

PDS4 Demonstration

PDS System Design Review II
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Topics

- Overview
- Registry Service Access
- Search Service Access
- Wrap Up

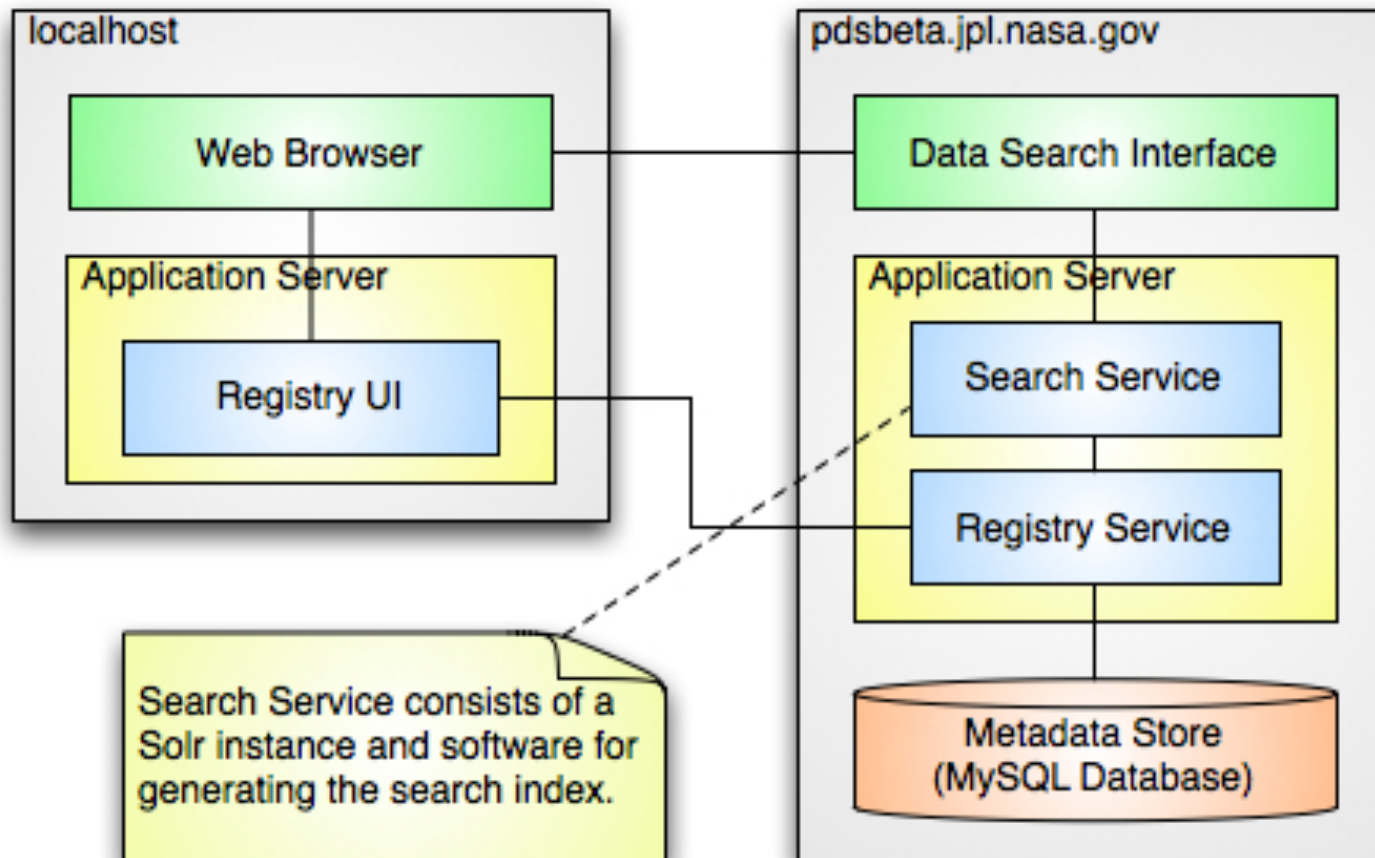
Overview

- The demo exhibits the progress made in core component development and integration.
 - This includes the Harvest Tool, Registry Service and initial Search Service capabilities.
- Capabilities demonstrated include:
 - Query and general interaction with the Registry Service via the prototype user interface and the REST-based API.
 - Query via the current data search interface of a search index generated from migrated contents of a Registry Service instance.

