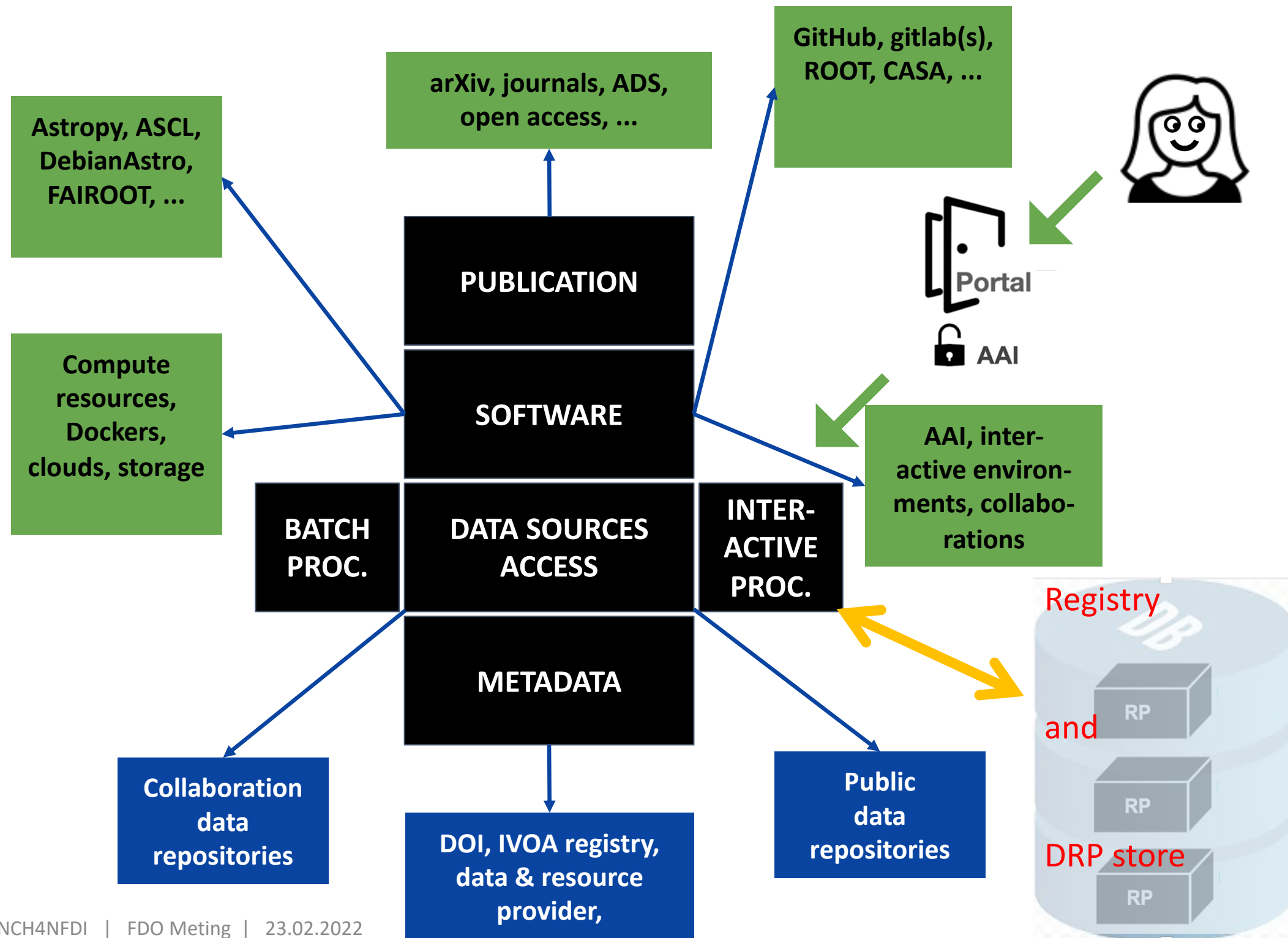


DRPs, FDOs, RO-Crates, ...

