

Overview of PDSAW Methodology

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Polar Data and Systems Architecture Workshop

28 November 2018

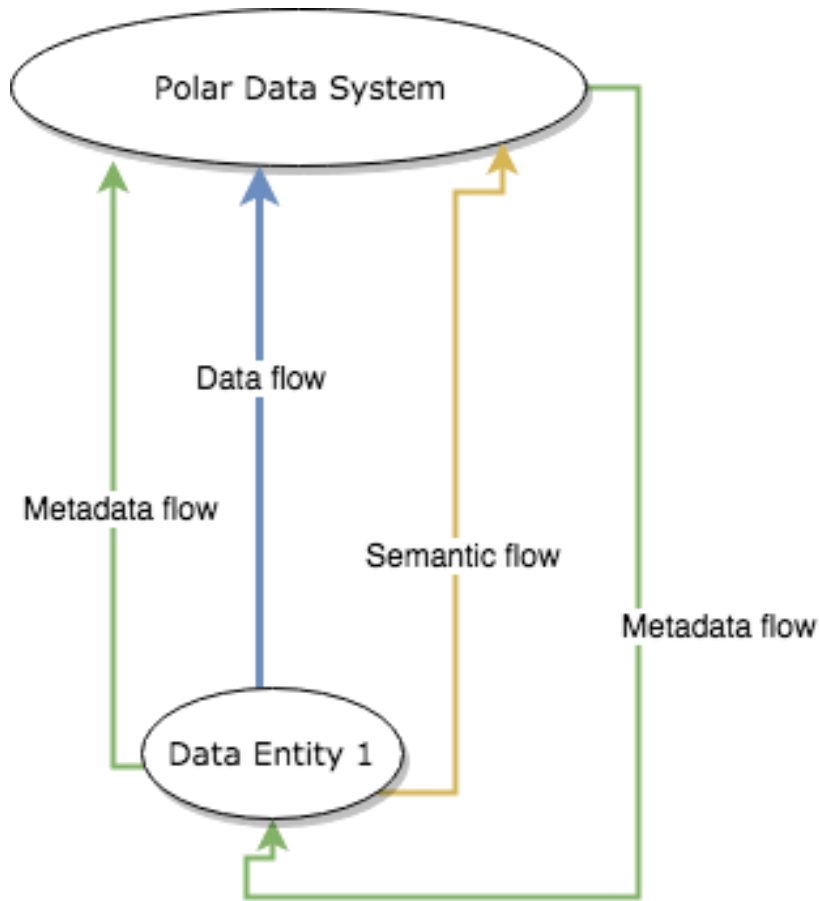
Geneva, Switzerland

Proposed Approach

1. Identify system nodes (hubs) + existing or desired relationships (e.g. survey, Arctic Data Ecosystem project)
2. Document through diagrams and descriptive text
3. Iterate through levels of complexity
4. Clarify terminology where possible (time boxed)
5. “Park” some discussions until Day 3 and beyond

