Data Fabric and GEDE push towards broad agreements on PID Systems

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Motivation for activities

- the solution space in the data domain is huge
  - all infrastructure projects have creative people and „know better“
  - let‘s not forget industry having the same problems (-> Alex)
    - IoT with its billions of cyberphysical systems each creating huge amount of data objects changes the game
    - in China massive usage of Handles in food chain supply control
  - hampers interoperability
  - hampers effective software development and thus tool support
  - the costs are too high and no one can maintain all solutions

- senior researchers and funders ask for change

- how to do it? how to get tool builders on board?
- FORCE11, DFIG, GEDE, etc. are attempts to give impulses
  - need to learn to be inclusive and not special!
  - nevertheless rough consensus

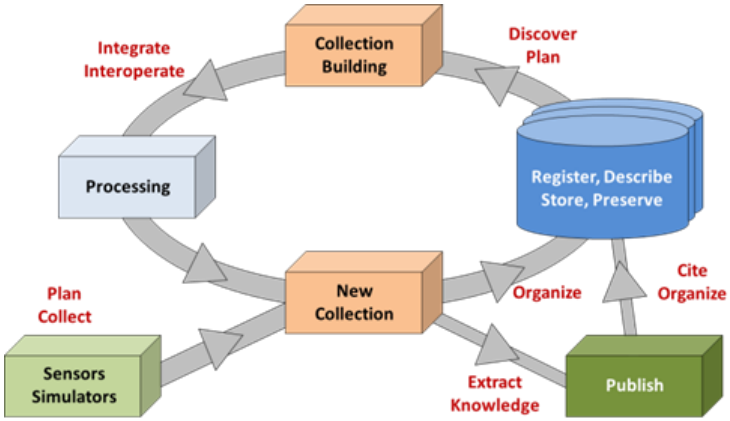
20 Years of PID Discussion – is it enough?

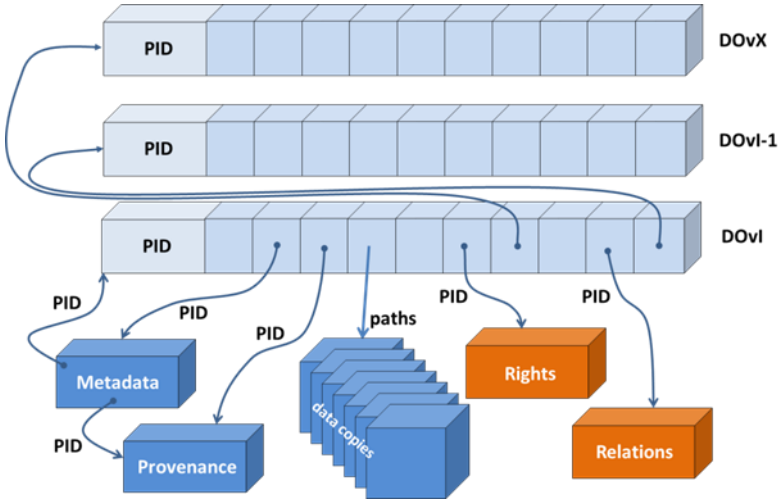
- 1995: Kahn & Wilensky

  A Framework for Distributed Digital Object Services

- recent Scientist Workshop in RDA
  - unclear what PID state is and what possibilitis are
- over the 20 years many suggestions, implementations & tests from different points of views (publications, labs, sem-web)
- effectively reduction of solution space towards DOIs and Handles
  - learned a lot from other approaches
  - semantic web still on different track
  - but there are other „big“ ID systems (bar codes, etc.)
  - China is going to set up a national PID system (kind of baseline) (huge performance/robustness/security issues to be solved)
  - it will have an effect on academic domain

Data Fabric IG: Guidelines & Testing



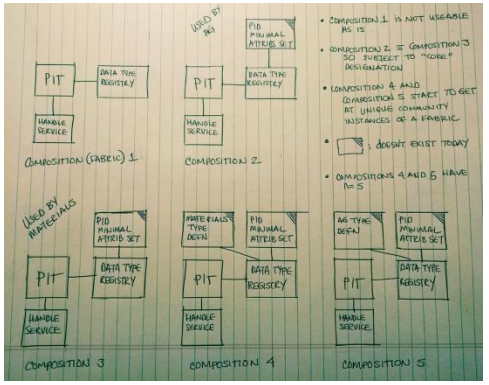


- identify essential components to make lab work more efficient & specify them
- stimulate testing
- stimulate configuration building by bringing components together
- with respect to PID usage different approaches in DFIG
  - few groups who just want an identifier
  - most groups who want to add useful information to Digital Objects
  - proof identity
  - check location
  - etc.
  - it‘s all for machine use