Preparation for Demo

- The PDS3 catalog database was migrated to PDS4 products.
- Those products were ingested into a Registry Service instance via the Harvest Tool.
- The existing code to generate a search index from the catalog database was modified to generate the index from the Registry Service contents.
- The resulting search index was hosted on a machine accessed by the current data search interface and Solr installation.

Demo Deployment



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Registry Service Report

- Navigate to the Registry Service report interface:
 - <http://pdsbeta.jpl.nasa.gov/registry-service/registry/report>
- The following should appear in your browser:

```
<ns2:report xmlns:ns2='http://  
registry.pds.nasa.gov' status='OK'  
serverStarted='2011-06-15T14:53:58.567-07:00'  
associations='62967' extrinsics='6514'  
services='0' classificationSchemes='1'  
classificationNodes='20' />
```

Product Query

(Query for *APOLLO*)

- Navigate to the Registry Service product interface:
 - http://pdsbeta.jpl.nasa.gov/registry-service/registry/extrinsics?name=*APOLLO*
- The following should appear in your browser:

```
<ns2:response xmlns:ns2='http://registry.pds.nasa.gov' start='1' numFound='23'>
  <ns2:results>
    ...
    <ns2:extrinsicObject lid='urn:nasa.pds:data_set.A15A-L-CCIG-3-ATMOS-
    DENSITY-PLOTS-V1.0' name='APOLLO 15 ALSEP/CCIG REDUCED ATMOSPHERIC DENSITY PLOTS
    V1.0' objectType='Product_Data_Set_PDS3' status='Submitted' versionName='1.0'
    versionId='v1.0' guid='urn:uuid:450f7900-5eca-455a-8484-ecf17a13f2db' home='http://
    localhost:8080/registry-service'>
      <ns2:slot id='1810' name='std_ref_version_id'>
        <ns2:value>1.0</ns2:value>
      </ns2:slot>
    ...
```


Product Listing

Registry Browser

http://localhost:8080/registry-ui/ Google

GUID LID Name Submitter Object Type Status Update

Any Object Type Any Status

Product Registry

Name	LID	V
C/SOHO (1999 U5)	urn:nasa.pds:target.C-SOHO_1999_U5	
NEW HORIZONS LORRI JUPITER ENCOUNTER V1.1	urn:nasa.pds:data_set.NH-J-LORRI-2-JUPITER-V1.1	
C/SOHO (1997 O3)	urn:nasa.pds:target.C-SOHO_1997_O3	
308 POLYXO	urn:nasa.pds:target.308_POLYXO	
3578 CARESTIA	urn:nasa.pds:target.3578_CARESTIA	
C/SOHO (1998 K9)	urn:nasa.pds:target.C-SOHO_1998_K9	
C/SOHO (2005 L15)	urn:nasa.pds:target.C-SOHO_2005_L15	
5087 EMEL'YANOV	urn:nasa.pds:target.5087_EMEL'YANOV	
3352 MCAULIFFE	urn:nasa.pds:target.3352_MCAULIFFE	
PIONEER	urn:nasa.pds:instrument_host.P12	
IDA/GASPRA GROUNDBASED LIGHTCURVES V1.0	urn:nasa.pds:data_set.EAR-A-3-EDC-IDA-GASPRA-APC-LC-V1.0	
NIX	urn:nasa.pds:target.NIX	
TRIAXIAL FLUXGATE MAGNETOMETER for GO	urn:nasa.pds:instrument.MAG_GO	

Name LID V

1 of 131

Num Records: 6514

Product Query

(Query for *APOLLO*)

