>message <u>Bad Request</u></p><p>description <u>The request sent by the client was syntactically </pre>

```
incorrect.</u></p><hr size="1" noshade="noshade"><h3>Apache
Tomcat/7.0.30</h3></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/extrinsics HTTP/1.1
> User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8x 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/extrinsics/testing.REG.1.v1.0
< Content-Type: application/xml
< Transfer-Encoding: chunked
< Date: Mon, 04 Nov 2013 06:26:34 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:

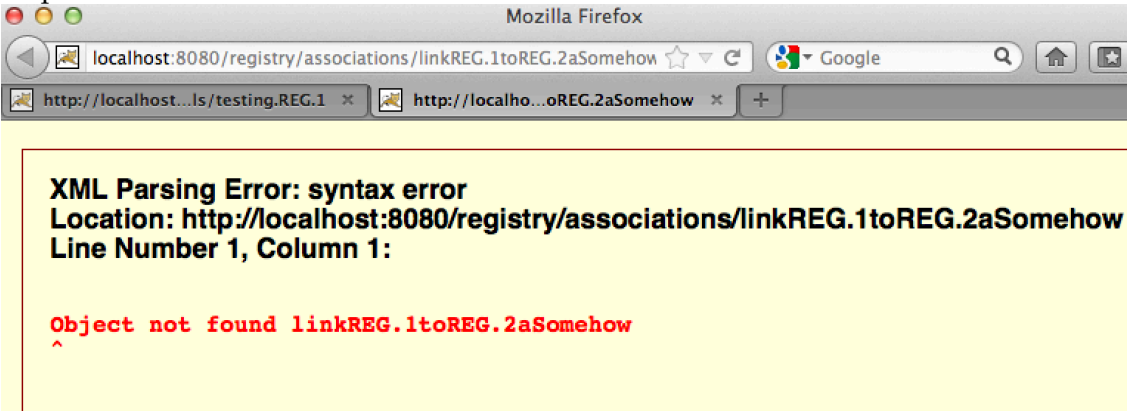
```
- <ns2:response>
- <ns2:results>
- <ns2:extrinsicObject versionName="1.0" description="Stolen from http://pdscm/2010/registry
/registry-service/operate/index.html with attribute lid above changed for uniqueness"
status="Submitted" objectType="Product" name="Product 1234 v1" lid="testing.REG.1"
home="http://localhost:8080/registry" guid="testing.REG.1.v1.0">
- <ns2:slot name="last-name" id="141">
<ns2:value>Doe</ns2:value>
</ns2:slot>
- <ns2:slot name="first-name" id="142">
<ns2:value>John</ns2:value>
</ns2:slot>
- <ns2:slot name="phone" id="143">
<ns2:value>(818)777-7777</ns2:value>
<ns2:value>(818)888-8888</ns2:value>
</ns2:slot>
</ns2:extrinsicObject>
</ns2:results>
</ns2:response>
```


Step 7:

```
* About to connect() to localhost port 8080 (#0)
* Trying ::1...
* connected
* Connected to localhost (::1) port 8080 (#0)
> DELETE /registry/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/0.9.8x zlib/1.2.5
> Host: localhost:8080
> Accept: */*
< HTTP/1.1 200 OK
< Server: Apache-Coyote/1.1
< Content-Type: application/xml
< Content-Length: 0
< Date: Mon, 04 Nov 2013 06:27:52 GMT
* Connection #0 to host localhost left intact
* Closing connection #0
```

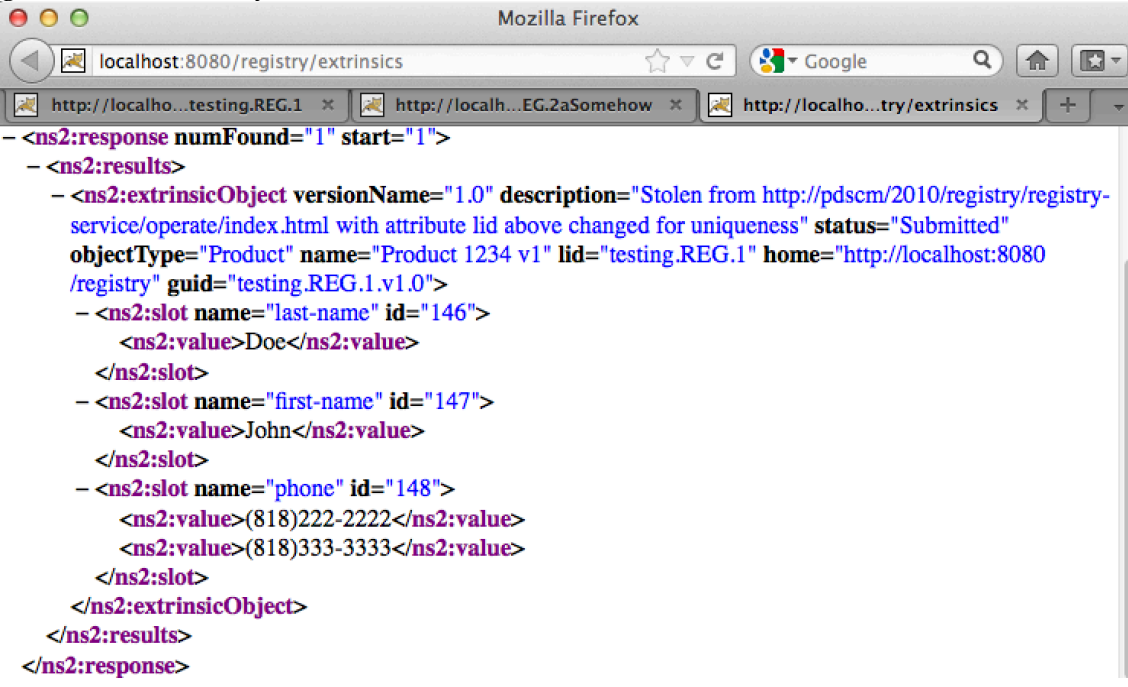
Step 8: Same as step 2

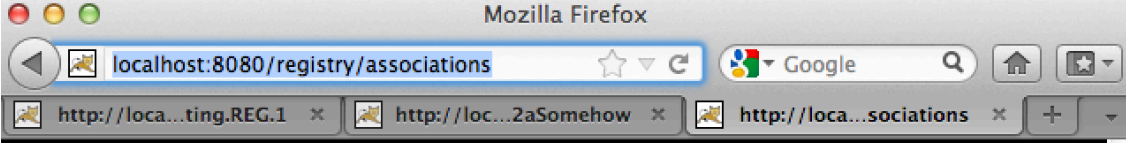
	<p>Step 9:</p> <pre> * About to connect() to localhost port 8080 (#0) * Trying ::1... * connected * Connected to localhost (::1) port 8080 (#0) > POST /registry/extrinsics HTTP/1.1 > User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8x zlib/1.2.5 > Host: localhost:8080 > Accept: */* > Content-type:application/xml > Content-Length: 630 * upload completely sent off: 630 out of 630 bytes < HTTP/1.1 201 Created < Server: Apache-Coyote/1.1 < Location: http://localhost:8080/registry/extrinsics/testing.REG.1.v1.0 < Content-Type: application/xml < Transfer-Encoding: chunked < Date: Mon, 04 Nov 2013 06:29:02 GMT * Connection #0 to host localhost left intact testing.REG.1.v1.0* Closing connection #0 </pre> <p>Step 10: Similar to step 6 but with different values for the phone numbers, i.e. from (818)777-7777 and (818)888-8888 to (818)222-2222 and (818)333-3333</p>
Comments	Results met success criteria.
Date of Testing	2013.11.03
Test Personnel	Richard Chen

Test Case ID	REG.2
Description	Relate artifact registrations. Query and delete such associations.
Requirements	<p>PASS L5.REG.2: The service shall provide a means for relating artifact registrations.</p> <p>PASS L5.REG.13: The service shall allow deletion of registered artifacts.</p> <p>PASS L5.REG.14: The service shall allow queries for registered artifacts.</p>
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	<ol style="list-style-type: none"> 1. http://localhost:8080/registry/associations/linkREG.1toREG.2aSomehow shows no such associations 2. curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.2.xml http://localhost:8080/registry/associations adds 1 association (from a nonexistent sourceLid) to desired targetLid 3. Repeat step 1 to see the association. Note the guid 4. curl -X DELETE -v http://localhost:8080/registry/associations/guid 5. Repeat step 1 to see no association
Test Results	<p>Step 1: The error should look like</p> 

	<p>If not (i.e. if output looks like step 3's below <pre>curl -X DELETE -v http://localhost:8080/registry/associations/linkREG.1toREG.2aSomehow</pre> Step 2: Benign output messages without "ERROR" <pre>* About to connect() to localhost port 8080 (#0) * Trying ::1...* connected * Connected to localhost (::1) port 8080 (#0) > POST /registry/associations HTTP/1.1 > User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8x zlib/1.2.5 > Host: localhost:8080 > Accept: */* > Content-type:application/xml > Content-Length: 232 * upload completely sent off: 232 out of 232 bytes < HTTP/1.1 201 Created < Server: Apache-Coyote/1.1 < Location: http://localhost:8080/registry/associations/linkREG.1toREG.2aSomehow < Content-Type: text/plain < Transfer-Encoding: chunked < Date: Mon, 04 Nov 2013 06:31:52 GMT * Connection #0 to host localhost left intact linkREG.1toREG.2aSomehow* Closing connection #0</pre> Step 3:  <pre><ns2:association associationType="associatedTo" targetObject="testing.REG.1" sourceObject="testing.REG.2a" versionName="1.0" status="Submitted" objectType="Association" lid="urn:uuid:8dd9d200-f112-420f- 313-1fd704da2ec2" home="http://localhost:8080/registry" guid="linkREG.1toREG.2aSomehow"/></pre> Step 4: <pre>* About to connect() to localhost port 8080 (#0) * Trying ::1... * connected * Connected to localhost (::1) port 8080 (#0) > DELETE /registry/associations/linkREG.1toREG.2aSomehow HTTP/1.1 > User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8x zlib/1.2.5 > Host: localhost:8080 > Accept: */* < HTTP/1.1 200 OK < Server: Apache-Coyote/1.1 < Content-Length: 0 < Date: Mon, 04 Nov 2013 06:40:01 GMT * Connection #0 to host localhost left intact * Closing connection #0</pre> Step 5: same as step 1</p>
Comments	Results met success criteria.
Date of Testing	2013.11.03
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/extrinsics

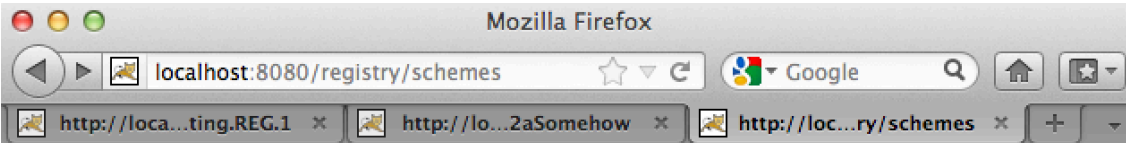
	<p>http://localhost:8080/registry/associations http://localhost:8080/registry/services http://localhost:8080/registry/schemes http://localhost:8080/registry/events http://localhost:8080/registry/packages</p>
<p>Test Results</p>	<p>Specific results will differ, but every item in every class has XML attributes objectType, guid. Each class may have others attributes such as lid, name, home.</p>  <pre> - <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="146"> <ns2:value>Doe</ns2:value> </ns2:slot> - <ns2:slot name="first-name" id="147"> <ns2:value>John</ns2:value> </ns2:slot> - <ns2:slot name="phone" id="148"> <ns2:value>(818)222-2222</ns2:value> <ns2:value>(818)333-3333</ns2:value> </ns2:slot> </ns2:extrinsicObject> </ns2:results> </ns2:response> </pre>