TA4-WP1 2022, Oct 27

Gernot Maier

Digital Research Product



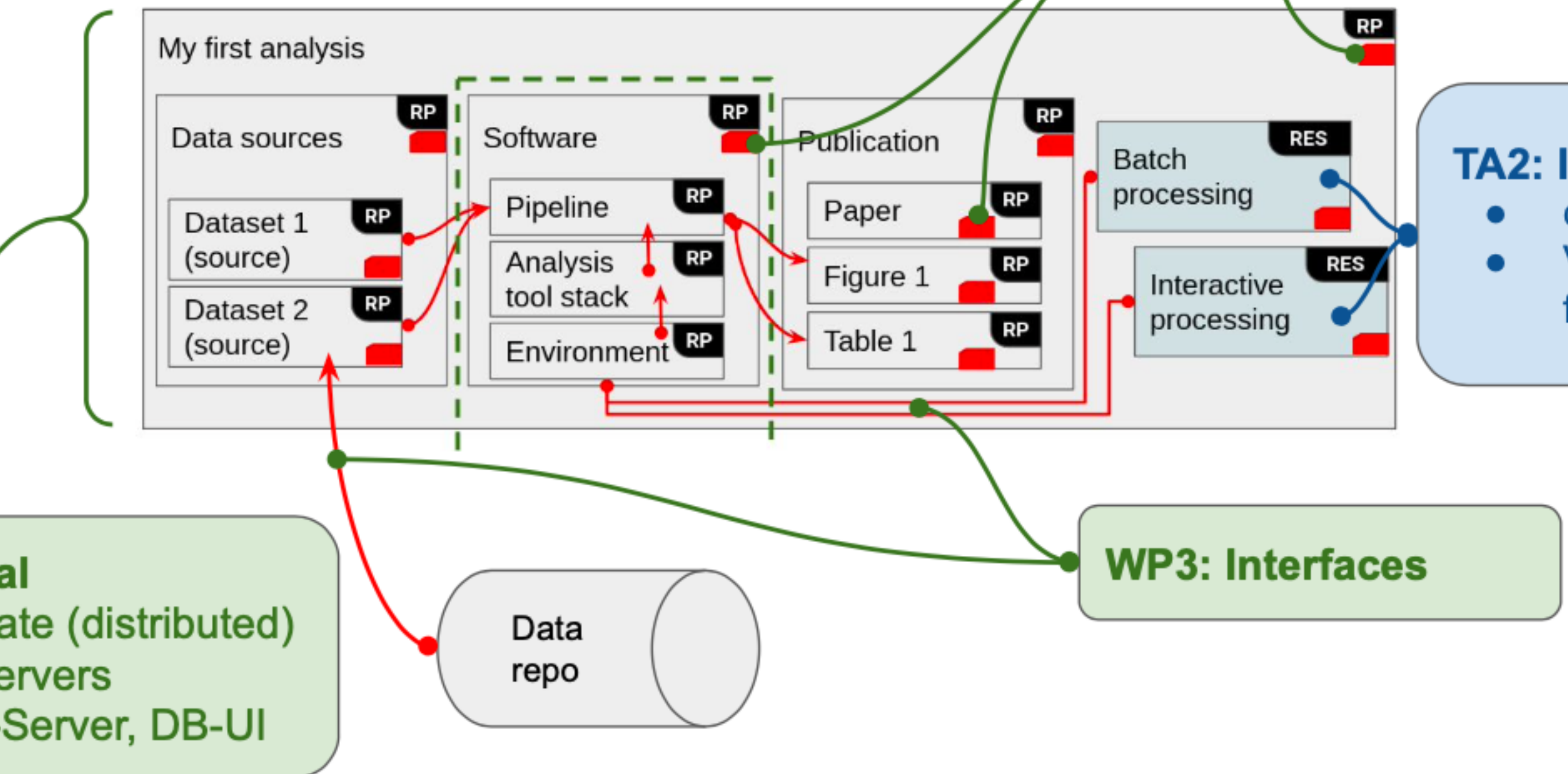
- Improves reproducibility and re-usability
- guided by FAIR
- Access via portal
- Interaction with other RPs
- Interfaces to tools and infrastructures
- Built on available developments of our communities
- Use standards already implemented
- avoid extensive mappings, do the necessary