Registry Browser

http://localhost:8080/registry-ui/ Google

GUID LID Name Submitter Object Type Status Update

APOLLO Any Object Type Any Status

Product Registry

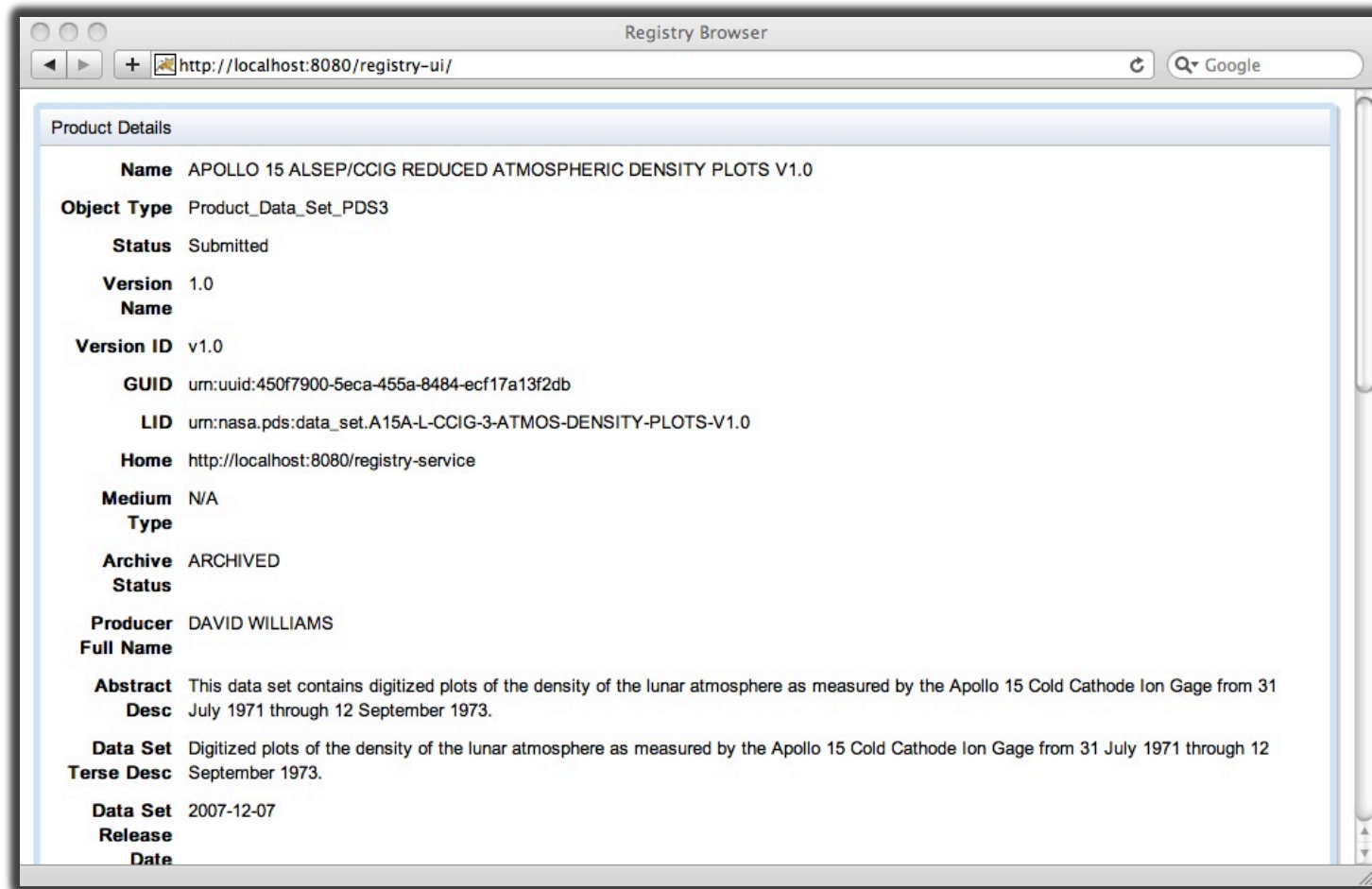
Name	LID	Version
APOLLO 12 COMMAND AND SERVICE MODULE	urn:nasa.pds:instrument_host.A12C	v1.0
APOLLO 14 LUNAR MODULE	urn:nasa.pds:instrument_host.A14L	v1.0
APOLLO 15 COMMAND AND SERVICE MODULE	urn:nasa.pds:instrument_host.A15C	v1.0
APOLLO 12 LUNAR MODULE	urn:nasa.pds:instrument_host.A12L	v1.0
APOLLO 15 COLD CATHODE ION GAGE EXPERIMENT for A15A	urn:nasa.pds:instrument.CCIG__A15A	v1.0
APOLLO 15 SUBSATELLITE	urn:nasa.pds:instrument_host.A15S	v1.0
APOLLO 15 ALSEP/SWS SOLAR WIND 28-SEC RESOLUTION TABLES V1.0	urn:nasa.pds:data_set.A15A-L-SWS-3-SOLAR-WIND-28S-RES-V1.0	v1.0
APOLLO 15 ALSEP/SWS SOLAR WIND 1-HR AVG TABLES V1.0	urn:nasa.pds:data_set.A15A-L-SWS-4-SOLAR-WIND-1HR-AVG-V1.0	v1.0
APOLLO 15 ALSEP/CCIG REDUCED ATMOSPHERIC DENSITY PLOTS V1.0	urn:nasa.pds:data_set.A15A-L-CCIG-3-ATMOS-DENSITY-PLOTS-V1.0	v1.0
APOLLO 15 LUNAR MODULE	urn:nasa.pds:instrument_host.A15L	v1.0
APOLLO 14 COMMAND AND SERVICE MODULE	urn:nasa.pds:instrument_host.A14C	v1.0
APOLLO 12	urn:nasa.pds:investigation.APOLLO_12	v1.0
358 APOLLONIA	urn:nasa.pds:target.358_APOLLONIA	v1.0