```

- <ns2:response numFound="69" start="1">
  - <ns2:results>
    <ns2:association associationType="associatedTo" targetObject="testing.REG.1"
      sourceObject="testing.REG.2a" versionName="1.0" status="Submitted"
      objectType="Association" lid="urn:uuid:185104d9-b86c-440b-a1fb-aa22d3c29287"
      home="http://localhost:8080/registry" guid="linkREG.1toREG.2aSomehow"/>
    - <ns2:association associationType="urn:registry:AssociationType:HasMember"
      targetObject="urn:nasa:pds:profile:regrep:ObjectType:Product_Collection"
      sourceObject="urn:uuid:18bec309-bede-4fe5-96bc-9af1aa43732e" status="Submitted"
      objectType="Association" home="http://localhost:8080/registry"
      guid="urn:uuid:00be2fec-b598-4396-948f-61699f9c6bcd">
      - <ns2:slot name="targetObjectType" id="47">
        <ns2:value>ClassificationNode</ns2:value>
      </ns2:slot>
    </ns2:association>
    - <ns2:association associationType="urn:registry:AssociationType:HasMember"
      targetObject="urn:nasa:pds:profile:regrep:ObjectType:Product_Mission_PDS3"
      sourceObject="urn:uuid:18bec309-bede-4fe5-96bc-9af1aa43732e" status="Submitted"
      objectType="Association" home="http://localhost:8080/registry"
      guid="urn:uuid:057417a9-f4f6-4416-9c5e-1a7b54d0fe03">
      - <ns2:slot name="targetObjectType" id="67">
        <ns2:value>ClassificationNode</ns2:value>
      </ns2:slot>
    </ns2:association>
  - <ns2:association associationType="urn:registry:AssociationType:HasMember"

```



```

- <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>

```

The image shows two screenshots of a Mozilla Firefox browser window. The top screenshot displays the URL `localhost:8080/registry/event` and the page content is an XML response from `http://localhost...registry/events`. The XML structure is as follows:

```

- <ns2:response numFound="77" start="1">
  - <ns2:results>
    - <ns2:auditableEvent user="Unknown" timestamp="2013-11-03T22:40:01.090-08:00"
      requestId="deleteObjectById linkREG.1toREG.2aSomehow" eventType="Deleted"
      objectType="AuditableEvent" home="http://localhost:8080/registry"
      guid="urn:uuid:bf31c402-2f37-41bb-9f25-73de97ddc0c5">
      - <ns2:slot name="affectedObjectTypes" id="151">
        <ns2:value>Association</ns2:value>
      </ns2:slot>
      <ns2:affectedObject>linkREG.1toREG.2aSomehow</ns2:affectedObject>
    </ns2:auditableEvent>
    - <ns2:auditableEvent user="Unknown" timestamp="2013-11-03T22:31:52.831-08:00"
      requestId="publishObject linkREG.1toREG.2aSomehow" eventType="Created"
      objectType="AuditableEvent" home="http://localhost:8080/registry"
      guid="urn:uuid:085a8243-c1d6-4566-9eb7-19efc664617a">
      - <ns2:slot name="affectedObjectTypes" id="150">
        <ns2:value>Association</ns2:value>
      </ns2:slot>
      <ns2:affectedObject>linkREG.1toREG.2aSomehow</ns2:affectedObject>
    </ns2:auditableEvent>
    - <ns2:auditableEvent user="Unknown" timestamp="2013-11-03T22:29:02.575-08:00"
      requestId="publishObject testing.REG.1.v1.0" eventType="Created"
      objectType="AuditableEvent" home="http://localhost:8080/registry">
  </ns2:results>
</ns2:response>
  
```

The bottom screenshot shows the URL `localhost:8080/registry/packages` and the page content is an XML response from `http://loca...ting.REG.1`. The XML structure is as follows:

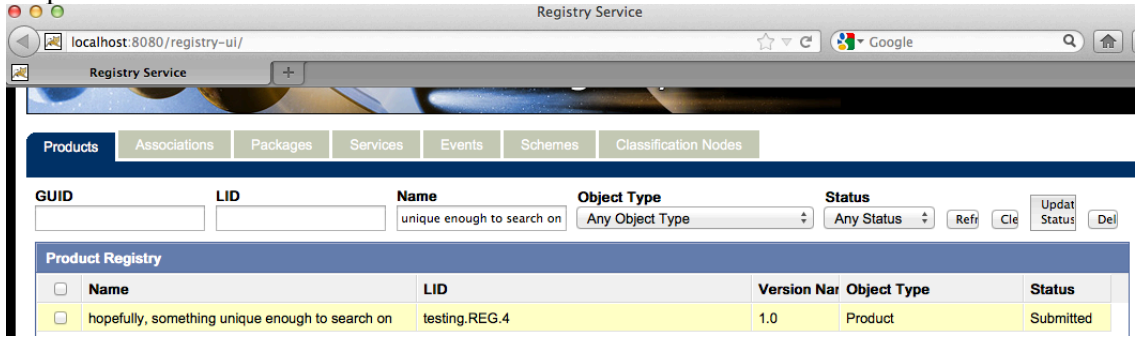
```

