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Haute école de gestion
Genève

07.06.2019

ASSIGNING PERSISTENT IDENTIFIERS TO ART AND DESIGN ENTITIES

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Fourth Swiss Congress for Art History, VKKS, Mendrisio

Quid pro quo: linked data in art history research

Agenda

1. Introduction to Persistent identifiers (PIDs)
2. Cool URIs and PIDs
3. The rationale and main results of the ICOPAD project
4. ICOPAD possible follow-up project: INCIPIT

1. INTRODUCTION TO PIDS

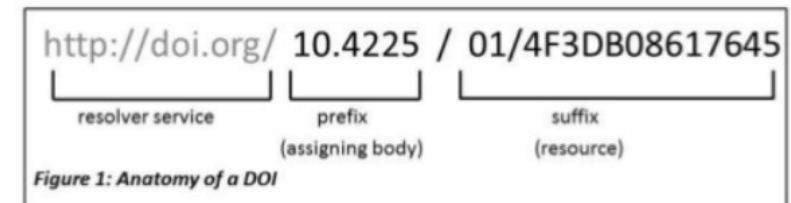
Persistent identifiers (PID)

A persistent identifier is a long-lasting and biunique reference to a digital resource.

It usually has two parts:

1. A unique identifier (to ensure the provenance of a digital resource)
2. A location for the resource over time (to ensure that the identifier resolves to the correct location)

How do DOIs work?



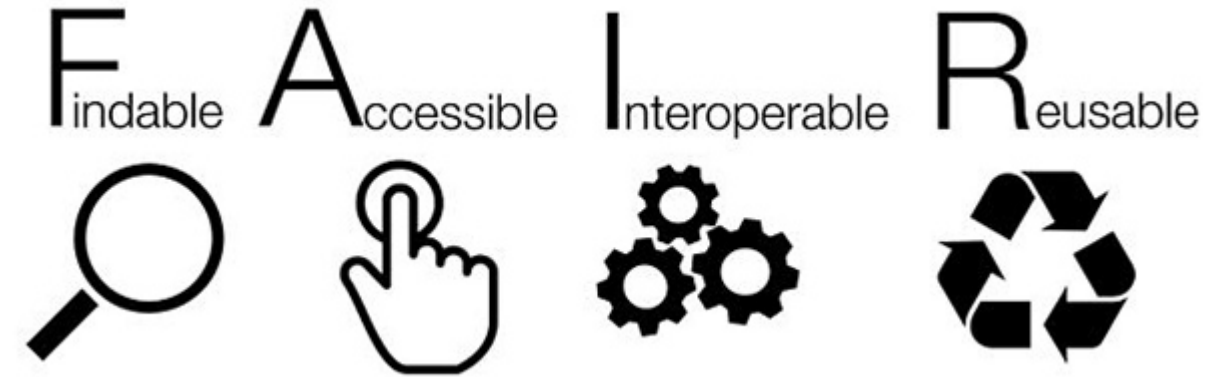
In order to...



<https://www.interserver.net/tips/kb/404-error-fix/>

- Create long lasting (not permanent) access
- Avoid error messages

FAIRness



<http://www.dit.ie/dsrh/data/fairdata/>

PIDs are essential and indispensable to create fair data.

F1 Principle: (meta)data are assigned a globally unique and eternally persistent identifier