Templates / Patterns

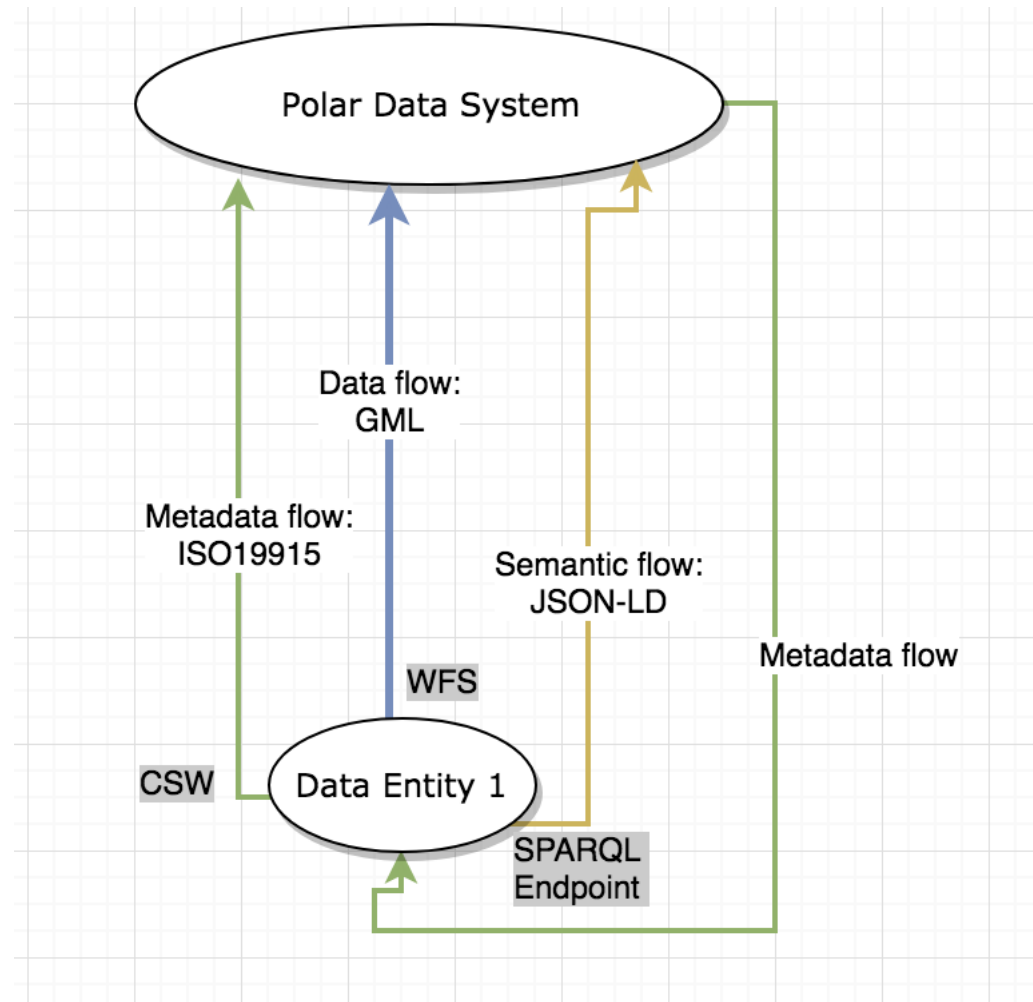
Simple Example of Diagram and Text



Annotated representation

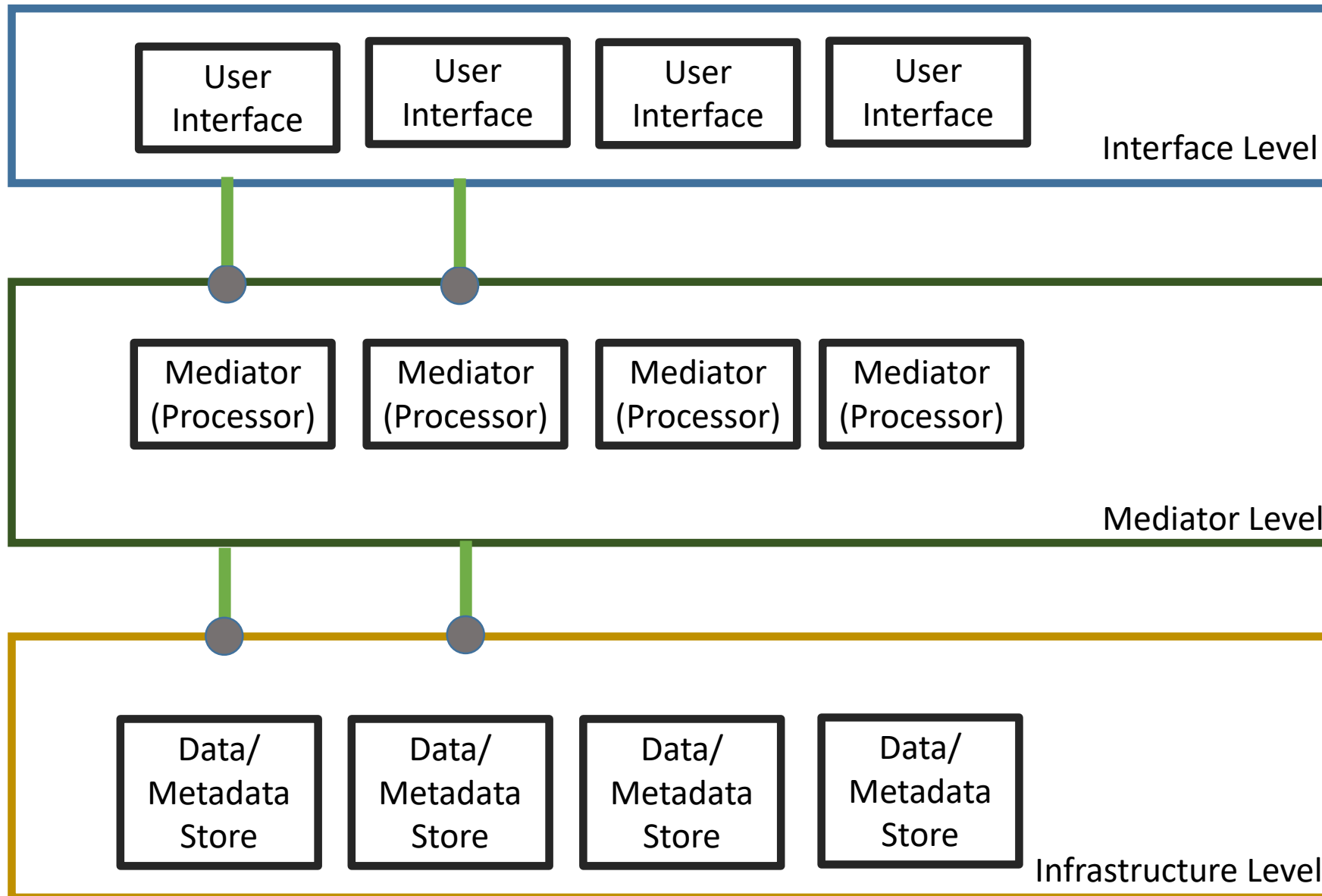
Descriptive text overview

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Descriptive text detail

Lorem ipsum dolor sit amet, consectetur adipiscing elit.