Domain independent structure

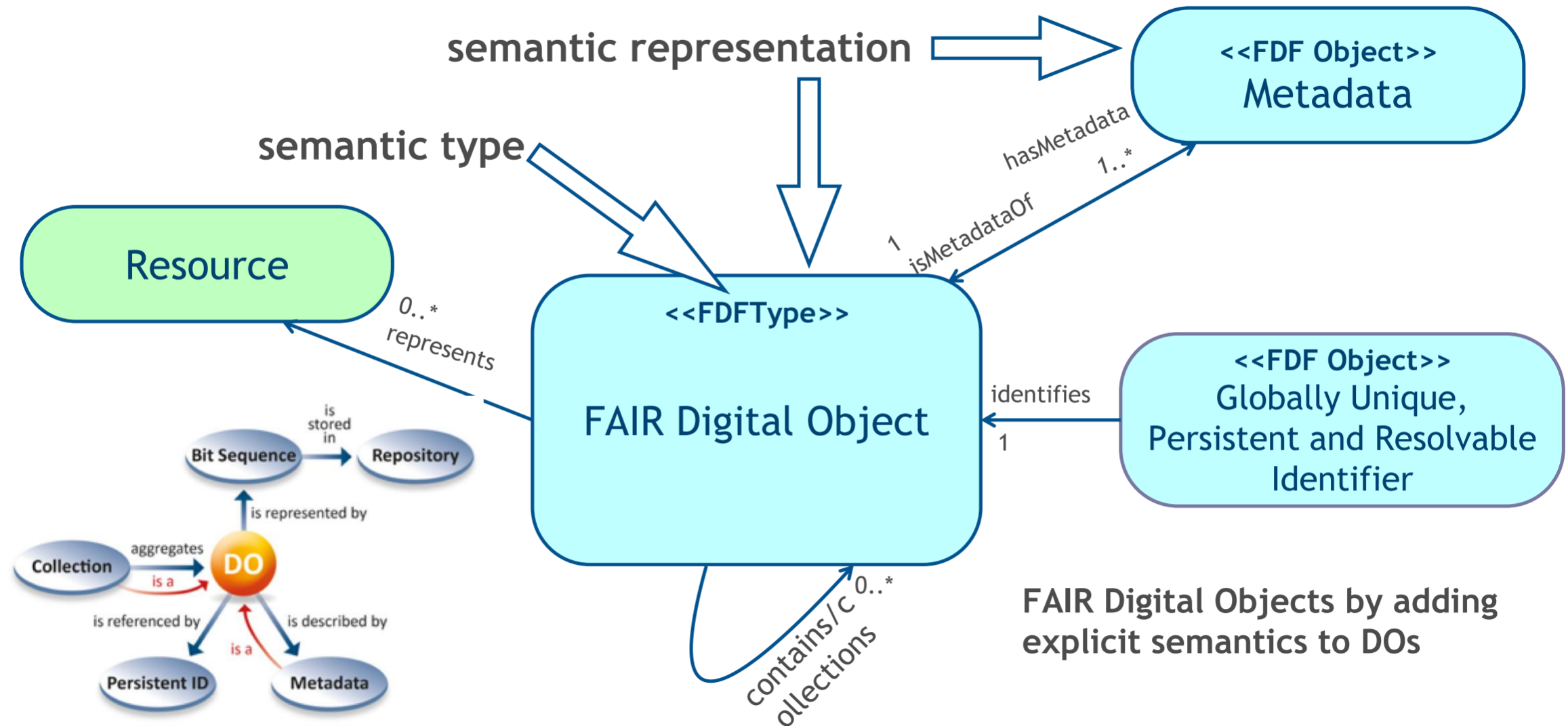
Basic properties and typology of research products
Composition and unpacking