PID ≠ PID

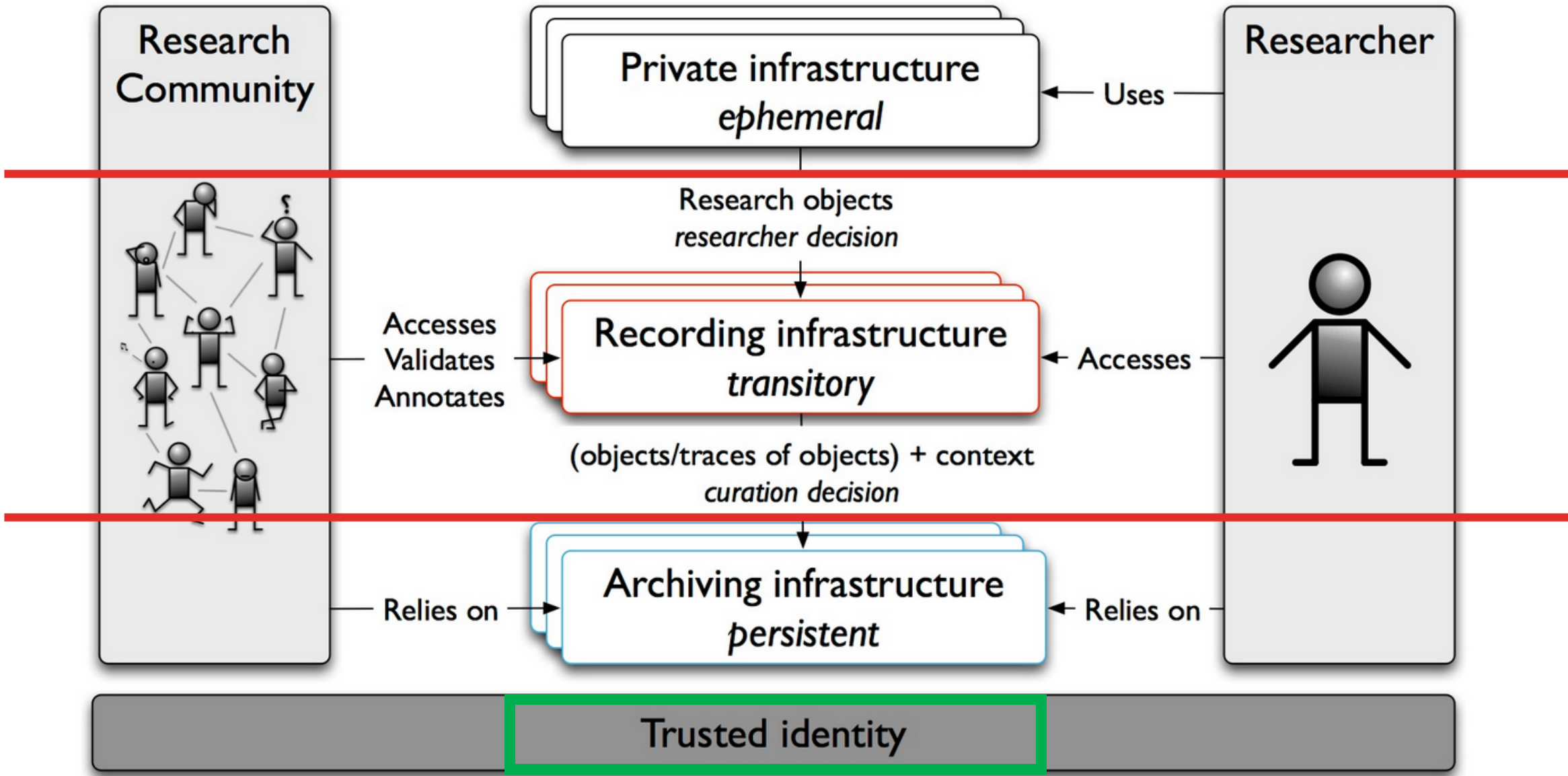
- Publications
- Data
- Persons
- Organisations
- Citations



and more: (antibodies, fictitious characters, places, plants, e-books, ...)

Persistence

*« Persistence is not dependant on the identifier itself, but on **legal, organisational and technical infrastructure** ». (Hakala 2005)*



2. COOL URIS AND PIDS

Cool URIs

What makes a cool URI?

A cool URI is one which does not change.

What sorts of URI change?

URIs don't change: people change them.

There are no reasons at all in theory for people to change URIs (or stop maintaining documents), but millions of reasons in practice.