Polar Data and Systems Architecture Workshop

Architecture Template

Notes:

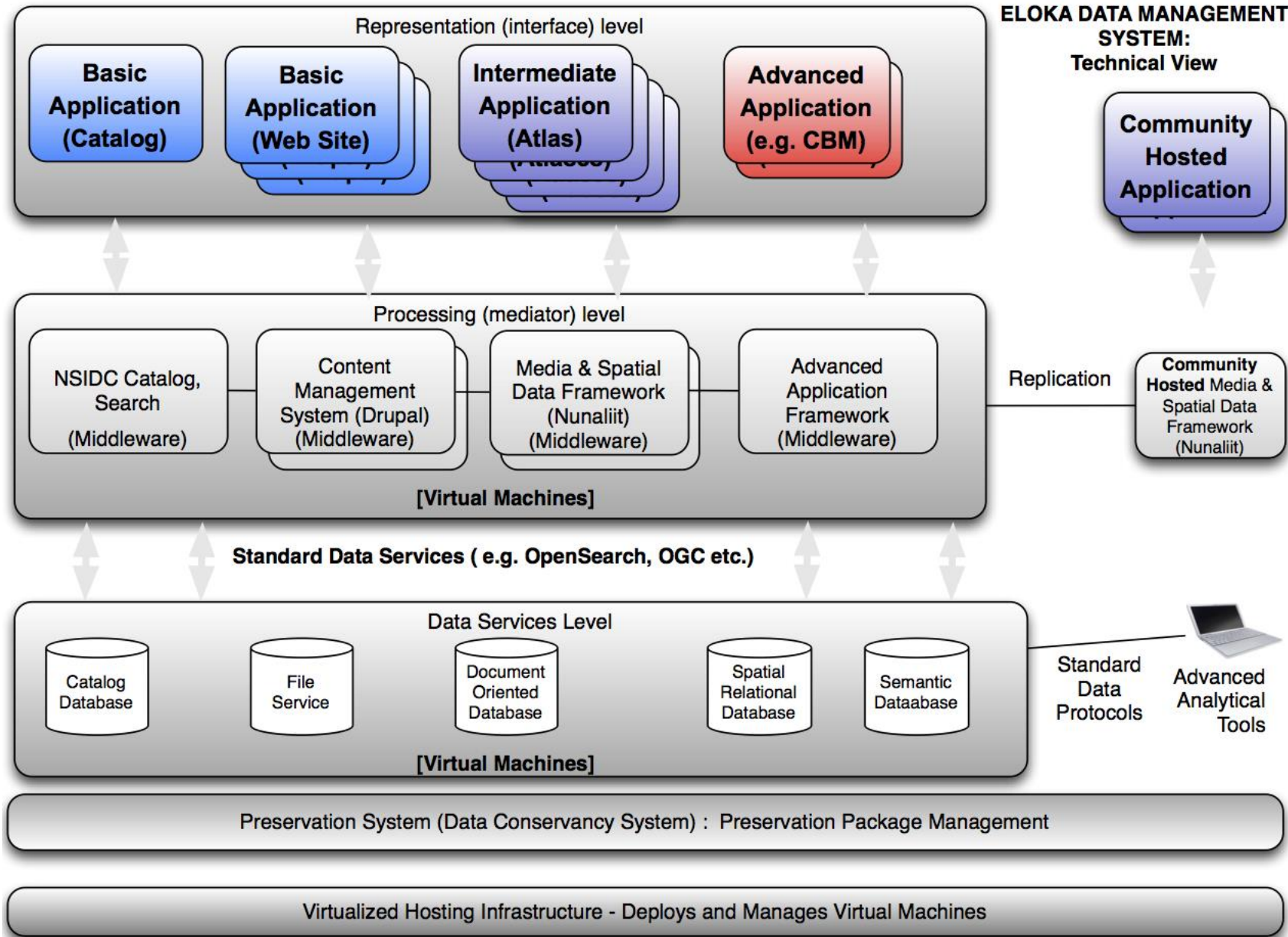
- For system elements provide function description and if possible, an instance
- Describe service interfaces and flows
- If possible, provide format information in flow description
- Describe user “personas” wherever possible

