

# **PDAP Assessment Project**

## **Status Summary**

**for**

### **3rd International Planetary Data Alliance (IPDA) Meeting in Montreal**

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# How to Proceed PDAP Assessment

## 1. Players-search around PDAP system

Who provides the requirements for PDAP ?

## 2. Use-case analysis of PDAP system

Sample cases make some requirements for PDAP adopted system

Use-case analysis defines **Activity driven Requirements, Data driven Requirements,** and **Project driven Requirements.**

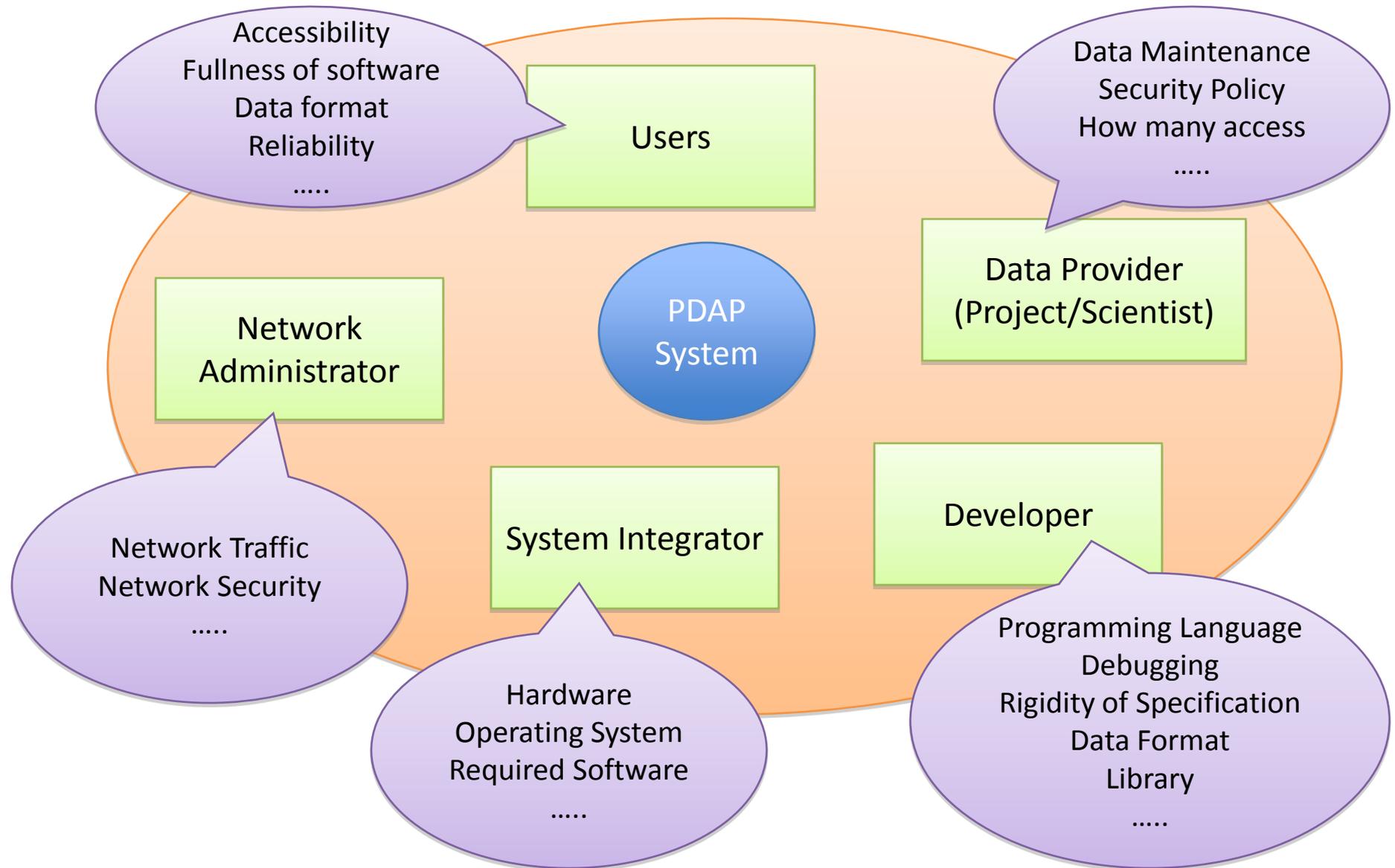
## 3. Classification of Requirements

Which is the best layer to perform the required operation, protocol layer or application layer ?