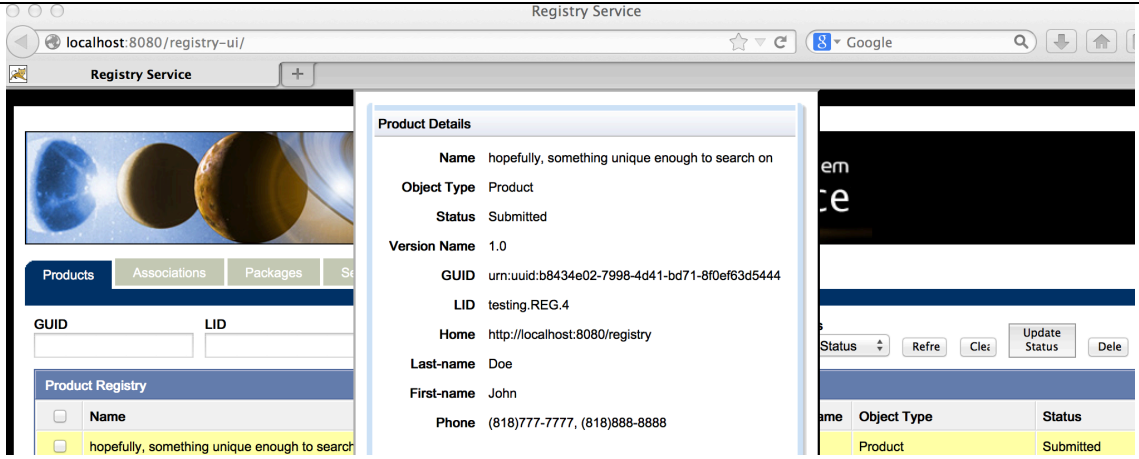
- <ns2:response numFound="4" start="1">
  - <ns2:results>
    <ns2:registryPackage versionName="1.0" description="This configures PDS object
      types" status="Submitted" objectType="RegistryPackage" name="PDS Objects"
      lid="urn:uuid:308652b2-918f-4c69-b493-764558f65c3a" home="http://localhost:8080
      /registry" guid="urn:uuid:18bec309-bede-4fe5-96bc-9af1aa43732e"/>
    <ns2:registryPackage versionName="1.0" description="This configures the core set of
      registry objects" status="Submitted" objectType="RegistryPackage" name="Core
      Objects" lid="urn:uuid:1246bf55-a65b-4fcc-83ee-78e5f655f809"
      home="http://localhost:8080/registry" guid="urn:uuid:2229ab82-86f3-4171-8f8b-
      69eb3709fda4"/>
    <ns2:registryPackage versionName="1.0" description="This configures the core set of
      associations" status="Submitted" objectType="RegistryPackage" name="Core
      Associations" lid="urn:uuid:8e515047-56c2-464b-96f4-7c7863391a94"
      home="http://localhost:8080/registry" guid="urn:uuid:31af9a0c-b316-4828-969b-
      222d60e4db46"/>
    <ns2:registryPackage versionName="1.0" description="This configures PDS
      association types" status="Submitted" objectType="RegistryPackage" name="PDS
      Associations" lid="urn:uuid:67be7556-ea91-489a-82c6-a66fb53d0115"
      home="http://localhost:8080/registry" guid="urn:uuid:e9e3ecec-63d9-4686-
      b099-44a3970e8b5c"/>
  </ns2:results>
</ns2:response>
  
```

Comments

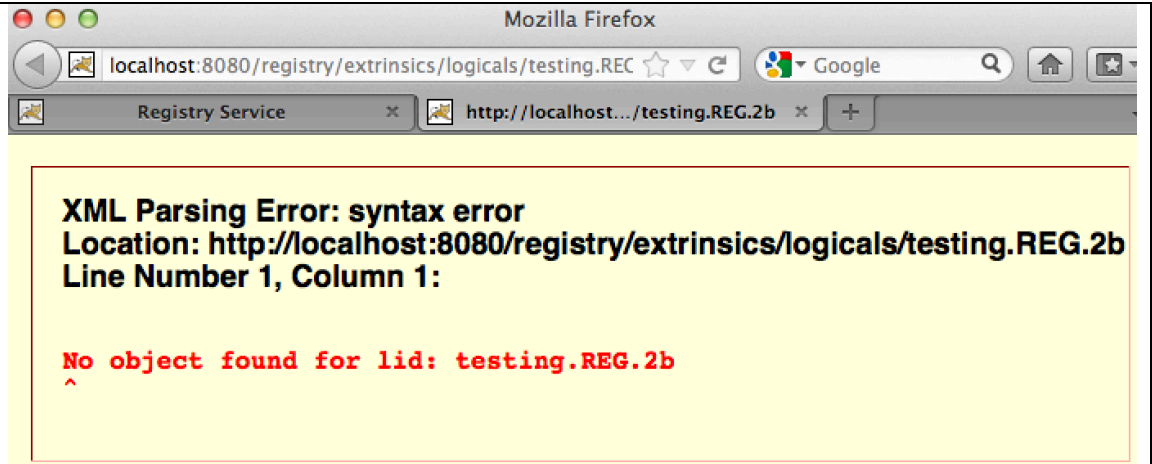
Results met success criteria.

Date of Testing	2013.11.03
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	<ol style="list-style-type: none"> curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.4.xml http://localhost:8080/registry/extrinsics In a browser, http://localhost:8080/registry-ui Under "Name", enter "hopefully, something unique enough to search on" from test.REG.4.xml. Click "Refresh" Click anywhere on the row to see Product Details including GUID curl -X DELETE -v http://localhost:8080/registry/extrinsics/guidFromLastStep Click the "Refresh" button again.
Test Results	<p>Step 1: Note the value (an assigned LID) of "Location:" in the positive message:</p> <pre>* About to connect() to localhost port 8080 (#0) * Trying ::1... * connected * Connected to localhost (::1) port 8080 (#0) > POST /registry/extrinsics HTTP/1.1 > User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8r 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/extrinsics/urn:uuid:dadf8220-6a3a-4430-9ca0-253875e513a7 < Content-Type: application/xml < Transfer-Encoding: chunked < Date: Mon, 04 Nov 2013 06:56:21 GMT * Connection #0 to host localhost left intact urn:uuid:b8434e02-7998-4d41-bd71-8f0ef63d5444* Closing connection #0</pre> <p>Step 3:</p>  <p>Step 4: Note that the GUID matches the assigned GUID from Step 1</p>

	 <p>The screenshot shows a web browser window titled 'Registry Service' at the URL 'localhost:8080/registry-ui/'. The main content area displays 'Product Details' for a product named 'hopefully, something unique enough to search on'. The details include: Object Type: Product, Status: Submitted, Version Name: 1.0, GUID: urn:uuid:b8434e02-7998-4d41-bd71-8f0ef63d5444, LID: testing.REG.4, Home: http://localhost:8080/registry, Last-name: Doe, First-name: John, and Phone: (818)777-7777, (818)888-8888. Below the details is a table with columns 'Name', 'Object Type', and 'Status', containing one row with 'Product' and 'Submitted'.</p> <p>Step 5:</p> <pre> * About to connect() to localhost port 8080 (#0) * Trying ::1... * connected * Connected to localhost (::1) port 8080 (#0) > DELETE /registry/extrinsics/urn:uuid:b8434e02-7998-4d41-bd71-8f0ef63d5444 HTTP/1.1 > User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8x zlib/1.2.5 > Host: localhost:8080 > Accept: */* < HTTP/1.1 200 OK < Server: Apache-Coyote/1.1 < Content-Type: application/xml < Content-Length: 0 < Date: Mon, 04 Nov 2013 07:00:28 GMT * Connection #0 to host localhost left intact * Closing connection #0 </pre> <p>Step 6: The row should be gone</p>
Comments	Results met success criteria.
Date of Testing	2013.11.03
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	<ol style="list-style-type: none"> 1. http://localhost:8080/registry/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/extrinsics 3. Repeat step 1. Note that versionName is 1.0 <p>As of build 4a, versionName is independent of extrinsicObject's attributes versionId, name, and guid.</p>
Test Results	Step 1:

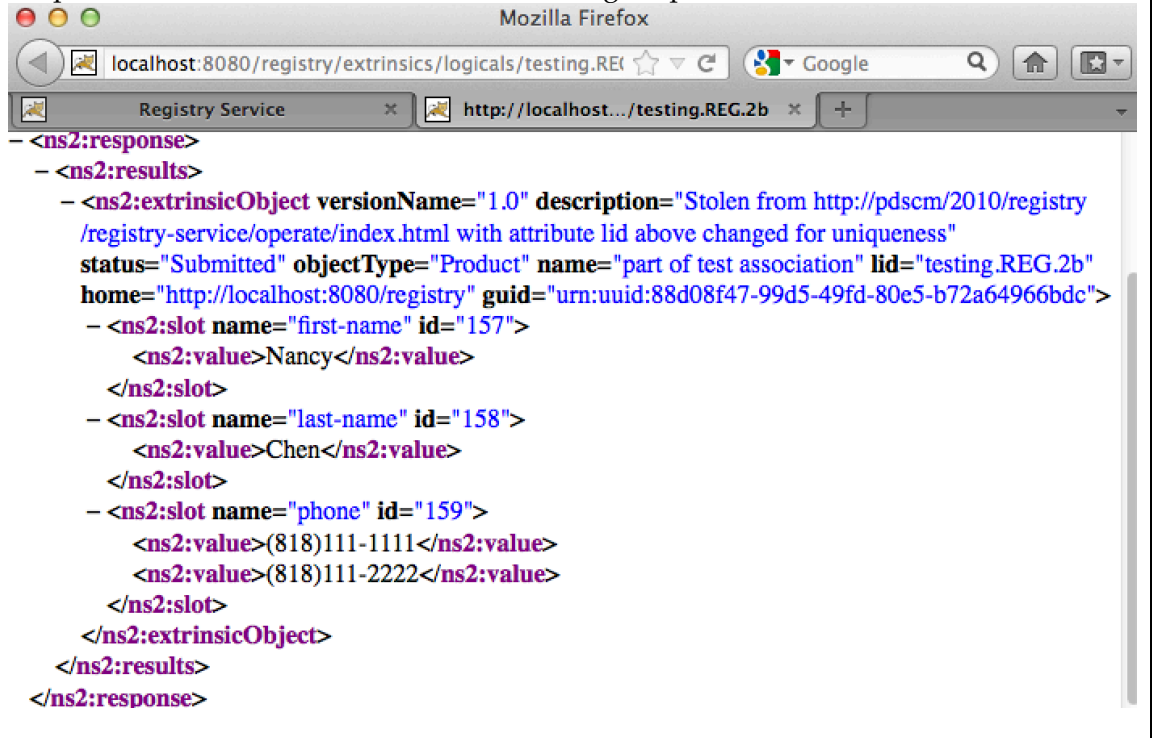


Step 2:

```

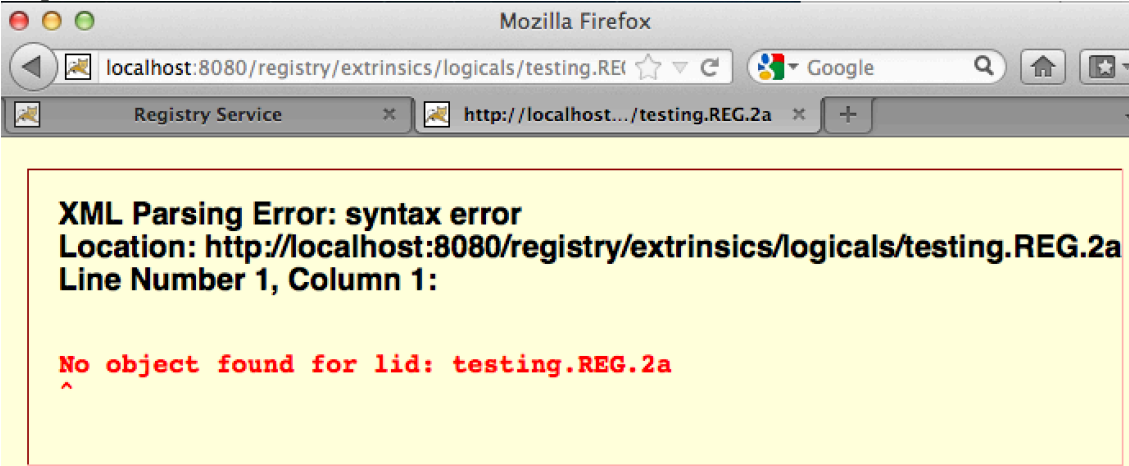
* About to connect() to localhost port 8080 (#0)
* Trying ::1...
* connected
* Connected to localhost (::1) port 8080 (#0)
> POST /registry/extrinsics HTTP/1.1
> User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8r zlib/1.2.5
> Host: localhost:8080
> Accept: */*
> Content-type:application/xml
> 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/extrinsics/urn:uuid:ae201537-5333-4c18-851a-c52a07ab1f22
< Content-Type: application/xml
< Transfer-Encoding: chunked
< Date: Mon, 04 Nov 2013 07:04:10 GMT
* Connection #0 to host localhost left intact
urn:uuid:ae201537-5333-4c18-851a-c52a07ab1f22* Closing connection #0
    