● Service interface

█ Data/metadata flow

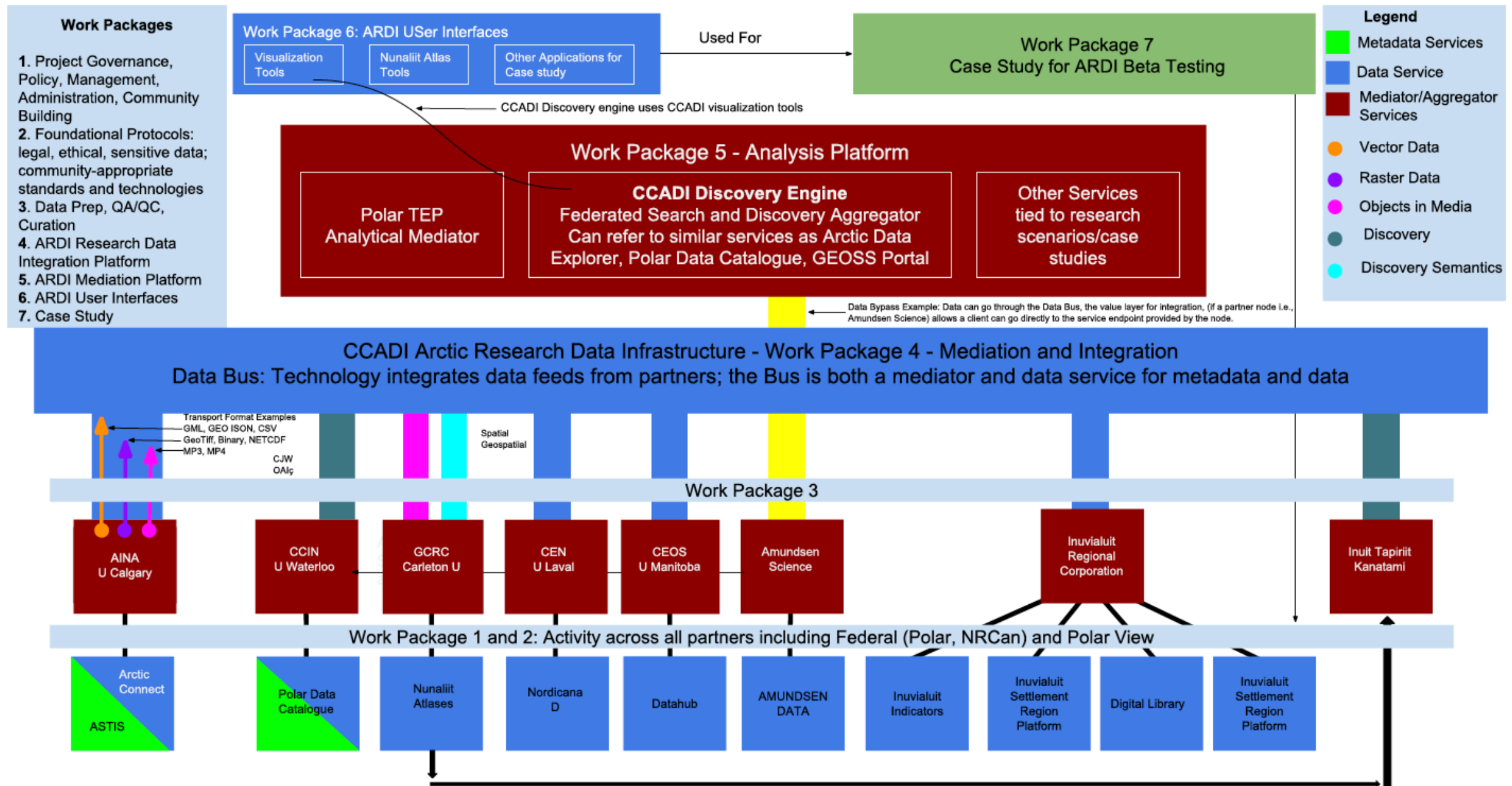
Pulsifer, P.L., Taylor, D.R.F., 2005. The Cartographer as Mediator: Cartographic Representation from Shared Geographic Information. In: Taylor, D.R.F. (Ed.), *Cybercartography: Theory and Practice*. Elsevier, Amsterdam, pp. 149–179.