## 4. Comparison with Third Player's output

We need check the output of W3C, ISO, or other generic "PROTOCOL" players.

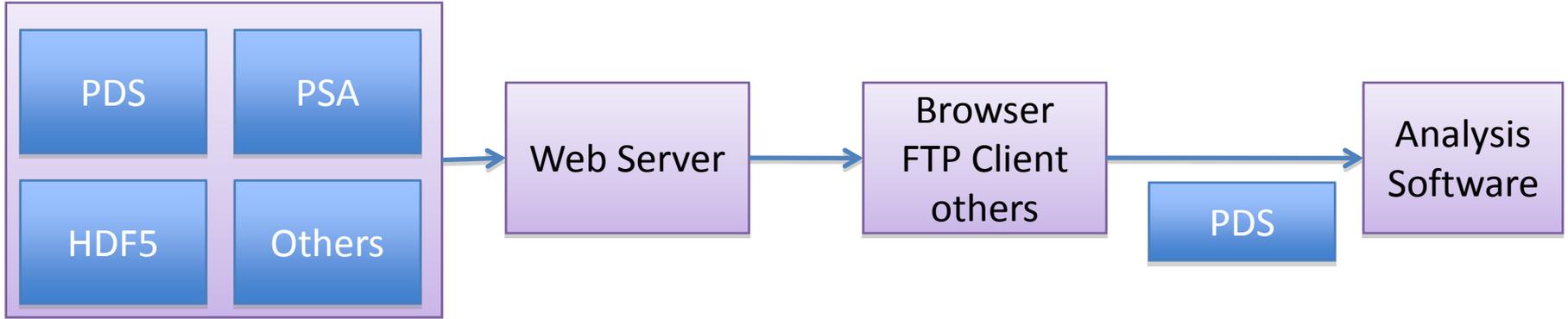
# 1. Players around PDAP System



## 2. Use-case Analysis of PDAP

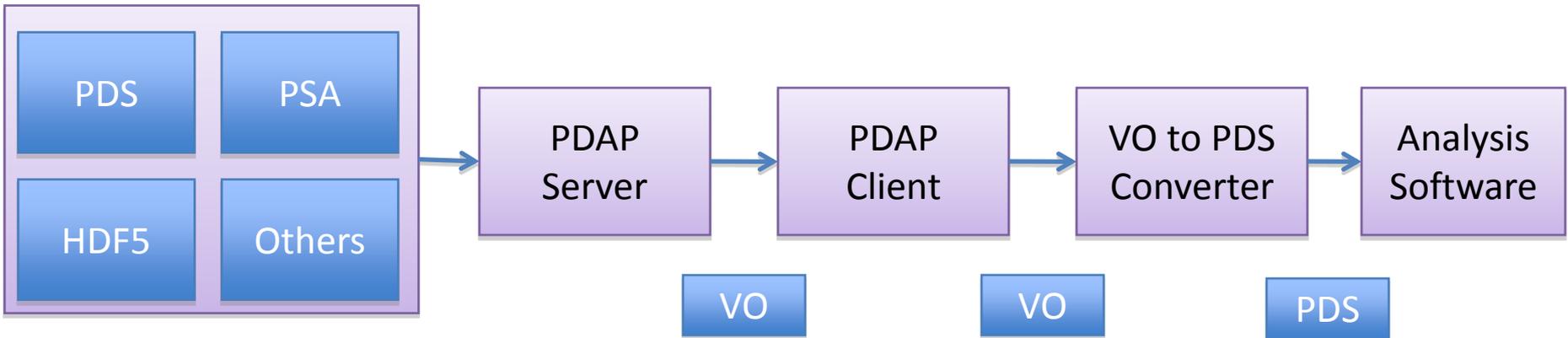
# Example Case 1

Data Repository



Generic case of current analysis procedure