```

Step 3: Note that versionName=1.0 even though input file had no versionId attribute



Comments	Results met success criteria.
----------	-------------------------------

Date of Testing	2013.11.03
Test Personnel	Richard Chen

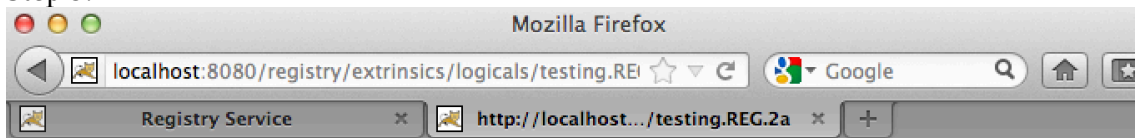
Test Case ID	REG.6
Description	Allow replacement, approval, deprecation, undeprecation, and verification of registered artifacts. The Tomcat server access log lists the search.
Requirements	<p>PASS L5.REG.9: The service shall allow updates to registered artifacts.</p> <p>PASS L5.REG.10: The service shall allow approval of registered artifacts.</p> <p>PASS L5.REG.11: The service shall allow deprecation of registered artifacts.</p> <p>PASS L5.REG.12: The service shall allow undeprecation of registered artifacts.</p> <p>PASS L5.GEN.6: Applications shall generate metrics in a format suitable for ingestion by the Report Service.</p>
Success Criteria	Registry service provides these standard functions with expected results. Initial registration results in an artifact being in an unapproved state. Also, the Tomcat server access log lists the actions.
Test Steps	<ol style="list-style-type: none"> In a browser, http://localhost:8080/registry/extrinsics/logicals/testing.REG.2a shows no current product has lid "testing.REG.2a". curl -X POST -H "Content-type:application/xml" -v -d @testRegistry/test.REG.6a.xml http://localhost:8080/registry/extrinsics Repeat step 1 to see the lid In a browser, http://localhost:8080/registry-ui/ Under "LID", enter "testing.REG.2a". Click "Refresh" curl -X POST -H "Content-type:application/xml" -v http://localhost:8080/registry/extrinsics/testing.REG.2a.v1.0/approve In a browser, http://localhost:8080/registry-ui/, click "Refresh" curl -X POST -H "Content-type:application/xml" -v http://localhost:8080/registry/extrinsics/testing.REG.2a.v1.0/deprecate Repeat step 4 to see the Status curl -X POST -H "Content-type:application/xml" -v http://localhost:8080/registry/extrinsics/testing.REG.2a.v1.0/undeprecate Repeat step 4 to see the Status <p>The above actions get into the Tomcat server log, which the report service can process.</p> <ol style="list-style-type: none"> grep testing.REG.2a \$CATALINA_HOME/logs/localhost_access_log.yyyy-mm-dd.txt
Test Results	<p>Step 1: Browser should show</p>  <p>If not</p> <pre>curl -X DELETE -v</pre>

<http://localhost:8080/registry/extrinsics/testing.REG.2a.v1.0>

Step 2: Benign output messages without "ERROR"

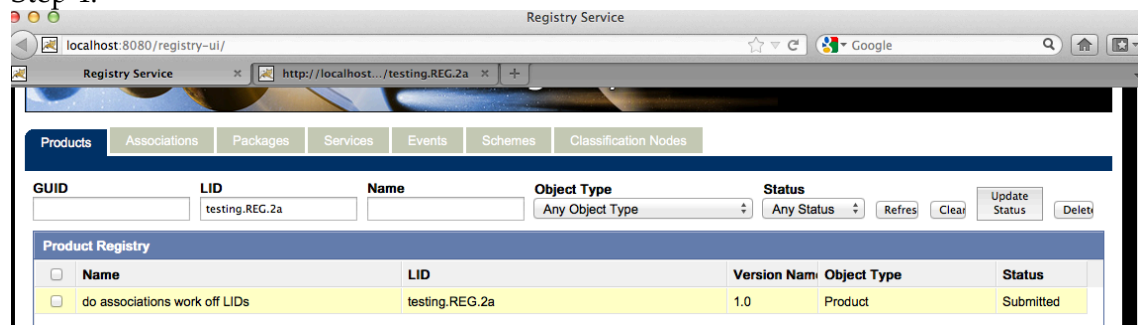
```
* About to connect() to localhost port 8080 (#0)
* Trying ::1...
* connected
* Connected to localhost (::1) port 8080 (#0)
> POST /registry/extrinsics HTTP/1.1
> User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8x zlib/1.2.5
> Host: localhost:8080
> Accept: */*
> Content-type:application/xml
> 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/extrinsics/testing.REG.2a.v1.0
< Content-Type: application/xml
< Transfer-Encoding: chunked
< Date: Mon, 04 Nov 2013 07:07:34 GMT
* Connection #0 to host localhost left intact
testing.REG.2a.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="do associations work off LIDs" lid="testing.REG.2a" home="http://localhost:8080/registry" guid="testing.REG.2a.v1.0">
      - <ns2:slot name="phone" id="167">
        <ns2:value>(818)000-1111</ns2:value>
        <ns2:value>(818)000-2222</ns2:value>
      </ns2:slot>
      - <ns2:slot name="last-name" id="168">
        <ns2:value>Chen</ns2:value>
      </ns2:slot>
      - <ns2:slot name="first-name" id="169">
        <ns2:value>Min</ns2:value>
      </ns2:slot>
    </ns2:extrinsicObject>
  </ns2:results>
</ns2:response>
```

Step 4:



Step 5:

```
* About to connect() to localhost port 8080 (#0)
* Trying ::1...
* connected
* Connected to localhost (::1) port 8080 (#0)
```

```
> POST /registry/extrinsics/testing.REG.2a.v1.0/approve HTTP/1.1
> User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8r zlib/1.2.5
> Host: localhost:8080
> Accept: */*
> Content-type:application/xml
< HTTP/1.1 200 OK
< Server: Apache-Coyote/1.1
< Content-Type: application/xml
< Content-Length: 0
< Date: Mon, 04 Nov 2013 07:10:22 GMT
* Connection #0 to host localhost left intact
* Closing connection #0
```

Step 6: same as Step 4 but "Submitted" becomes "Approved"

Step 7:

```
* About to connect() to localhost port 8080 (#0)
* Trying ::1...
* connected
* Connected to localhost (::1) port 8080 (#0)
> POST /registry/extrinsics/testing.REG.2a.v1.0/deprecate HTTP/1.1
> User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8r zlib/1.2.5
> Host: localhost:8080
> Accept: */*
> Content-type:application/xml
< HTTP/1.1 200 OK
< Server: Apache-Coyote/1.1
< Content-Type: application/xml
< Content-Length: 0
< Date: Mon, 04 Nov 2013 07:11:24 GMT
* Connection #0 to host localhost left intact
* Closing connection #0
```

Step 8: same as Step 4 but "Submitted" becomes "Deprecated"

Step 9:

```
* About to connect() to localhost port 8080 (#0)
* Trying ::1...
* connected
* Connected to localhost (::1) port 8080 (#0)
> POST /registry/extrinsics/testing.REG.2a.v1.0/undeprecate HTTP/1.1
> User-Agent: curl/7.24.0 (x86_64-apple-darwin12.0) libcurl/7.24.0 OpenSSL/0.9.8r zlib/1.2.5
> Host: localhost:8080
> Accept: */*
> Content-type:application/xml
< HTTP/1.1 200 OK
< Server: Apache-Coyote/1.1
< Content-Type: application/xml
< Content-Length: 0
< Date: Mon, 04 Nov 2013 07:12:13 GMT
* Connection #0 to host localhost left intact
* Closing connection #0
```

Step 10: same as Step 4

Step 11:

```
0:0:0:0:0:0:1%0 - - [03/Nov/2013:23:07:08 -0800] "GET /registry/extrinsics/logicals/testing.REG.2a
HTTP/1.1" 404 50
0:0:0:0:0:0:1%0 - - [03/Nov/2013:23:08:26 -0800] "GET /registry/extrinsics/logicals/testing.REG.2a
HTTP/1.1" 200 776
127.0.0.1 - - [03/Nov/2013:23:09:21 -0800] "GET
/registry/extrinsics?sort=guid&start=1&name=testing.REG.2a&queryOp=AND&rows=20 HTTP/1.1"
200 162
127.0.0.1 - - [03/Nov/2013:23:09:54 -0800] "GET
/registry/extrinsics?lid=testing.REG.2a&sort=guid&start=1&queryOp=AND&rows=20 HTTP/1.1" 200
799
127.0.0.1 - - [03/Nov/2013:23:09:54 -0800] "GET
/registry/extrinsics?lid=testing.REG.2a&sort=guid&start=1&queryOp=AND&rows=1 HTTP/1.1" 200
799
0:0:0:0:0:0:1%0 - - [03/Nov/2013:23:10:22 -0800] "POST
/registry/extrinsics/testing.REG.2a.v1.0/approve HTTP/1.1" 200 -
127.0.0.1 - - [03/Nov/2013:23:11:02 -0800] "GET
/registry/extrinsics?lid=testing.REG.2a&sort=guid&start=1&queryOp=AND&rows=20 HTTP/1.1" 200
798
127.0.0.1 - - [03/Nov/2013:23:11:02 -0800] "GET
```

	<pre> /registry/extrinsics?lid=testing.REG.2a&sort=guid&start=1&queryOp=AND&rows=1 HTTP/1.1" 200 798 0:0:0:0:0:0:0:1%0 - - [03/Nov/2013:23:11:24 -0800] "POST /registry/extrinsics/testing.REG.2a.v1.0/deprecate HTTP/1.1" 200 - 127.0.0.1 - - [03/Nov/2013:23:11:53 -0800] "GET /registry/extrinsics?lid=testing.REG.2a&sort=guid&start=1&queryOp=AND&rows=20 HTTP/1.1" 200 800 127.0.0.1 - - [03/Nov/2013:23:11:53 -0800] "GET /registry/extrinsics?lid=testing.REG.2a&sort=guid&start=1&queryOp=AND&rows=1 HTTP/1.1" 200 800 0:0:0:0:0:0:0:1%0 - - [03/Nov/2013:23:12:13 -0800] "POST /registry/extrinsics/testing.REG.2a.v1.0/undeprecate HTTP/1.1" 200 - 127.0.0.1 - - [03/Nov/2013:23:12:57 -0800] "GET /registry/extrinsics?lid=testing.REG.2a&sort=guid&start=1&queryOp=AND&rows=20 HTTP/1.1" 200 799 127.0.0.1 - - [03/Nov/2013:23:12:57 -0800] "GET /registry/extrinsics?lid=testing.REG.2a&sort=guid&start=1&queryOp=AND&rows=1 HTTP/1.1" 200 799 </pre>
Comments	Results met success criteria.
Date of Testing	2013.11.03
Test Personnel	Richard Chen

Test Case ID	REG.7 *not ready for build 4a. 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 4a. 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
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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	<p>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.</p> <ol style="list-style-type: none"> 1. cd testDir/bin 2. ./stressTest.py 3. ./stressTest.py -v -n500000 > ../out.txt 4. grep Time ../out.txt
Test Results	<p>Step 2:</p> <pre> stressTesting.T000000.v1.0 stressTesting.T000001.v1.0 stressTesting.T000002.v1.0 REGSTR 3 good. Time(sec): avg=0.017 median=0.010 stdDev=0.01184 sum=0.1 <?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="13044"><ns2:value>Doe</ns2:value></ns2:slot><ns2:slot name="cannotPossibleBeAnExistingSlot" id="13045"><ns2:value>cannot possibly be an existing value</ns2:value></ns2:slot><ns2:slot name="first-name" id="13046"><ns2:value>John</ns2:value></ns2:slot><ns2:slot name="phone" id="13047"><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="13049"><ns2:value>Doe</ns2:value></ns2:slot><ns2:slot name="cannotPossibleBeAnExistingSlot" id="13050"><ns2:value>cannot possibly be an existing value</ns2:value></ns2:slot><ns2:slot name="first-name" id="13051"><ns2:value>John</ns2:value></ns2:slot><ns2:slot name="phone" id="13052"><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="13054"><ns2:value>Doe</ns2:value></ns2:slot><ns2:slot name="cannotPossibleBeAnExistingSlot" id="13055"><ns2:value>cannot possibly be an existing value</ns2:value></ns2:slot><ns2:slot name="first-name" id="13056"><ns2:value>John</ns2:value></ns2:slot><ns2:slot name="phone" id="13057"><ns2:value>(818)777-7777</ns2:value><ns2:value>(818)888- 8888</ns2:value></ns2:slot></ns2:extrinsicObject> VIEW 3 good. Time(sec): avg=0.010 median=0.010 stdDev=0.00003 sum=0.0 stressTesting.T000000.v1.0 deleted stressTesting.T000001.v1.0 deleted stressTesting.T000002.v1.0 deleted DELETE 3 good. Time(sec): avg=0.035 median=0.026 stdDev=0.02011 sum=0.1 </pre> <p>Step 4:</p> <pre> REGSTR 500000 good. Time(sec): avg=0.008 median=0.005 stdDev=0.13068 sum=3878.9 VIEW 500000 good. Time(sec): avg=0.004 median=0.004 stdDev=0.00196 sum=2097.1 DELETE 500000 good. Time(sec): avg=0.005 median=0.005 stdDev=0.00424 sum=2733.4 </pre>
Comments	Results met success criteria.
Date of Testing	2013.11.04
Test Personnel	Richard Chen

Test Case ID	RPT.1
Description	Various requirements regarding reporting
Requirements	<p>PASS L5.RPT.1: The service shall support periodic submission of metrics.</p> <p>PASS L5.RPT.2: The service shall allow the submission of metrics in the form of a log file.</p> <p>PASS L5.RPT.3: The service shall utilize a secure transfer protocol for transferring log files across the Internet.</p> <p>PASS L5.RPT.4: The service shall support log files from the following sources...</p> <p>PASS L5.RPT.5: The service shall discover product-related information by querying the Registry service.</p> <p>PASS L5.RPT.6: The service shall aggregate and store the metrics in a repository.</p> <p>PASS L5.RPT.7: The service shall control access to the user interface and metrics repository.</p> <p>PASS L5.RPT.8: The service shall allow users to tailor reports and report templates as follows...</p> <p>PASS L5.RPT.9: The service shall allow users to save report templates for reuse.</p> <p>PASS L5.RPT.10: The service shall allow periodic generation of reports from saved templates.</p> <p>PASS L5.RPT.11: The service shall export reports in the following formats...</p>