- Cool URIs don't change: <https://www.w3.org/Provider/Style/URI> (Tim Berners-Lee, 1998)
- Cool URIs for the Semantic Web: <https://www.w3.org/TR/cooluris/> (W3C Interest Group Note, 2008)

PIDs and cool URIs (Bazzanella, Bortoli, Bouquet 2013)

Feature	PIDs	Cool URIs
Resolver	YES	NO
Authority	YES	NO
Naming authorities	YES	NO
Level of trust	HIGH	LOW
Policies	YES	NO
Persistence	YES	NO
Actionability of IDs	Partially	YES
Uniqueness	YES	NO
Content change	NO	YES
Content negotiation	NO	YES
Cross linkage	NO	YES
Effort for implementation	HIGH	LOW
Costs for users	Potentially HIGH	LOW
Sustainability issues	MANY	FEW
Identified entities	Mainly digital objects	Everything
Bridge metadata	NO	YES

Motivation

- SARI

- ICOPAD

LOD – cool URIs

PID

PIDs and LOD at the BnF

The image shows a screenshot of the BnF website. At the top, there is a navigation bar with the BnF logo and the text 'Catalogue général'. To the right, there are links for 'Espace personnel', 'Aide', 'Une question?', and 'Historique'. Below this, there is a search bar with the text 'Rechercher...' and a magnifying glass icon. To the right of the search bar, there are links for 'RECHERCHE AVANCÉE', 'SÉLECTIONS', 'BLOG', and 'FR'. Below the search bar, there are several menu items: 'LES ACTUALITÉS', 'LA SÉLECTION', 'GALLICA STUDIO', 'LE REGARD DES PARTENAIRES', and 'DÉJÀ VU?'. There is also a 'BLOG' button. The main content area features a large blue banner with the text 'Reference information about authors, works and topics.' and 'Welcome to data.bnf.fr.'. Below this, there is a search bar with the text 'search data.bnf.fr' and a magnifying glass icon. To the right of the search bar, there is a 'News' section with the text 'data.bnf.fr celebrates 20 years of Gallica and updates its data!'. At the bottom of the banner, there are two buttons: '> About the project data.bnf.fr' and '> Download data from data.bnf.fr'.

{BnF} Catalogue général

Espace personnel | Aide | Une question ? | Historique

{BnF} Gallica

TOUT GALLICA | Rechercher... | RECHERCHE AVANCÉE | SÉLECTIONS | BLOG | FR

LES ACTUALITÉS | LA SÉLECTION | GALLICA STUDIO | LE REGARD DES PARTENAIRES | DÉJÀ VU ?

BLOG

LES ACTUALITÉS

{BnF} Data

About Data.bnf.fr | Contact | Français | English | Deutsch

Reference information about authors, works and topics.

Welcome to data.bnf.fr.

The Bibliothèque nationale de France guides you through its resources by aggregating information scattered among its various catalogues and the Galica digital library on dedicated HTML pages.

Data.bnf.fr is an open data project based on semantic web standards and tools.

In 2013, data.bnf.fr and Gallica won the [Stanford Prize for Innovation in Research Libraries \(SPIRL\)](#).

search data.bnf.fr

News

data.bnf.fr celebrates 20 years of Gallica and updates its data !

> About the project data.bnf.fr

> Download data from data.bnf.fr

Detailed information 

NOTICE

Title : [Recueil de plantes, fleurs, insectes, oiseaux et animaux, peints et dessinés par divers artistes des XVIe et XVIIe siècles, parmi lesquels Nicolas Robert et Claude Aubriet] : [dessin, estampe]

Author : Robert, Nicolas (1614-1685). Dessinateur

Author : Aubriet, Claude (1665-1742). Dessinateur

Author : Bonnet, Louis-Marin (1743-1793). Graveur

Publication date : 15..-16..

Subject : Fleurs -- Ouvrages avant 1800

Subject : Animaux -- Ouvrages avant 1800

Type : image

Type : still image

Format : 1 vol. (72 planches) : dessin et estampe en couleur sur vélin et papier ; 45.4 x 37 cm

Format : image/jpeg

Format : Nombre total de vues : 171

Rights : public domain

Identifiant : [ark:/12148/btv1b10542304w](https://nbn-resolving.org/urn:nbn:fr:bnf-12148-btv1b10542304w)

Source : Bibliothèque nationale de France, département Estampes et photographie, RESERVE FOL-JA-22