Data Repository

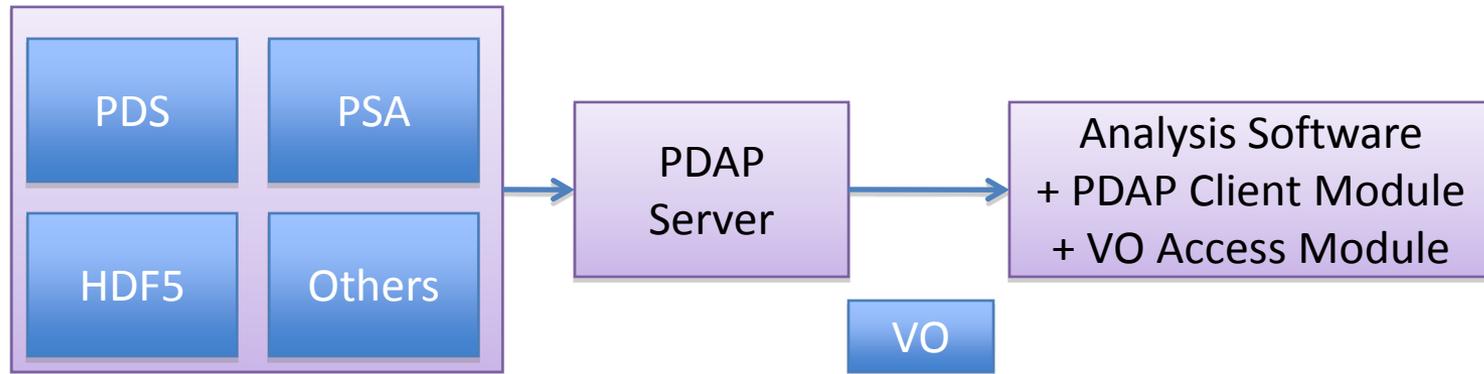


Sample case 1 using PDAP : Format Converter

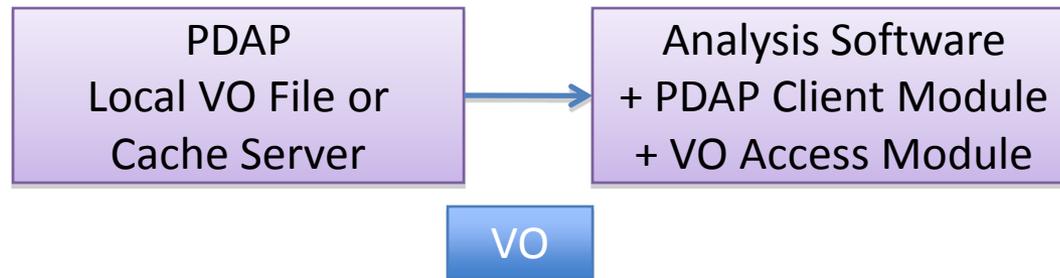
## 2. Use-case Analysis of PDAP

# Example Case 2-3

Data Repository



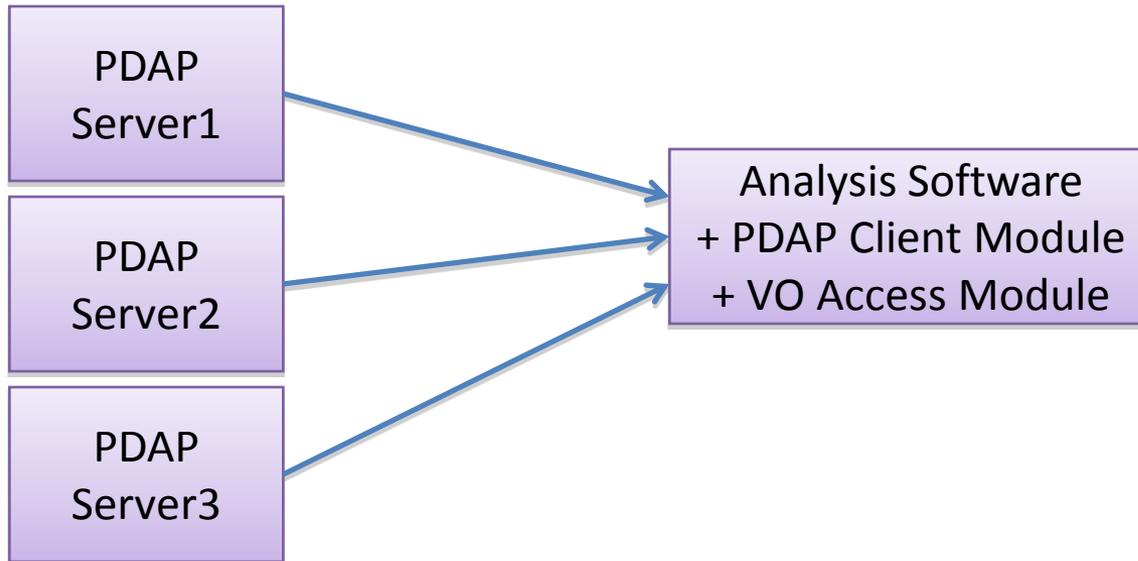
Sample case 2 using PDAP : Implementation of PDAP Client Module