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	2013.10
Test Personnel	Duc Truong

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	<p>Results met success criteria.</p> <p>https://oodt.jpl.nasa.gov/jira/browse/PDS-225, created during testing of build 4a, requests an improvement: that validate treat schematron's role="warning" differently than the default (role="error").</p>
Date of Testing	2013.11.03
Test Personnel	Richard Chen

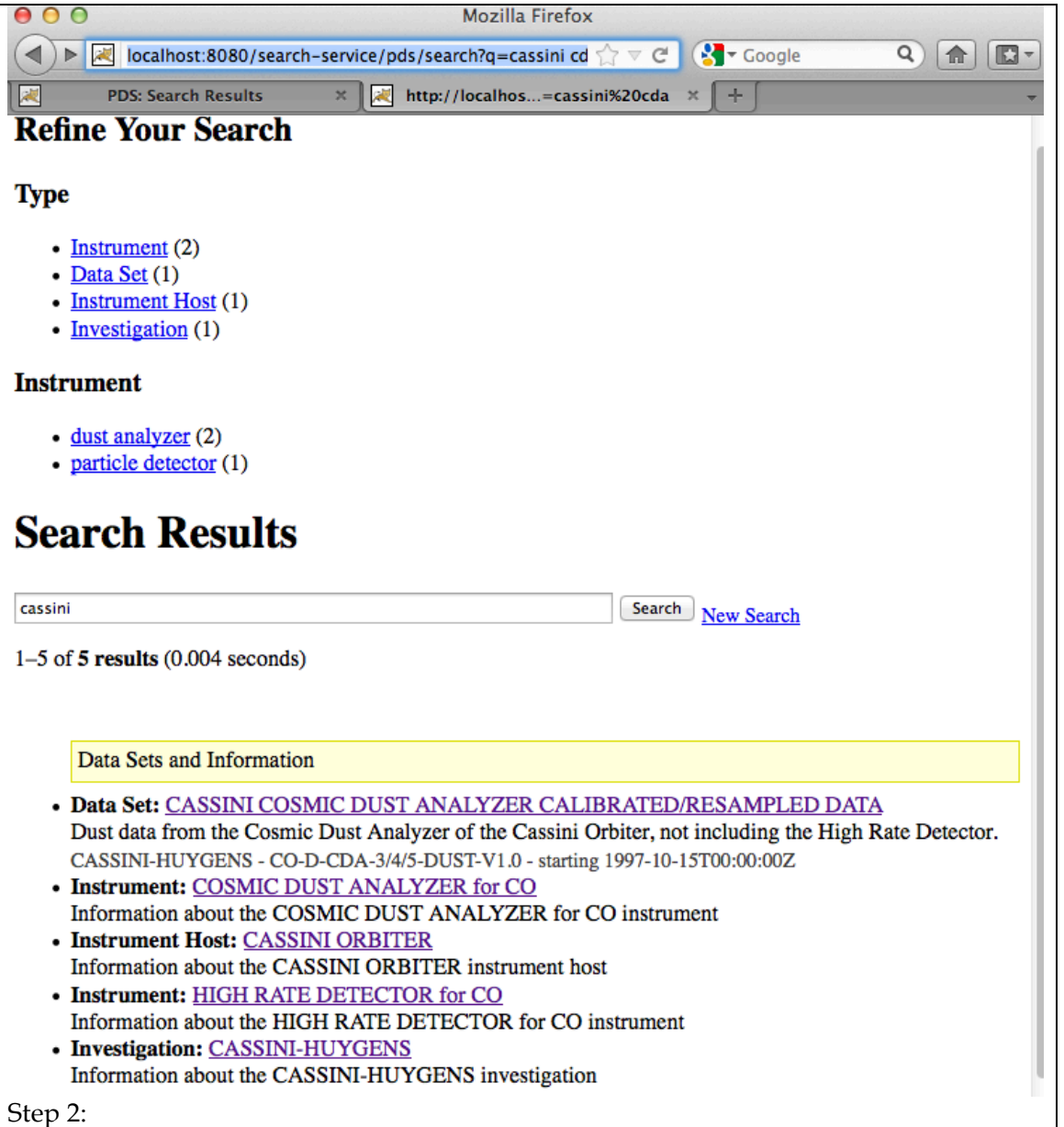
Test Case ID	SEC.1
Description	Various requirements regarding security
Requirements	<p>PASS L5.SEC.1: The service shall authenticate a user given identifying credentials for that user.</p> <p>PASS L5.SEC.2: The service shall encrypt the transmission of identifying credentials across the network.</p> <p>PASS L5.SEC.3: The service shall authorize an authenticated user for access to a controlled capability.</p> <p>PASS L5.SEC.4: The service shall allow an operator of the system to create, update or delete a user identity.</p> <p>PASS L5.SEC.5: The service shall capture identifying information associated with a user identity.</p> <p>PASS L5.SEC.6: The service shall allow an operator of the system to create, update or delete a group identity.</p> <p>PASS L5.SEC.7: The service shall allow an operator of the system to add or remove a user from a group.</p>
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 http://pds-engineering.jpl.nasa.gov/pds2010/development/4.0.0/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	2013.11.03
Test Personnel	Richard Chen

Test Case ID	SRCH.1 *not ready for build 4a. 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	<i>PASS</i> L5.SCH.3: The service's browser-based user interface shall be Section 508 compliant and adhere to WCAG ... <i>PASS</i> 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	2013.10
Test Personnel	Duc Truong

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	<i>PASS</i> 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. <i>PASS</i> L5.GEN.3: Services shall have an application programming interface. <i>PASS</i> 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 running after HVT.3, first: <pre>search-core -H binDir/search-service/pds -p binDir/search-core/conf/pds/pds3/core.properties</pre> The search-core above may take an hour. 1. http://localhost:8080/search-service/pds/search?q=cassini cda 2. In the center of http://localhost:8080/search-ui , type "cassini cda" (without quotes) and hit the "Search" button The search-ui gets into the Tomcat server log, which the report service can process. 3. <code>grep cassini \$CATALINA_HOME/logs/localhost_access_log.yyyy-mm-dd.txt</code>
Test Results	Step 1:



Mozilla Firefox

localhost:8080/search-service/pds/search?q=cassini cd

PDS: Search Results

Refine Your Search

Type

- [Instrument](#) (2)
- [Data Set](#) (1)
- [Instrument Host](#) (1)
- [Investigation](#) (1)

Instrument

- [dust analyzer](#) (2)
- [particle detector](#) (1)

Search Results

cassini [New Search](#)

1–5 of 5 results (0.004 seconds)

Data Sets and Information

- **Data Set:** [CASSINI COSMIC DUST ANALYZER CALIBRATED/RESAMPLED DATA](#)
Dust data from the Cosmic Dust Analyzer of the Cassini Orbiter, not including the High Rate Detector. CASSINI-HUYGENS - CO-D-CDA-3/4/5-DUST-V1.0 - starting 1997-10-15T00:00:00Z
- **Instrument:** [COSMIC DUST ANALYZER for CO](#)
Information about the COSMIC DUST ANALYZER for CO instrument
- **Instrument Host:** [CASSINI ORBITER](#)
Information about the CASSINI ORBITER instrument host
- **Instrument:** [HIGH RATE DETECTOR for CO](#)
Information about the HIGH RATE DETECTOR for CO instrument
- **Investigation:** [CASSINI-HUYGENS](#)
Information about the CASSINI-HUYGENS investigation

Step 2:

Refine Your Search

Type

- Instrument (2)
- Data Set (1)
- Instrument Host (1)
- Investigation (1)

Instrument

- Dust Analyzer (2)
- Particle Detector (1)

Search Results

cassini cda [New Search](#)

1-5 of 5 results (0.008 seconds)

Data Sets and Information

Data Set: [CASSINI COSMIC DUST ANALYZER CALIBRATED/RESAMPLED DATA](#)
Dust data from the Cosmic Dust Analyzer of the Cassini Orbiter, not including the High Rate Detector. CASSINI-HUYGENS - CO-D-CDA-3/4/5-DUST-V1.0 - starting 1997-10-15T00:00:00Z

Instrument: [COSMIC DUST ANALYZER for CO](#)
Information about the COSMIC DUST ANALYZER for CO instrument

Instrument Host: [CASSINI ORBITER](#)
Information about the CASSINI ORBITER instrument host

Instrument: [HIGH RATE DETECTOR for CO](#)
Information about the HIGH RATE DETECTOR for CO instrument

Investigation: [CASSINI-HUYGENS](#)
Information about the CASSINI-HUYGENS investigation

Step 3:

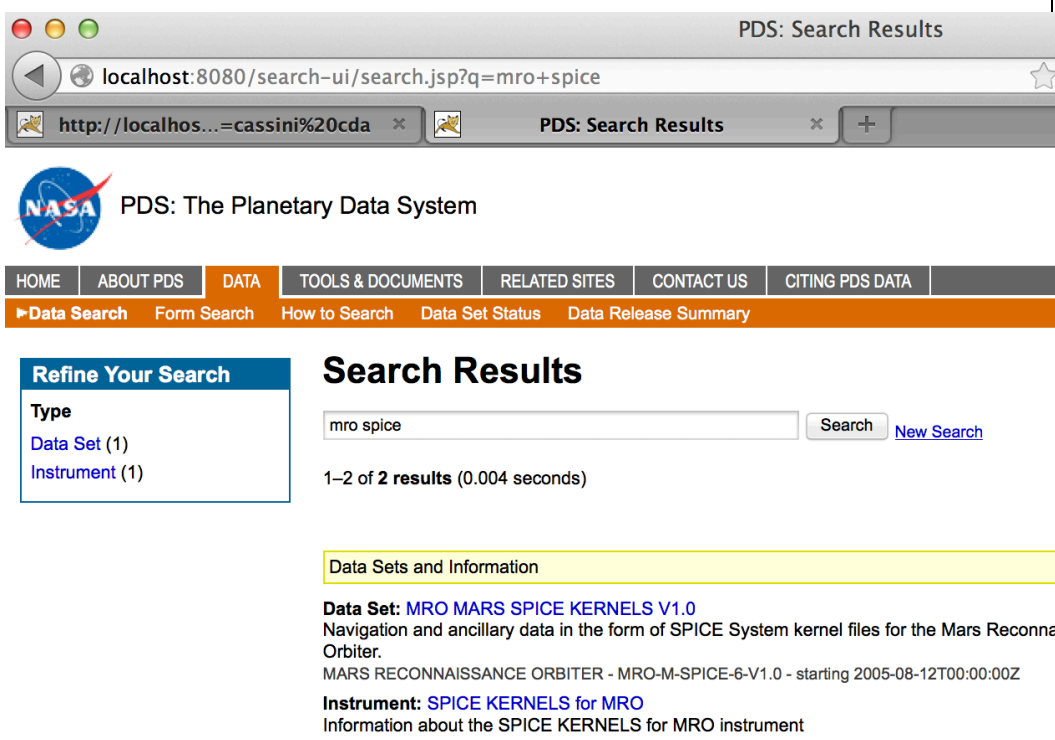
```