IMI Pattern: Application Examples



EXAMPLE

ELOKA
ARCHITECTURE
DESIGN
2014



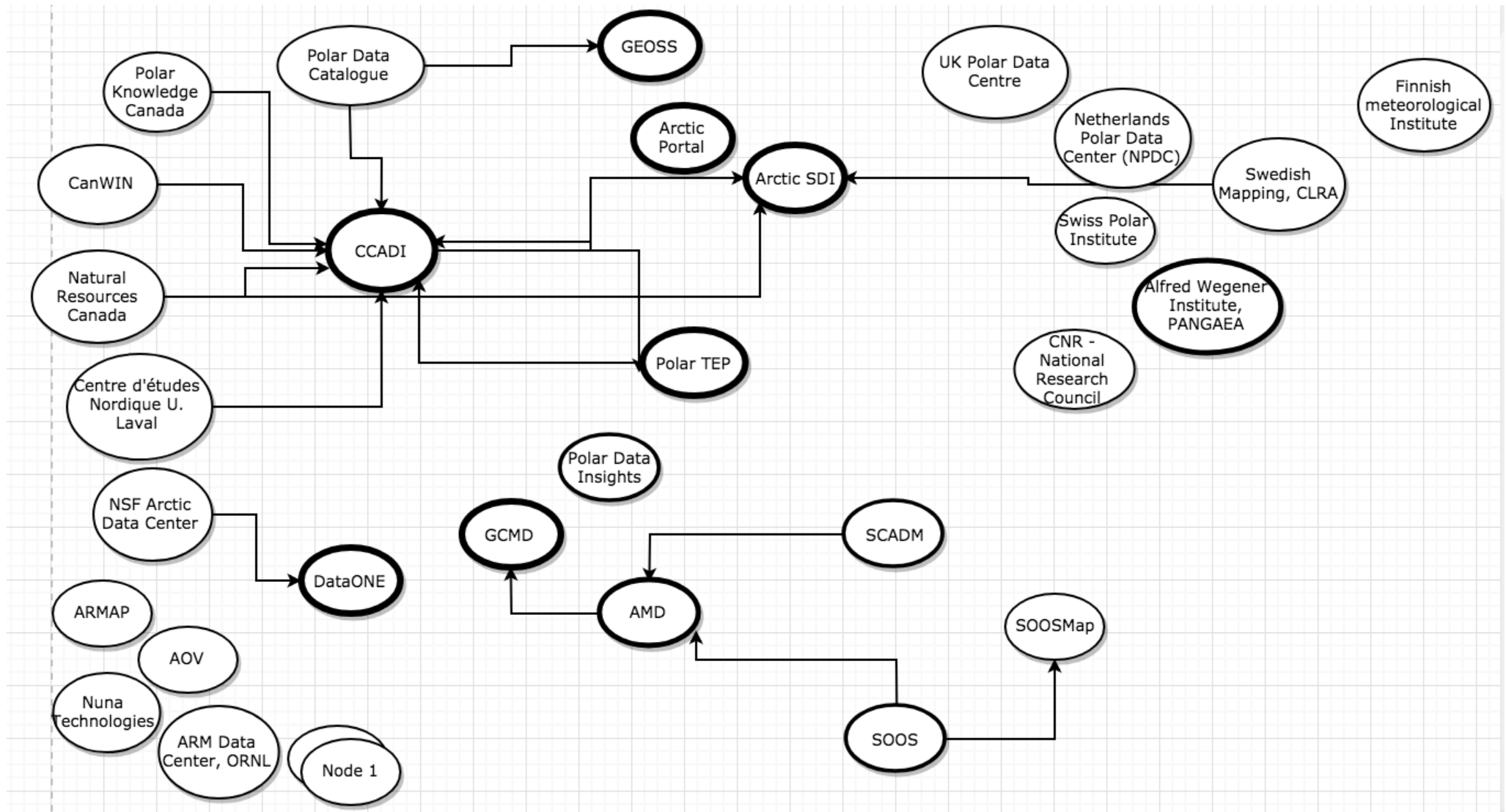
Efficiency

Terminology, Time Boxing and “Parking”

- **(Computer) System architecture** is a set of rules and methods that describe the functionality, organization, and implementation of computer systems. Some definitions of architecture define it as describing the capabilities and programming model of a computer but not a particular implementation.
- **Infrastructure**: the basic physical and organizational structures and facilities (e.g. buildings, roads, power supplies) needed for the operation of a society or enterprise.
- In scientific usage, **cyberinfrastructure** is a technological and sociological solution to the problem of efficiently connecting laboratories, data, computers, and people with the goal of enabling derivation of novel scientific theories and knowledge.

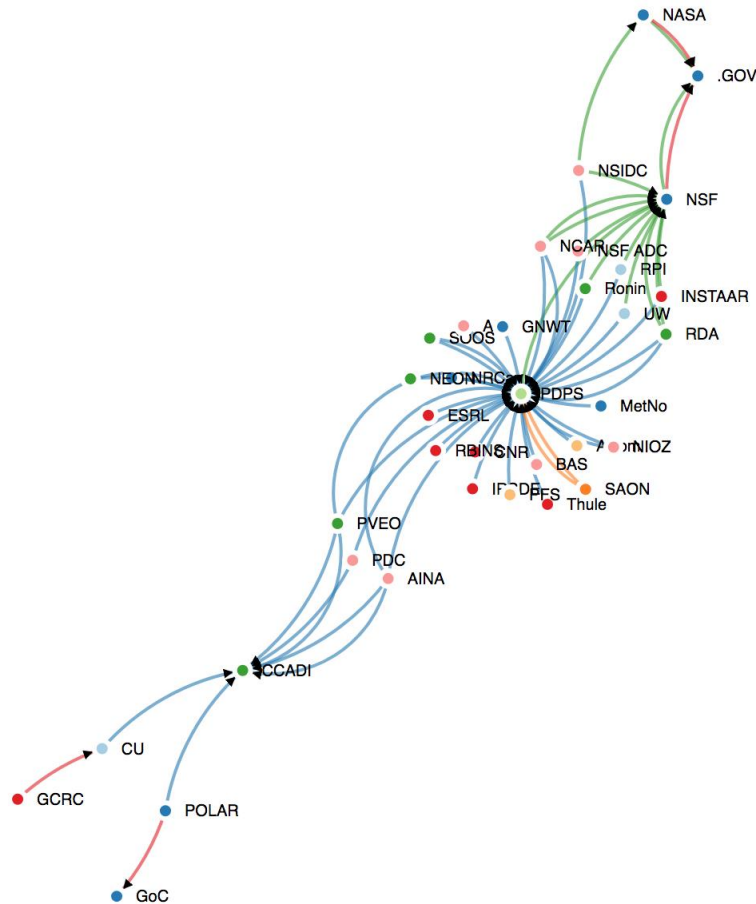
Simple Preliminary Representation

Using draw.io Tool



Modeling

- University
- Government Agency
- Coordinating Body
- Network
- Data Center
- Research Center
- Infrastructure
- Network of Networks
- member of
- Is funded by
- unit Of
- linked to



```

OPTIONAL {?subject org:classification ?sClassification .
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OPTIONAL {?object org:classification ?oClassification .
?oClassification rdfs:label ?oClassificationName } .
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FILTER (lang(?linkName) = "en")}
}
?subject org:hasPrimarySite ?site .
?site org:siteAddress ?siteAddr .
?siteAddr vcard:country-name ?scountry .
?object org:hasPrimarySite ?osite .
?osite org:siteAddress ?ositeAddr .
?ositeAddr vcard:country-name ?ocountry .
}

```

New Graph Filter Graph

Linked Open Data Model:

Mapping the Arctic Data Ecosystem

Potential platform for PDSAW and related network data

Query