WP2: Meta

- bridg
doma



FAIR DIGITAL OBJECTS (FDO)

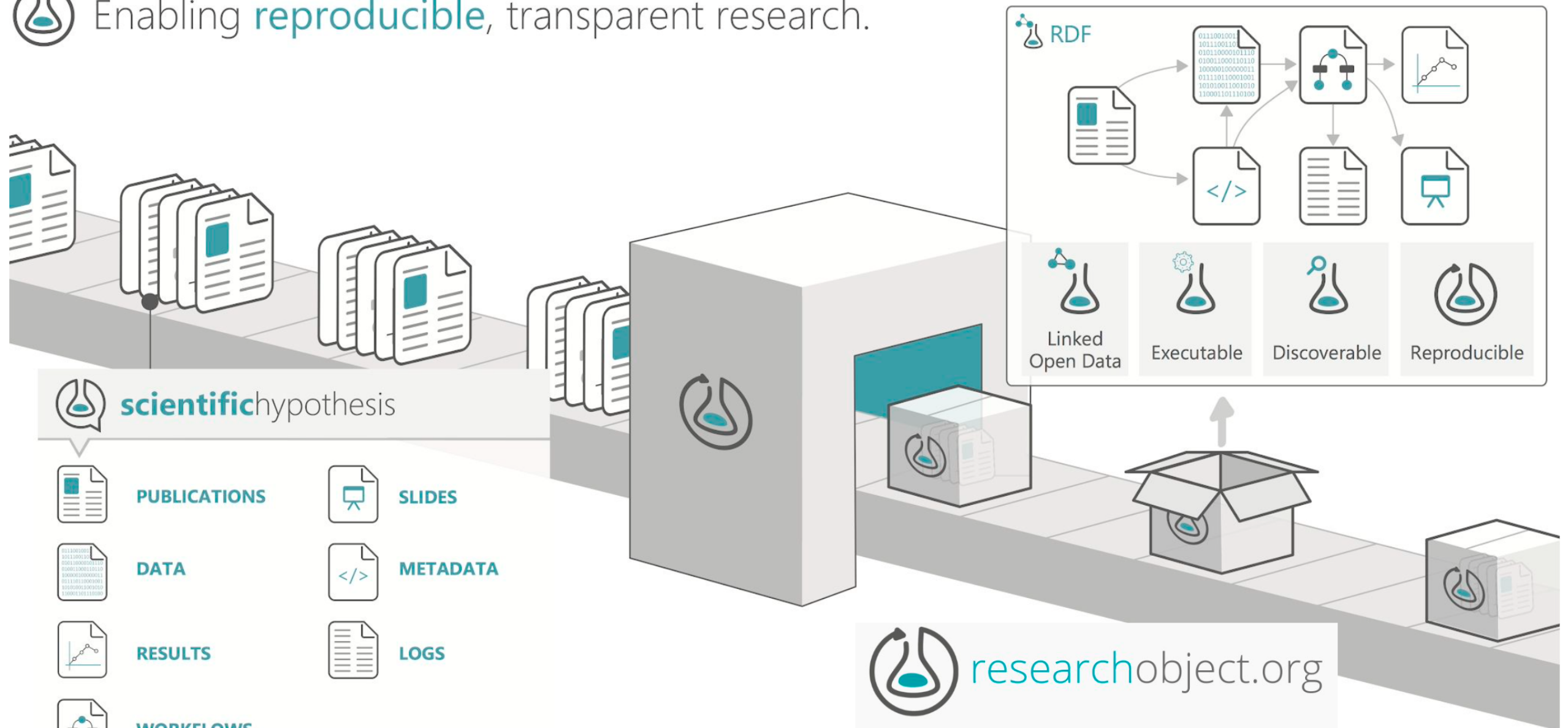


[L. Bonino: Internet of fair data and services - Center of the hourglass, GEDE Paris Workshop, Oct. 2019]



RO-Crate as implementation of FDOs

 Enabling **reproducible**, transparent research.