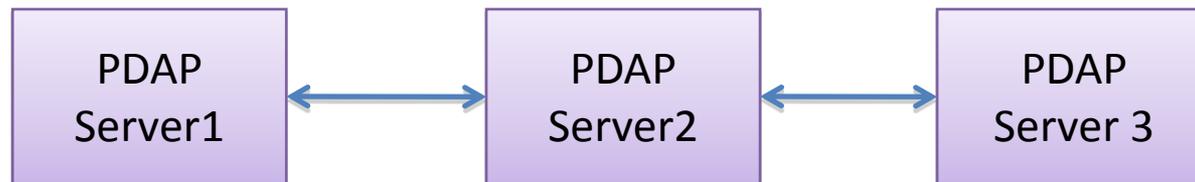
Sample case 3 using PDAP : Data Retrieving from local cache

## 2. Use-case Analysis of PDAP

# Example Case 4-5



Sample case 4 using PDAP : Multiple Data Search Requirement



Sample case 5 using PDAP : Synchronization between PDAP servers

## 2. Use-case Analysis of PDAP

# Activity Driven Requirement

- Select from list
  - PDAP must have the interface to provide the product list to PDAP clients.
- Specify the Labels (for example, PDS label)
  - PDAP must have the interface to provide the table of the product labels.
- Search from any keywords (Labels, Description)
  - PDAP must support search type and keywords to a search engine.
- Filtering with range (time, position, or other physical quantities)
  - PDAP must support filtering with data range.
- Download
  - PDAP must provide the type of download method if PDAP support the multiple download methods, such as VO, URI, etc. Some chunk of data, such as detached-PDS, multiple data-set should be packed to download easily.

## 2. Use-case Analysis of PDAP

# Data Driven Requirements

- PDS
- PSA
- Other formats: HDF5, NetCDF, FITS, etc.

UNDER CONSTRUCTION

# Project Driven Requirements

- The same keyword may be used in different way between the different projects.
  - PDAP must define the keywords to ensure the compatibility.
- The essential keyword may be lack in some projects.
  - PDAP must report users to the fact that the essential keyword is lost. If compensation data will be added in future, PDAP should define the compensate with the data.

# Classification of Requirements

- A requirement provides some solutions in different layers. We must select the best way to implement.

Ex)

- **Requirement**: Users are familiar with specific software, such as IDL, ISIS, IRAF etc.
- **Solution1**: Developing format converter in application layer: VO to PDS, VO to FITS etc., which means **this is not the requirement for PDAP**.
- **Solution2**: Implementing the direct I/F to transfer the raw data with original format through the PDAP. This solution may go against the PDAP policy, but it'll be useful for the users in an old-fashioned way. **This requirement should be discussed in PDAP**.



**Requirement should be resolved considering PDAP Scope**

# Comparison with other protocols

- W3C has been proceeded standardization of internet protocols. The activity is available for developing the PDAP specification.
- ISO has also constituted and manage many standards in every fields with rigidity.
- Request for Comment, RFC, describes the details together with the background.



**PDAP constitution should not ignore their outputs.**

# PDAP Assessment Project

Core member of PDAP Assessment Team:

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Dan Crichton (PDS)

Steve Hughes (PDS), Jesus Salgado (ESA),

Nancy Chanover(NASA/PDS)

Schedule:

- Use-case analysis will start from the end of July 2008.
- Assessment Contents and Documents will be prepared by the end of December 2008.

Budget:

- Budget for PDAP assessment is assigned inside JAXA.