Data Fabric IG: configuation building

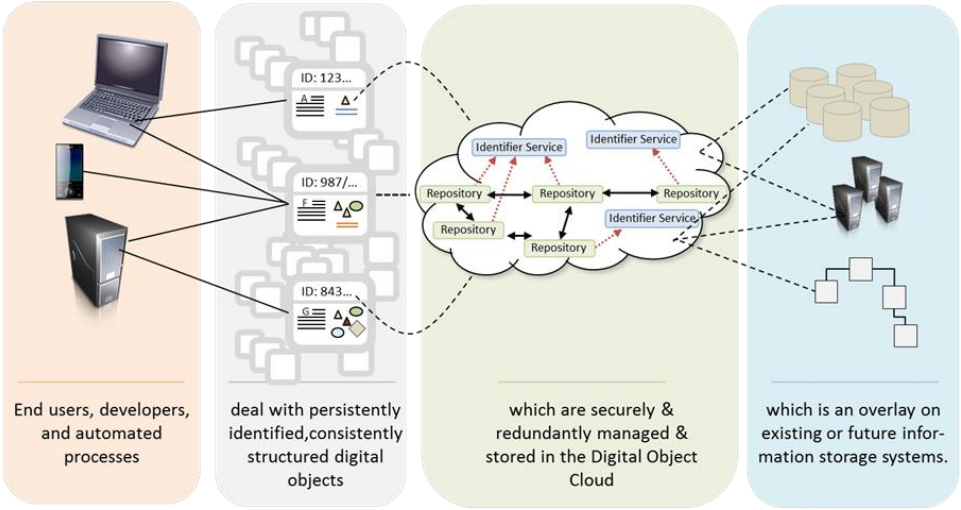
- PID Centric Data Management and Access approach – 2 tracks

1. bring current results together, identify gaps and build
   -> Beth



2. Global Data Object Cloud
   - identify urgently needed components
   - use what is there
   - and build

   -> Tobias



all documented here:

https://rd-alliance.org/group/data-fabric-ig/wiki/df-configuration-pid-centric-data-management-and-access.html

Is that sufficient?

- **NO** – we also need an agreement finding process incl. guidelines at the end
- started this in DFIG with restricted scope
  - Identify a number of Bundles https://rd-alliance.org/group/data-fabric-ig/wiki/recommendations.html):
    - structure issues
    - discovery/finding bundle
    - repository bundle
    - persistent identifier bundle
    - data bundle
    - data access bundle
    - data processing bundle
- Define characteristics and requirements for each bundle by building Charrettes that will take responsibility
- first: collect all relevant assertions about a bundle

Is that sufficient?

- **NO** – we cannot just discuss this in the RDA realm
- need to include the practitioners building infrastructures!!!
  - therefore in Europe we started the GEDE group
- need to include industry
  - therefore we started to make links with IoT, ITU, etc.
- need a structured approach with some commitment
  - **R**esponsible
  - **A**ccountable
  - **C**onsulting
  - **I**nformed

RACI Model

GEDE RDA
RESEARCH DATA ALLIANCE
Group of European Data Experts in RDA

MPCDF

CHARTER: The aim of the **Group of European Data Experts in RDA (GEDERDA)** is to promote, foster and drive the discussions and consensus forming on creating guidelines, core components and concrete data fabric configuration building based on a bottom-up process.

- platform to engage European data professionals in a cross-disciplinary exchange of principles, recommendations and standards in the data domain;
- discuss messages coming from RDA Working & Interest Groups and other initiatives working on data issues;
- discuss core components and concrete infrastructure configuration building and testbeds:
- discuss and develop aggregated guidelines/recommendations and contribute to the RDA Atlas of Knowledge.