127.0.0.1 - - [03/Nov/2013:23:50:19 -0800] "GET
/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-
huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543
127.0.0.1 - - [03/Nov/2013:23:50:30 -0800] "GET
/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-
huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543
127.0.0.1 - - [03/Nov/2013:23:50:48 -0800] "GET
/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-
huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543
127.0.0.1 - - [03/Nov/2013:23:51:00 -0800] "GET
/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-
huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543
127.0.0.1 - - [03/Nov/2013:23:52:22 -0800] "GET
/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-
huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543
127.0.0.1 - - [03/Nov/2013:23:52:27 -0800] "GET
/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-
huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543
127.0.0.1 - - [03/Nov/2013:23:52:31 -0800] "GET
/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-
huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543
127.0.0.1 - - [03/Nov/2013:23:52:45 -0800] "GET
/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-
huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543
127.0.0.1 - - [03/Nov/2013:23:52:54 -0800] "GET
/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-
huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543
127.0.0.1 - - [03/Nov/2013:23:53:11 -0800] "GET
/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-
huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543
127.0.0.1 - - [03/Nov/2013:23:54:25 -0800] "GET
/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-
huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543
127.0.0.1 - - [03/Nov/2013:23:54:32 -0800] "GET
/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-
huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543
127.0.0.1 - - [03/Nov/2013:23:54:38 -0800] "GET
/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-
huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543
127.0.0.1 - - [03/Nov/2013:23:54:51 -0800] "GET

```

	<p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 127.0.0.1 -- [03/Nov/2013:23:55:10 -0800] "GET</p> <p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 127.0.0.1 -- [03/Nov/2013:23:55:29 -0800] "GET</p> <p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 127.0.0.1 -- [03/Nov/2013:23:56:55 -0800] "GET</p> <p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 127.0.0.1 -- [03/Nov/2013:23:57:19 -0800] "GET</p> <p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 127.0.0.1 -- [03/Nov/2013:23:57:27 -0800] "GET</p> <p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 127.0.0.1 -- [03/Nov/2013:23:57:40 -0800] "GET</p> <p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 127.0.0.1 -- [03/Nov/2013:23:57:47 -0800] "GET</p> <p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 127.0.0.1 -- [03/Nov/2013:23:57:57 -0800] "GET</p> <p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 127.0.0.1 -- [03/Nov/2013:23:58:04 -0800] "GET</p> <p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 127.0.0.1 -- [03/Nov/2013:23:58:10 -0800] "GET</p> <p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 127.0.0.1 -- [03/Nov/2013:23:58:26 -0800] "GET</p> <p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 127.0.0.1 -- [03/Nov/2013:23:58:33 -0800] "GET</p> <p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 127.0.0.1 -- [03/Nov/2013:23:58:57 -0800] "GET</p> <p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 127.0.0.1 -- [03/Nov/2013:23:59:26 -0800] "GET</p> <p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 127.0.0.1 -- [03/Nov/2013:23:59:33 -0800] "GET</p> <p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 127.0.0.1 -- [03/Nov/2013:23:59:40 -0800] "GET</p> <p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 127.0.0.1 -- [03/Nov/2013:23:59:50 -0800] "GET</p> <p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 127.0.0.1 -- [03/Nov/2013:23:59:56 -0800] "GET</p> <p>/registry/extrinsics?lid=urn:nasa:pds:context_pds3:investigation:mission.cassini-huygens&sort=guid&start=1&queryOp=AND&rows=100 HTTP/1.1" 200 117543 testDir></p>
Comments	Results met success criteria.
Date of Testing	2013.11.04
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	<p>PASS L5.SCH.1: The service shall provide a user interface for entering of queries and display of search results</p> <p>PASS L5.SCH.6: The service shall support searching by accepting criteria as a sequence of open text keywords.</p>

<p>Success Criteria</p>	<p>Receives reasonable results based on text such as “Cassini”. Also, the Tomcat server access log lists the searched data.</p>
<p>Test Steps</p>	<p>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: <pre>search-core -H binDir/search-service/pds -p binDir/search-core/conf/pds/pds3/core.properties</pre> The search-core above may take an hour.</p> <p>In http://localhost:8080/search-ui, type</p> <ol style="list-style-type: none"> 1. mro spice 2. voyager plasma wave. In Refine Your Search, click “Comet SL9/Jupiter Collision (6)” 3. mars digital elevation maps 4. neptune 5. jupiter images 6. corona 7. NEAR-A-SPICE-6-V1.0 (a specific data set ID)
<p>Test Results</p>	<p>1.</p>  <p>2.</p>

PDS: Search Results

localhost:8080/search-ui/search.jsp?q=voyager plasma wave&fq=facet_investigation%3A%15

Current Refinements
Investigation: Comet SL9/Jupiter Collision [undo]

Refine Your Search
No further refinements available

Search Results

voyager plasma wave [New Search](#)

1–6 of **6 results** (0.003 seconds)

Data Sets and Information

Data Set: [VG2 URA PWS RESAMPLED SUMMARY SPECTRUM ANALYZER 48SEC](#)
VG2 URA PWS RESAMPLED SUMMARY SPECTRUM ANALYZER 48SEC V1.0
COMET SL9/JUPITER COLLISIONVOYAGER - VG2-U-PWS-4-SUMM-SA-48SEC-V1.0 - star
1993-01-01T00:00:00Z1972-07-01T00:00:00Z

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 - sta
1993-01-01T00:00:00Z1972-07-01T00:00:00Z

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 - sta
1993-01-01T00:00:00Z1972-07-01T00:00:00Z

Data Set: [VG2 NEP PWS RESAMPLED SUMMARY SPECTRUM ANALYZER 48SEC](#)
VG2 NEP PWS RESAMPLED SUMMARY SPECTRUM ANALYZER 48SEC V1.0
COMET SL9/JUPITER COLLISIONVOYAGER - VG2-N-PWS-4-SUMM-SA-48SEC-V1.0 - star
1993-01-01T00:00:00Z1972-07-01T00:00:00Z

Data Set: [VG2 NEP PWS EDITED RDR UNCALIB SPECTRUM ANALYZER 4SEC](#)
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
1993-01-01T00:00:00Z1972-07-01T00:00:00Z

3.

PDS: Search Results

localhost:8080/search-ui/search.jsp?q=neptune

Refine Your Search

- Type**
 - Data Set (32)
 - Instrument (15)
 - Search Tool (3)
 - Investigation (3)
 - Target (3)
 - Instrument Host (2)
- Target**
 - Planet (34)
 - Satellite (8)
 - Other (6)
 - Ring (6)
 - Calibration (5)
- Investigation**
 - Voyager (31)
 - Comet SL9/Jupiter Collision (26)
 - Ground Based Atmospheric Observations (2)
 - MESSENGER (2)
 - New Horizons (2)
 - Cassini-Huygens (1)

Search Results

neptune [New Search](#)

1–50 of **58 results** (0.002 seconds)

Search Tools

These tools let you search for data products matching your query. This is usually the best way access the data. If no tool looks appropriate, you can browse the matching data sets, below.

Search Tool: [Outer Planets Unified Search \(OPUS\)](#)
Use OPUS to search for images and spectra from the Cassini, Galileo, New Horizons, and Vo missions. Now with enhanced geometric metadata for Cassini ISS, UVIS, and VIMS Saturn da enables surface search constraints for the planet, satellites and rings (e.g., latitudes and longit expanded sets of viewing and illumination constraints, and incorporates comprehensive 'in the view' target lists for Cassini ISS and VIMS.

Search Tool: [Hubble Space Telescope Rings Image Catalog](#)
Search for images of the ringed planets from the Wide Field/Planetary Camera 2 aboard the H Space Telescope.

[More...](#)

Data Sets and Information

Target: [N7 LARISSA](#)
Information about the target N7 LARISSA

Target: [N8 PROTEUS](#)
Information about the target N8 PROTEUS

Data Set: [VG2 NEPTUNE ULTRAVIOLET SPECTROMETER SUBSYSTEM 3 RDR V1.0](#)
VG2 NEPTUNE ULTRAVIOLET SPECTROMETER SUBSYSTEM 3 RDR V1.0

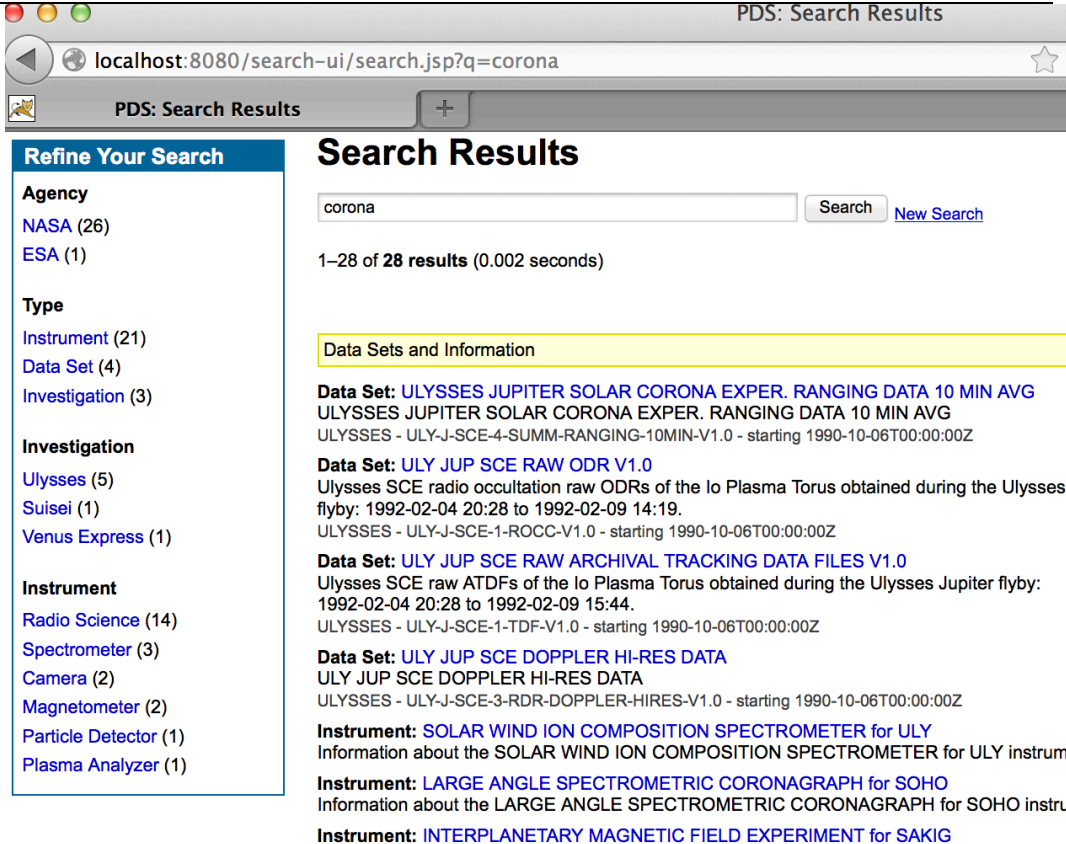
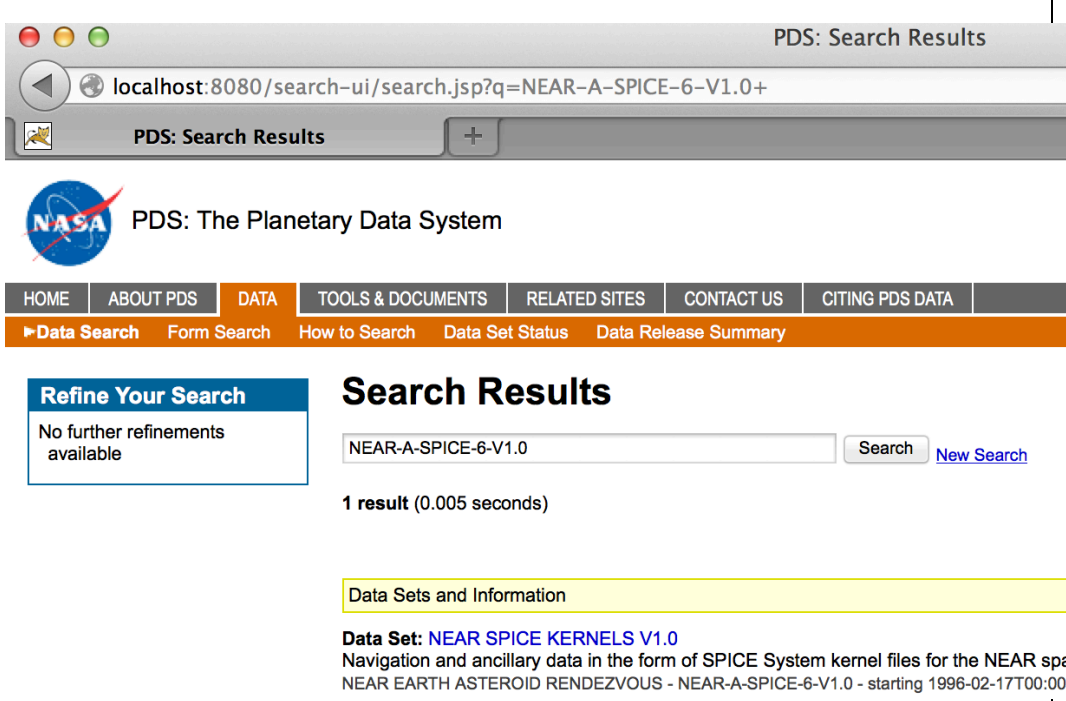
4.

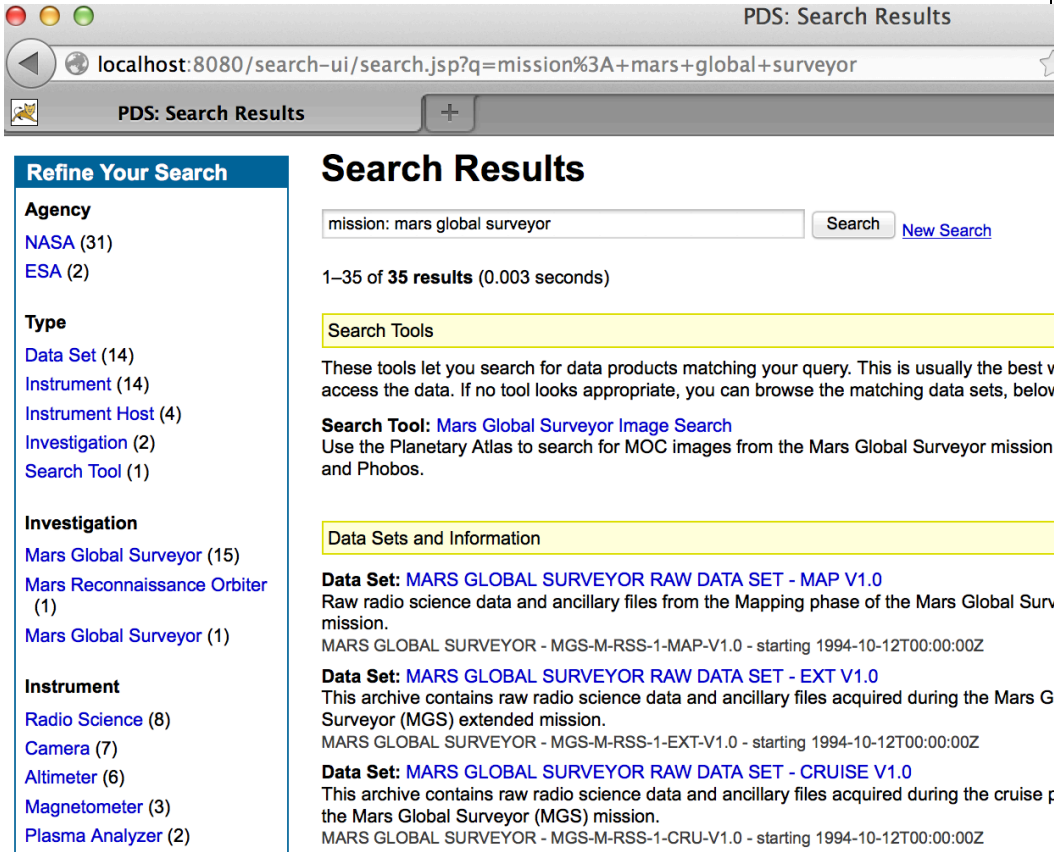
5.

The screenshot shows a web browser window titled "PDS: Search Results" with the URL "localhost:8080/search-ui/search.jsp?q=mars+digital+elevation+maps". The search results page has a search bar containing "mars digital elevation maps" and a "Search" button. Below the search bar, it indicates "1-8 of 8 results (0.003 seconds)". On the left, a "Refine Your Search" sidebar lists filters for Agency (NASA: 7, ESA: 1) and Instrument (Radio Science: 5, Magnetometer: 1, Plasma Analyzer: 1, Reflectometer: 1, Spectrometer: 1). The main content area, titled "Search Results", lists several instrument types with links to their respective information pages: MAGNETOMETER for MGS, RADIO SCIENCE SUBSYSTEM for MO, RADIO SCIENCE SUBSYSTEM for MGS, RADIO SCIENCE SUBSYSTEM for MRO, MARS EXPRESS ORBITER RADIO SCIENCE for MEX, ELECTRON REFLECTOMETER for MGS, RADIO SCIENCE SUBSYSTEM for CLEM1, and VISUAL AND INFRARED MAPPING SPECTROMETER for CO.

6.

The screenshot shows a web browser window titled "PDS: Search Results" with the URL "localhost:8080/search-ui/search.jsp?q=jupiter+images". The search results page has a search bar containing "jupiter images" and a "Search" button. Below the search bar, it indicates "1-50 of 58 results (0.002 seconds)". On the left, a "Refine Your Search" sidebar lists filters for Type (Data Set: 25, Instrument: 15, Investigation: 8, Search Tool: 6, Instrument Host: 2, Target: 2), Target (Planet: 31, Calibration: 18, Satellite: 17, Other: 13, Comet: 8, Ring: 7, Asteroid: 6), and Investigation (Comet SL9/Jupiter Collision: 12, International Rosetta Mission: 12, Galileo: 5, Cassini-Huygens: 4). The main content area, titled "Search Results", includes a "Search Tools" section explaining that these tools help search for data products and lists "Galileo Image Search" and "Cassini Image Search". Below that, a "Data Sets and Information" section lists two data sets: "MSSSO CASPIR IMAGES FROM THE SL9 IMPACTS WITH JUPITER V1.0" and "MSSSO CASPIR STAR CALS BEFORE SL9 IMPACTS WITH JUPITER V1.0".

	 <p>7.</p> 
<p>Comments</p>	<p>Results met success criteria.</p> <p>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.</p>
<p>Date of Testing</p>	<p>2013.11.04</p>
<p>Test Personnel</p>	<p>Richard Chen</p>

