

VEX Interoperability Project

PSA implementation

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- ❑ PDS Atmospheres Node should have access to VEX Datasets @ PSA
- ❑ PDS Atmospheres Node should not need to copy across the data from PSA but data location URLs will point to PSA
- ❑ PDS Atmospheres Node should be able to create a uniform display for datasets located at PDS and at PSA

- ❑ **First approach:**
 - PDS Atmospheres Node will download the index file every night (or every time the file is updated) from PSA
 - Using a index file parser, a view of the dataset will be displayed at PDS pages
 - Final pointers will be to the ftp mirror located at PSA



Index file approach problems

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- ❑ Not all the files has a row in the index files. Some extra files will not have a reference, so the data set would not be complete
- ❑ Using the directory and file name information inside the index file, a public FTP URL is created at client side. To create this URL, it is assumed that the files will be in a certain ftp top level location, some characters substitution is assumed and only public data could be pointed out

ftp://psa.esac.esa.int/pub/mirror/GIOTTO/DID/GIO-C-DID-3-RDR-HALLEY-V1.0/DOCUMENT/FITS_IHW.TXT

- ❑ Data providers does not have the freedom to locate the data in a different location
- ❑ This approach is limited to access PSA public data
- ❑ Some strict firewall rules are limiting access to ftp connections
- ❑ This approach could be enough for this particular case but a more ambitious and general approach can be obtained using some modifications



PDAP like approach

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- ❑ PDAP (Planetary Data Access Protocol) is a Planetary Data oriented access protocol
- ❑ It uses PDS dictionary to characterize the metadata, VOTable(s) as format for the metadata response and it is a quite simple to implement and consume HTTP/GET protocol
- ❑ Present version under review already cover three different granularity levels: Data Sets, Products and Data Products with footprint information, so every record in a VOTable response is one of the those
- ❑ It also contains a Data Link to retrieve the data. This data link could be a static location or an on-the-fly/script one (this allow different physical locations, compressions, etc)
- ❑ During PDAP definition, one problem was pointed out; for big data sets as to have a single URL to retrieve the full data set is not optimal
- ❑ Including a new granularity level for files in dataset, there is not need for a full download of the data set for review



PDAP approach for VEX Interoperability Project

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- ❑ Include a new granularity level for files in dataset, there is not need for a full download of the data set for review
- ❑ Asking for a certain data set, the service will provide a VOTable representation of the dataset, one row per file
- ❑ Every row will contain the file name, relative directory to data set top level and a URL to retrieve this single file
- ❑ Every row could contain extra metadata per row, as a group id, file type, etc

- ❑ **PDAP approach to the use case:**
 - PDS Atmospheres Node will query for new data sets at PSA and the corresponding VOTable(s) data set descriptions
 - Using a VOTable parser, a view of the dataset will be displayed at PDS pages
 - URL Pointers are provided, so the server has the freedom to use static or dynamic links



PDAP approach advantages

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- ❑ All the files inside the data set will be present in the VOTable response. No files lost
- ❑ URLs are provided in the response. More freedom and extensible for other data providers. No need of creation of mirrors with a specific directory structure
- ❑ Extra metadata could be added to allow better searches of files (like files for a specific product)
- ❑ It could be used in combination of other PDAP queries
- ❑ Extensible for proprietary data using dynamic links that could check proprietary rights



PAIO (PSA Archive InterOperability) (I)

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PSA Archive
InterOperability
System
(PAIO) v2.0b1

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Welcome to the PSA Archive InterOperability system (PAIO). This system allows PSA users to have direct access to the content of the PSA database without invoking the PSA user interface applet.

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PAIO Metadata Query

Metadata Query	
Data Set Id	eg. TSK-C-RCC-CAL-RSA-WIRTANEN-V1.0 or empty
Product Id	eg. TSK_C_RCC_3_19970303T165718 or empty
Target Name	eg. 46P/WIRTANEN or empty
Mission Name	GIOTTO
RESOURCE_CLASS	
DATA_SET	
RETURN_TYPE	
HTML	
<input type="button" value="Send"/>	

Some example URLs created using the Metadata Query System are:

http://satss01.esac.esa.int:8080/aio/jsp/metadata.jsp?RETURN_TYPE=HTML
for all DataSets (default RESOURCE_CLASS is DataSet)



PAIO (PSA Archive InterOperability) (III)

Planetary Science Archive
European Space Agency



PAIO Login System

Login

Username

Password

Enter your PSAuser details for proprietary data. If you do not have an account, please enter in the the PSA Home page and register in the PSA Classical User Interface

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Conclusions

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- ❑ A beta version of the PSA Archive InterOperability (PAIOv2.0b1) Subsystem has been released, including Data Set files VOTable representation for all the public datasets at PSA
- ❑ This service could be used to emulate local access and browsing from different nodes without copying the data
- ❑ The subsystem is extensible to proprietary data
- ❑ This extra level could be better defined and discussed in the PDAP context