Finally: work on reducing the huge solution space

The GEDE Members

MPCDF

ACTRIS
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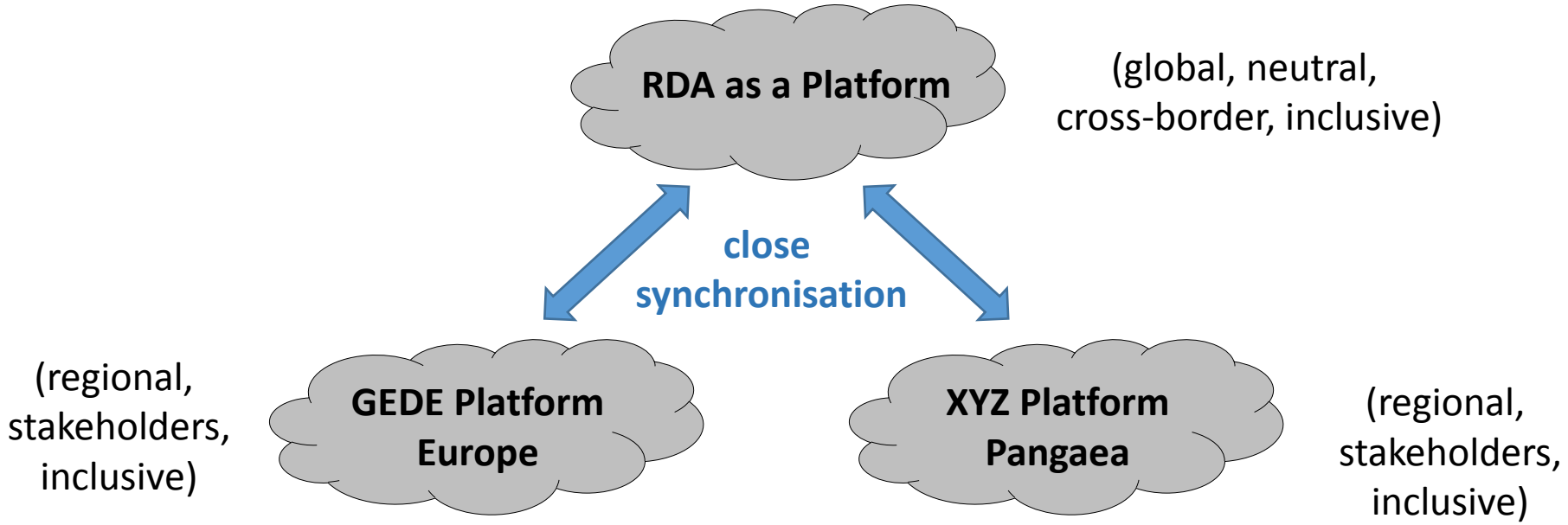
AGRO
AnaEE
Asterics
BBMRI
CESSDA
CLARIN
DARIAH
EATRIS
ECRIN
EISCAT
ELI
ELIXIR
eLTER
EMBRC
EMFL
EMPHASIS
ENES
ENVRI Plus
E-RIHS
ESRF
ESS
ESS – Social
EST
EUCALL
EU-OPENSCREEN
EURO-ARGO
EURO-BIOIMAGING
FAIR
HBP
IAGOS
ICOS
INSTRUCT
KM3NeT
LIBER
LifeWatch
METROFOOD
MIRRI
MYRRHA
PARTHENOS
RDA
SCK•CEN
SERISS
SIOS
SKA
VAMDC

GEDE Procedure

- reduce the complex data landscape into coherent chunks
  - let‘s call them bundles
- define bundles
- define responsible chairs (not so easy)
  - RDA must continue to help as moderators, pace makers
- build groups of engaged experts
- aggregate assertions of relevance from different initiatives
  - identify common sense
  - extract agreed messages
  - identify disagreements
  - check overall coherence
  - is it tested??
- submit regular reports to GEDE and RDA
  - obviously some iterations

started with PID Bundle

Discussion Process complicated



- we need to speed up to be prepared for the challenges in N years
- how to include industry in this – as in internet times some just want to impress their standards
- is it all feasable?
  - don‘t know
  - so let‘s try or does someone know better?
- it remains an open interaction based on rough consensus and testing

Possible Directions

- have connected national „systems“ available for everyone will be a good baseline approach
  - there will be specialised services
- need to overcome the Handle/DOI devide
  - give clear messages about the publication of collections
  - but there is the huge domain of DOs associated with Handles
- how to do it – very simple or?
  - establish criteria for accepted service providers and give a seal
  - include the HQ service providers in metrics
- will come back on this at the end

Thanks for your attention.