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	<p>PASS L5.SCH.7: The service shall accept criteria as a series of values for constraints on specified indexes.</p> <p>PASS L5.SCH.8: The service shall support narrowing of additional index results...</p> <p>PASS L5.SCH.9: The service shall support the ordering of results based on specified criteria...</p> <p>PASS L5.SCH.10: The service shall provide results to a search as a sequence of matching URIs...</p> <p>PASS L5.SCH.11: The service shall annotate each URI of a result with metadata describing the URI.</p>
Success Criteria	Return results match constraint criteria and consist of clickable links with text describing each link.
Test Steps	<p>In http://localhost:8080/search-ui:</p> <ol style="list-style-type: none"> 1. mission: mars global surveyor 2. target:mercury
Test Results	<p>1.</p>  <p>2.</p>

Comments	Results met success criteria.
Date of Testing	2013.11.04
Test Personnel	Richard Chen

Test Case ID	SRCH.9 *not ready for build 4a. 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 using the REST-based API
Requirements	<p>PASS L5.TRS.1: The service shall accept requests for download of PDS products.</p> <p>PASS L5.TRS.2: The service shall accept requests for download of an individual file.</p> <p>PASS L5.TRS.4: The service shall package the requested product(s) or file into the specified format.</p> <p>PASS L5.TRS.6: The service shall transfer the result of a request via HTTP to the calling application.</p>

	<p>PASS L5.GEN.3: Services shall have an application programming interface.</p> <p>PASS L5.GEN.5: Services shall generate metrics in a format suitable for ingestion by the Report Service.</p>
Success Criteria	The transport service returns the requested data. Also, the Tomcat server access log lists the transport.
Test Steps	<p>The registry must have data, and Harvest must have gotten absolute paths as inputs. If this is run after SRCH.3, SRCH.5, or SRCH.6</p> <ol style="list-style-type: none"> curl -X GET -o x.zip "http://localhost:8080/transport/prod?q=identifier=urn:nasa:pds:context_pds3:target:comet.c-soho_2000_x7" unzip x.zip diff target_C-SOHO_2000_X7_1.0.xml contextPDS3/context_target/Product_20130521/target_C-SOHO_2000_X7_1.0.xml <p>If run after AAFUNCTION.4</p> <ol style="list-style-type: none"> curl -X GET -o x.zip "http://localhost:8080/transport/prod?q=identifier=urn:nasa:pds:phx_ra:data_derived:sol114" unzip x.zip diff sol114.csv ra_bundle/data_derived/sol114.csv diff sol114.xml ra_bundle/data_derived/sol114.xml
Test Results	<p>Step 1:</p> <pre> % Total % Received % Xferd Average Speed Time Time Time Current Dload Upload Total Spent Left Speed 100 895 100 895 0 0 405 0 0:00:02 0:00:02 --:--:-- 405 </pre> <p>Step 2:</p> <pre> Archive: x.zip inflating: target_C-SOHO_2000_X7_1.0.xml </pre> <p>Step 3 shows no differences</p> <p>Step 4:</p> <pre> % Total % Received % Xferd Average Speed Time Time Time Current Dload Upload Total Spent Left Speed 100 357k 100 357k 0 0 252k 0 0:00:01 0:00:01 --:--:-- 253k </pre> <p>Step 5:</p> <pre> Archive: x.zip inflating: sol114.xml inflating: sol114.csv </pre> <p>Step 6 shows no differences</p>
Comments	Results met success criteria.
Date of Testing	2013.11.04
Test Personnel	Richard Chen

Test Case ID	TPRT.2 *not ready for build 4a. This is reserved for future testing
Description	Verify that the requested data transferred intact
Requirements	SKIP L5.TRS.5: The service shall include a checksum manifest listing all files contained in the result of a request along with their associated MD5 checksums.
Success Criteria	The mechanism (checksum) provided by the transport service confirms the data transferred correctly.
Test Steps	
Test Results	
Comments	
Date of Testing	

Test Personnel	
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Test Case ID	TPRT.3 *not ready for build 4a. This is reserved for future testing
Description	Transform requested product
Requirements	SKIP 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	
Test Results	
Comments	
Date of Testing	
Test Personnel	

4 Anomalies

The JIRA tracking system (<http://www.atlassian.com/software/jira>) captures discrepancies found during testing. All discrepancies below are resolved unless marked “open”.

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

closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-1	major	Registry: >1 copy of associations if reregistration of a deleted product
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Testing of build 1c found 0 major anomalies, 1 minor, 1 improvement

closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-34	improve	Registry: association to obsoleted product not automatically updated
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-35	minor	Validate: -x fails unexpectedly

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

closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-45	improve	Registry: curl -X DELETE .../registry/packages/<guid>/members fails
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-46	minor	Validate: -x fails unexpectedly
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-47	minor	Registry: product's initial status is "Unknown"
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-48	improve	Validate: files within bundle.xml are not validated
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-49	major	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	http://oodt.jpl.nasa.gov/jira/browse/PDS-52	major	Catalog: -m ingest does not handle multiple *_CATALOG in voldesc
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-53	major	Catalog: -m ingest quits without voldec.cat
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-54	improve	Catalog: -m ingest gives uninformative error message for dsmap file
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-55	improve	Generate: can't handle some constructs
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-56	major	Search: if >10 results, only the first 10 are accessible
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-57	minor	Search: superseded datasets returned
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-58	improve	Generate: bad error message when neither -d nor -o is given
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-63	minor	Harvest: crashes on one specific file

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

open	http://oodt.jpl.nasa.gov/jira/browse/PDS-85	improve	Validate: should use schema and schematron specified in labels
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-86	improve	Search: after searching and refining, new search unintentionally refines
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-87	minor	Catalog: -cconfig fails
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-88	improve	Catalog: bad output message when voldesc points to a missing file
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-89	improve	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	http://oodt.jpl.nasa.gov/jira/browse/PDS-113	improve	Generate: handle attached files in labels
open	http://oodt.jpl.nasa.gov/jira/browse/PDS-114	improve	Generate: update tool scenario documentation
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-123	improve	Catalog: poor error message if no config file or command-line params
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-125	minor	Search: superseded data sets appear, and search tools don't
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-134	minor	Search: incorrectly handles slashes in dataset ID

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

closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-161	improve	Catalog: -m compare should compare token by token, not line by line
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-162	improve	Catalog: -m ingest does nothing with reference.cat
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-163	improve	Catalog: -m ingest reregisters files if listed in multiple voldescs
closed	http://oodt.jpl.nasa.gov/jira/browse/PDS-164	minor	Search: search-ui returns differently than search-service
open	http://oodt.jpl.nasa.gov/jira/browse/PDS-165	improve	Search: for targets, show PRIMARY_BODY_NAME when not N/A.
open	http://oodt.jpl.nasa.gov/jira/browse/PDS-166	improve	Harvest: check if secondary members match primary members

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

open	http://oodt.jpl.nasa.gov/jira/browse/PDS-220	improve	Search: many resultant resource products clutter output
open	http://oodt.jpl.nasa.gov/jira/browse/PDS-225	improve	Validate: treat role="warning" differently than default (role="error")

Again, the established PDS JIRA system captures discrepancies found during testing. The full list of issues is located at

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

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, TRPT.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	HVT.4	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	pass
L5.PRP.VA.4	Prep: Validation Tool	PRV.4	skip
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, 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	HVT.4, SEC.1	pass
L5.SEC.2	Security Service	AAFUNCTION.3, SEC.1	pass
L5.SEC.3	Security Service	HVT.4, 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	pass
L5.TRS.2	Transport Service	TPRT.1	pass
L5.TRS.3	Transport Service	TPRT.3	skip
L5.TRS.4	Transport Service	TPRT.1	pass
L5.TRS.5	Transport Service	TPRT.2	skip
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
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 4a. Those test cases are included for future builds only.

Of the 96 requirements listed above, 88 have been tested during Build 4a integration and test. For detailed test results, please refer to the test procedure and report document.

6 Miscellaneous

6.1 Test Data

<http://pds-engineering.jpl.nasa.gov/index.cfm?pid=145&cid=188> has this document as well as test data PDS4test.build4a.zip.

6.2 Test Environment

Build 4a integration and test environment encompasses the following:

Hostname	OS	Memory	Software
local host (mac)	Mac OS X 10.8.4	16GB RAM	Catalog, Design, Generate, Harvest, Registry, Report, Search, Storage, Transform, Transport, Validate
potato	Linux	24GB	Security, Storage, Transport
pdsbeta	Linux	16GB	Search
pdsops	Linux	12GB	Report

6.3 Configuration Management

The PDS Configuration Management (CM) process will uniquely identify the build 4a 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

PDS4 Project Plan

PDS MC - PDS Management Council

SDD - Software Design Document

SRD - Software Requirements Document

UI - User Interface