<https://doi.org/10.1016/j.future.2011.08.004>

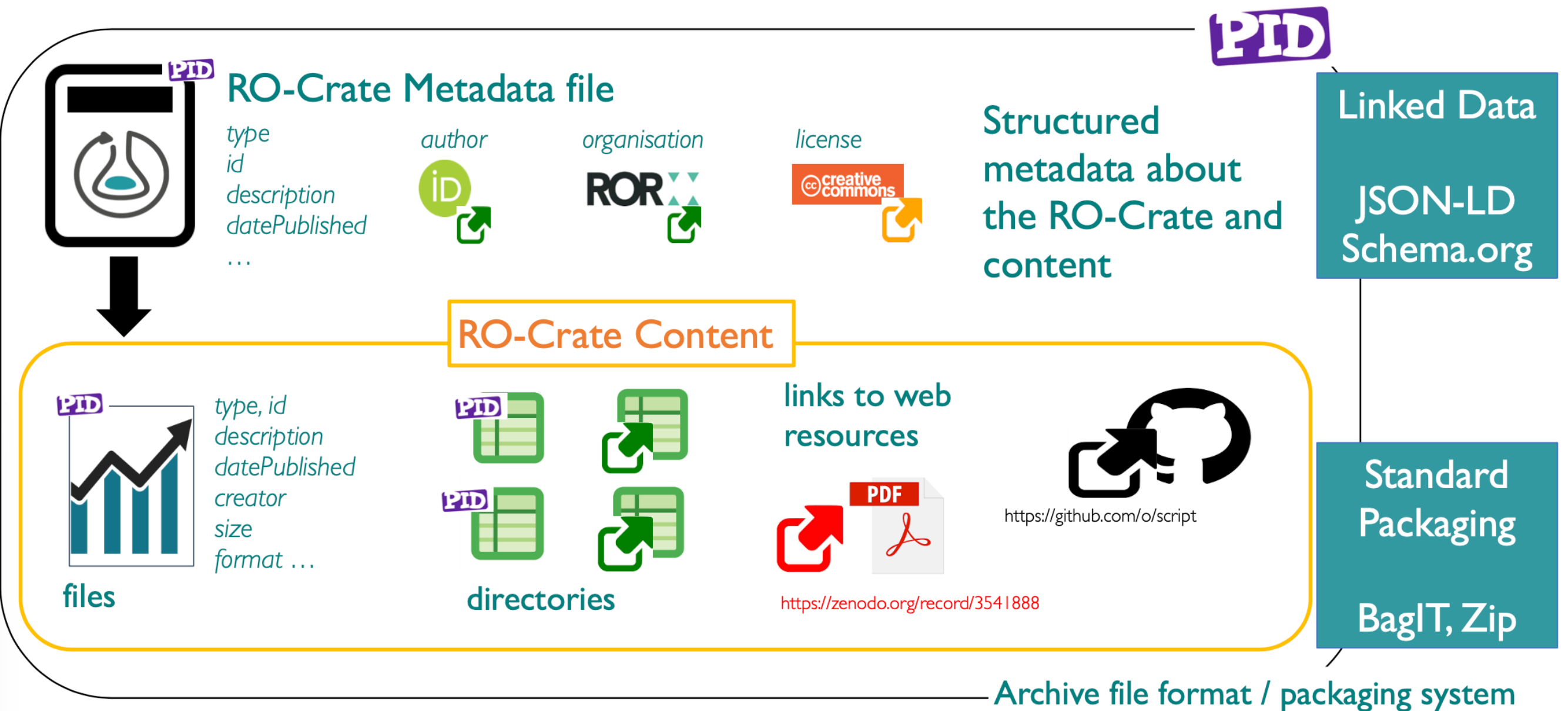
<https://arxiv.org/abs/2108.06503>

<https://zenodo.org/record/7147703>

Focus on light weight packaging.