Name LID Version

1 of 1

Num Records: 23

Product Detail Popup (Selected a Data Set Product)



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Catalog-Level Search

The screenshot shows a web browser window with the address bar displaying `http://pdsbeta.jpl.nasa.gov/tools/data-search/search.jsp?q=APOLLO`. The page title is "PDS: Search Results". The NASA logo and "PDS: The Planetary Data System" are at the top left. A search bar on the top right contains the text "Search for:" and "in PDS data". A navigation menu includes links for HOME, ABOUT PDS, DATA, TOOLS & DOCUMENTS, RELATED SITES, and CONTACT US. Below this is a secondary menu with links for Data Search, Text Search, Form Search, How to Search, Data Set Status, and Data Release Summary.

The main content area is divided into two columns. The left column, titled "Refine Your Search", lists various search criteria with counts: Type (Instrument: 14, Instrument Host: 11, Data Set: 9, Mission: 6, Search Tool: 1, Target: 1), Target (Satellite: 6, Asteroid: 5, Comet: 1, Other: 1), and Mission (Apollo 15: 4, Apollo 12: 3, Support Archives: 3, Apollo 14: 2, Chandrayaan-1: 1, Galileo: 1, Lunar Reconnaissance Orbiter: 1).

The right column, titled "Search Results", shows the search term "APOLLO" in a text box with "Search" and "New Search" buttons. Below this, it indicates "1-42 of 42 results (0.000 seconds)". A yellow box titled "Search Tools" contains text explaining that these tools let you search for data products matching your query. Below this, another yellow box titled "Data Sets and Information" lists several data sets:

- Target: 1862 APOLLO**
Information about the target 1862 APOLLO
- Data Set: APOLLO 15 ALSEP/CCIG REDUCED ATMOSPHERIC DENSITY PLOTS V1.0**
Digitized plots of the density of the lunar atmosphere as measured by the Apollo 15 Cold Cathode Ion Gage from 31 July 1971 through 12 September 1973.
APOLLO_15 - A15A-L-CCIG-3-ATMOS-DENSITY-PLOTS-V1.0 - starting 1971-07-26T00:00:00Z
- Data Set: APOLLO 14 ALSEP/CCIG REDUCED ATMOSPHERIC DENSITY PLOTS V1.0**
Digitized plots of the density of the lunar atmosphere as measured by the Apollo 14 Cold Cathode Ion Gage from 09 February 1971 through 31 December 1973.
APOLLO_14 - A14A-L-CCIG-3-ATMOS-DENSITY-PLOTS-V1.0 - starting 1971-01-31T00:00:00Z
- Data Set: APOLLO 12 ALSEP/SWS SOLAR WIND 1-HR AVG TABLES V1.0**
Tables of time ordered hourly-averaged measurements of solar wind plasma on the Moon

Preparation for Operations

- Evaluate differences between demo results and operational results.
- Finish design and initiate development of the Search Service.
- Further cleanup on the PDS3 catalog migration.
- Incorporate the PDS taxonomies into the data model and then export them into the Registry Service as classification schemes.
- Upgrade to the latest version of Solr and make use of some the new features and restructure the index to better support search.

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Wrap Up

- This demo proves the following concepts:
 - Content in the PDS3 catalog can be migrated to PDS4 products.
 - Those products can be registered with the Registry Service.
 - A search index can be created from the Registry Service contents.
 - The PDS4 core infrastructure can replicate existing PDS3 catalog-level search.
- There is still more work to be done.

Questions/Comments