Relationship : <http://catalogue.bnf.fr/ark:/12148/cb403508336>

Provenance : Bibliothèque nationale de France

Date of online availability : 16/01/2017

Aide



<https://gallica.bnf.fr/ark:/12148/btv1b10542304w/f13.item>

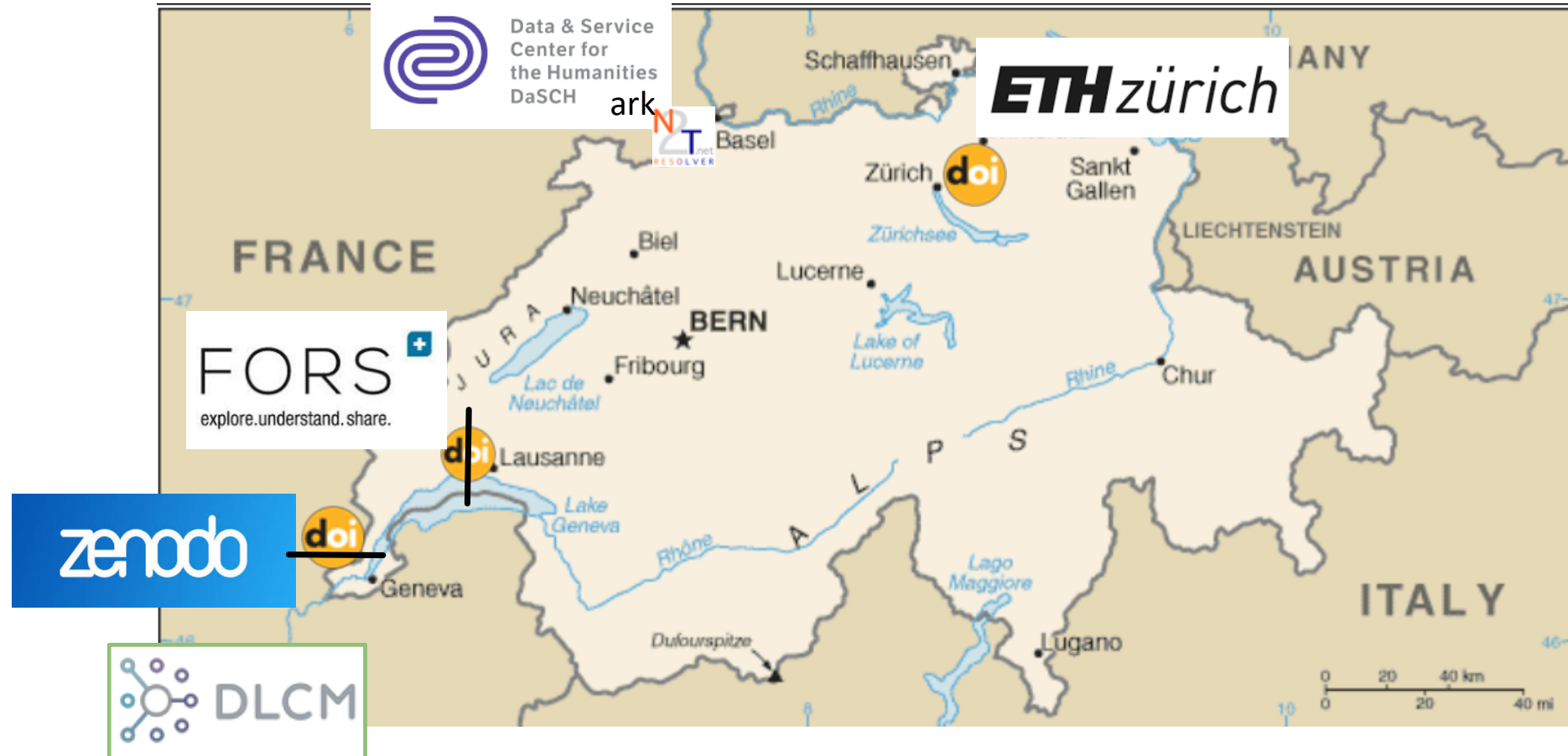
3. THE RATIONALE AND MAIN RESULTS OF THE ICOPAD PROJECT