RO-Crates

 Structured self-describing, machine readable, metadata objects



<https://zenodo.org/record/7147703>

RO-Crates

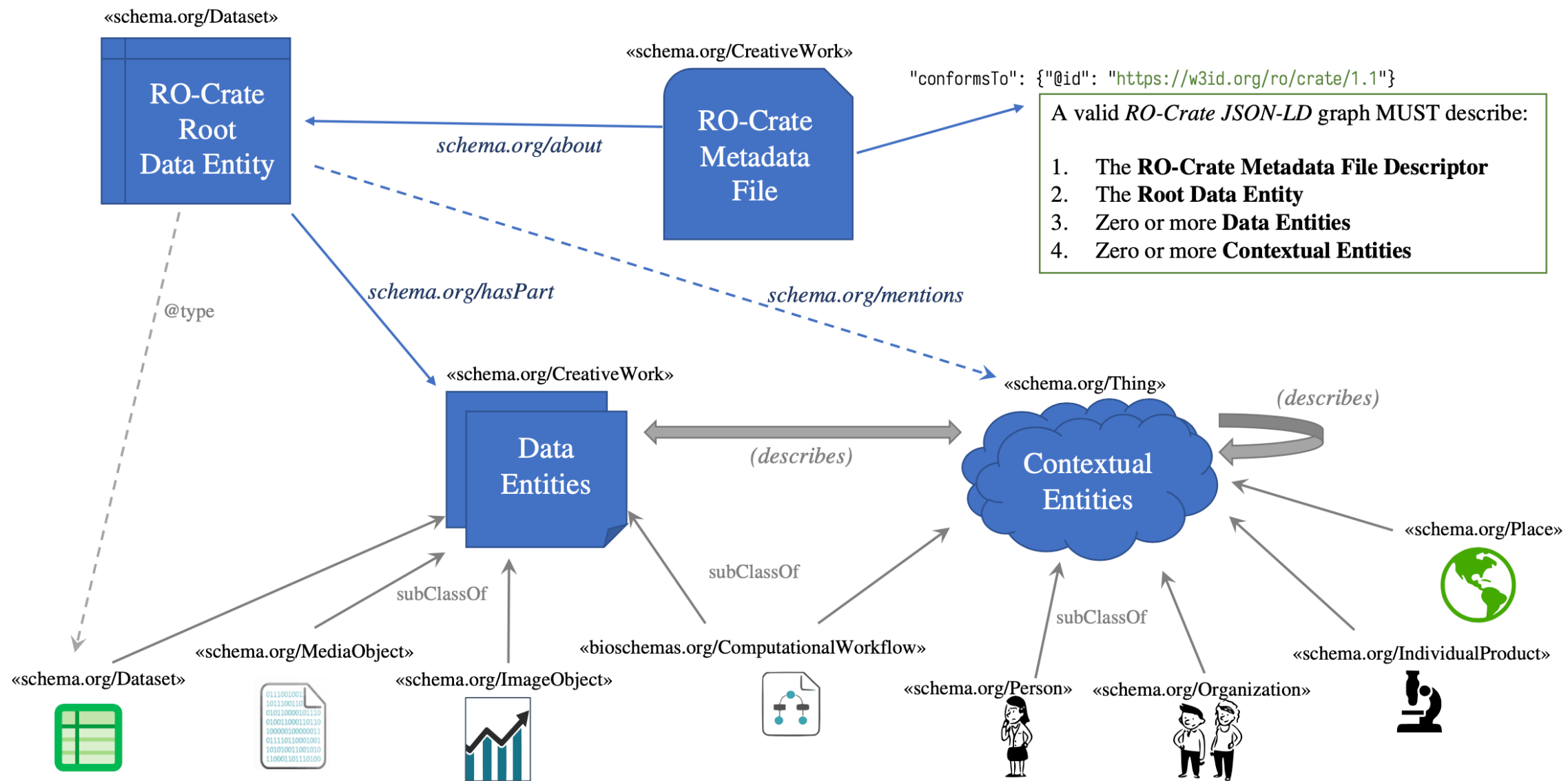
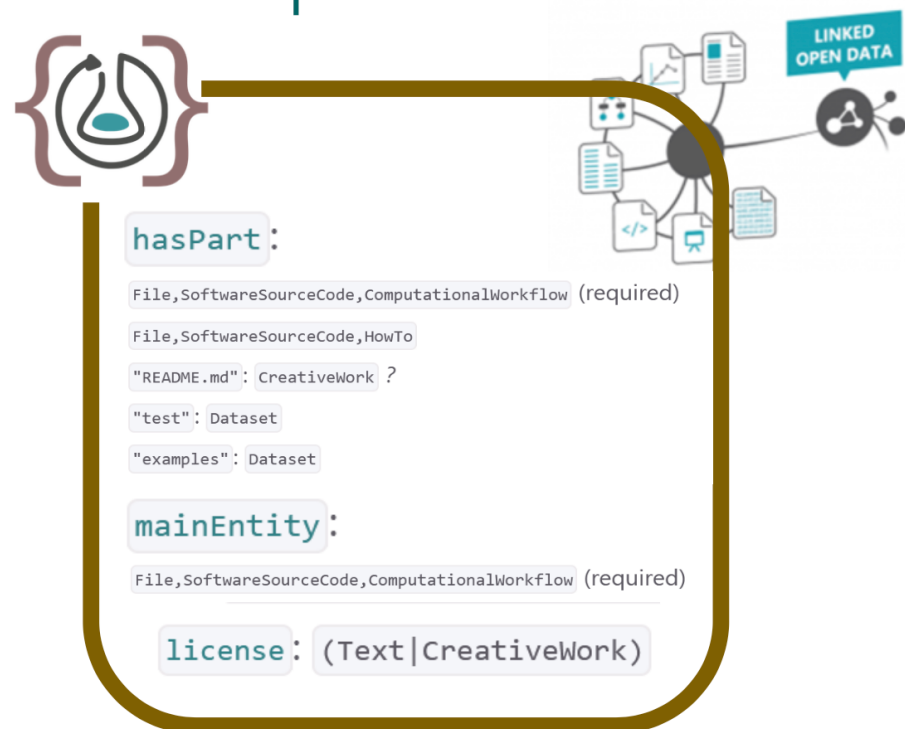