ICOPAD Project

https://campus.hesge.ch/id_bilingue/projekte/icopad/index_fr.asp

- Identités de confiance pour les données de l'art et du design (ICOPAD) – June 2017 to December 2018
 - Haute école de gestion de Genève (HEG-GE) – Instigator and Project Manager
 - Zentralbibliothek Zürich (ZB) / Zurich Central Library
 - Zürcher Hochschule der Künste (ZHdK) / Zurich University of the Arts
 - Schweizerisches Institut für Kunstwissenschaft (SIK-ISEA) / Swiss Institute for Art Research
- Goal: feasibility of a suitable PID model (prototype)
 - Requirements and workflow – link between research data and Linked Data based on PIDs
 - Dedicated to the disciplines of art, design, and digital humanities to derive conjectures
 - Transferability of the model to other disciplines

Swiss PID Landscape



ICOPAD use cases from our project partners

Institution	Data set types/entities	Needs
SIK-ISEA	Artists Artworks Dictionary entries	Diverse PIDs and links to normed data.
ZB	Digital surrogates	Fine level of granularity.
ZHdK	Artists Artworks Events Films Glossary entries Projects Research Data	Further development of applications such as eMuseum and Medienarchiv.

Approaches

DOI +

$$C(doi) = x$$

DOI + 1

$$C(doi) = a$$

DOI + n

$$C(doi) = (x_1, x_2, \dots, x_n)$$

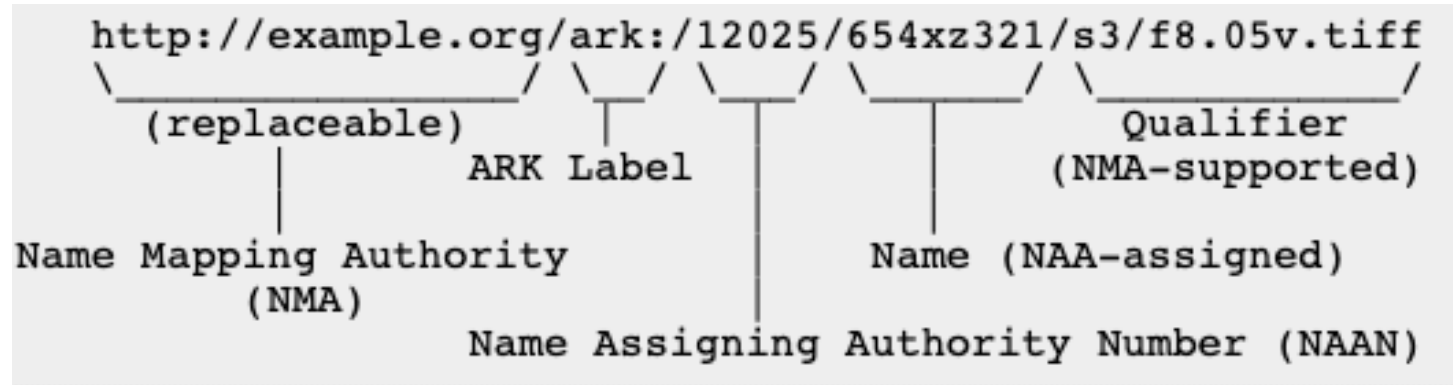
DOI + 1 + LD

$$C(doi) = a \rightarrow owl:sameAs (x_1, x_2, \dots, x_n)$$

$$a = ark$$

(Archival Ressource Key provided by California Digital Library)

Archival Resource Key (ARK)



- ARK identifiers are free
- ARKs are built using a completely different theoretical model, consisting of a decentral and domain (i.e. DNS) agnostic approach
- ARKs allow to use with ease **LOD** on top of them
- ARKs can effortlessly be combined with other specifications such as the International Image Interoperability Framework (IIIF) canonical URI syntax

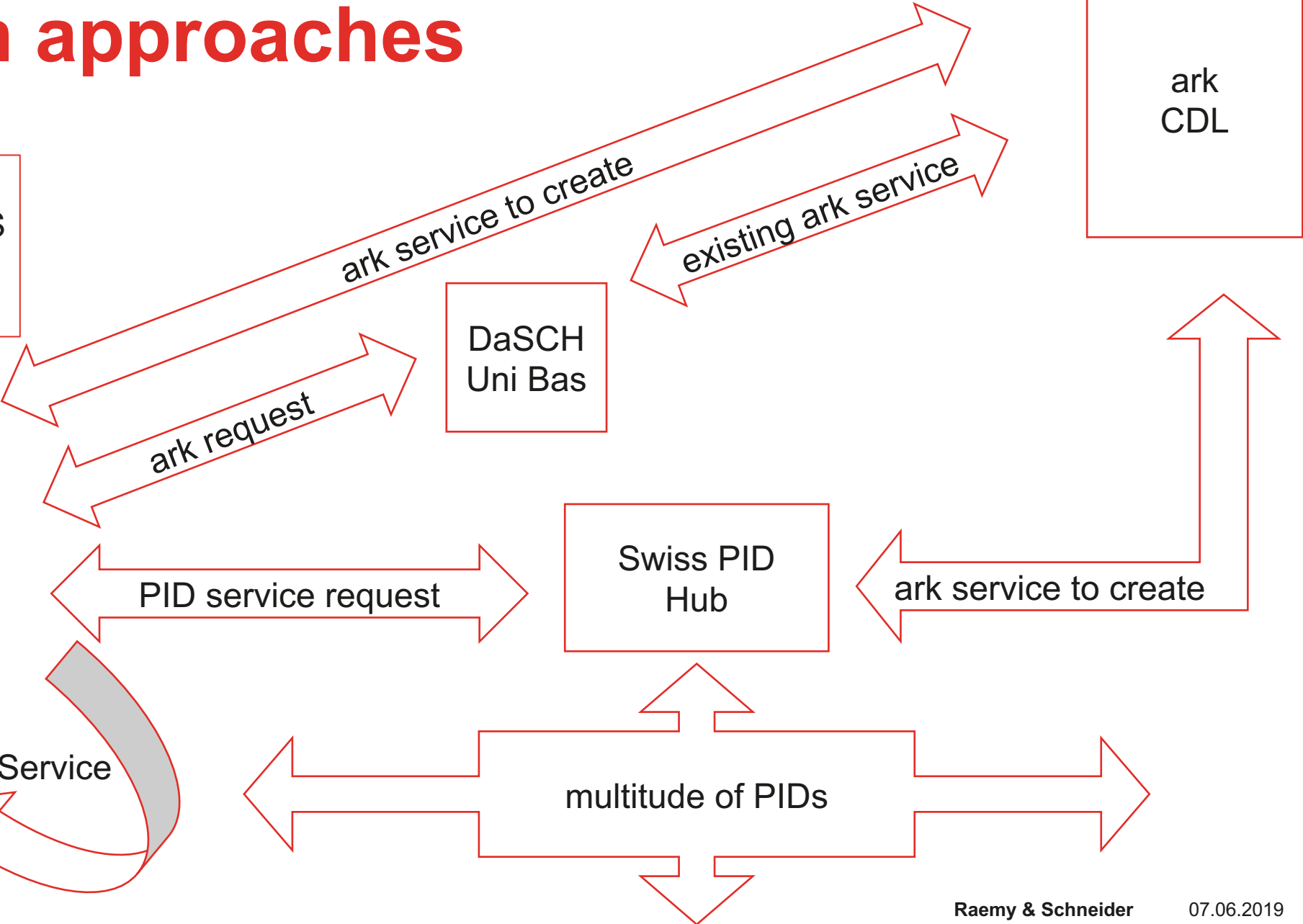
Solution approaches

if NOT DOI @ ETH | FORS
AND if NOT
data archived @ DaSCH



You

own PID Attribution Service



Conclusion

- PIDs are a key element in the research data management process and should be assigned to any entities as soon as possible
 - **Trusted identity, FAIR data**
- PID for the Semantic Web is possible
 - **BnF platforms**
- A large variety of PIDs → DOIs are not sufficient
 - **Most interesting complement: ARKs (LOD, free, decentral, granularity, etc.)**
- **Need for an infrastructure/service in Switzerland**
 - **National Hub that can mint ARKs**

**4. ICOPAD POSSIBLE
FOLLOW-UP PROJECT:
INCIPIT**

INCIPIT

- Infrastructure nationale d'un complément pour les identifiants pérennes, interopérables et traçables (INCIPIT)
- Project submission (August 2019)
- 3 phases
 1. **Attribution service (by the end of 2019) – ArODES**
 2. Fusion of ArODES and SONAR (2020)
 3. Creation of a Hub (2021)

Partners welcome (see you at Bits and Bites)!

h e g

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