Fig. 2. Simplified UML class diagram of RO-Crate. The *RO-Crate Metadata File* conforms to a version of the specification; and contains a JSON-LD graph [32] that describes the entities that make up the RO-Crate. The *RO-Crate Root Data Entity* represent the Research Object as a dataset. The RO-Crate aggregates *data entities* (`hasPart`) which are further described using *contextual entities* (which may include aggregated and non-aggregated data entities). Multiple types and relations from Schema.org allow annotations to be more specific, including figures, nested datasets, computational workflows, people, organisations, instruments and places. Contextual entities not otherwise cross-referenced from other entities' properties (`describes`) can be grouped under the root entity (`mentions`).

Description using JSON-LD

```
<RO-Crate root>/
|  ro-crate-metadata.json
|  cp7glop.ai
|  lots_of_little_files/
|    | file1
|    | file2
|    | ...
|    | file54
```

Descriptive Profiles



contextual entities + community
vocabularies
and standards

An example *RO-Crate JSON-LD* for the above would be as follows:

```
{ "@context": "https://w3id.org/ro/crate/1.1/context",
  "@graph": [
    {
      "@type": "CreativeWork",
      "@id": "ro-crate-metadata.json",
      "conformsTo": {"@id": "https://w3id.org/ro/crate/1.1"},
      "about": {"@id": "."}
    },
    {
      "@id": "./",
      "@type": [
        "Dataset"
      ],
      "hasPart": [
        {
          "@id": "cp7glop.ai"
        },
        {
          "@id": "lots_of_little_files/"
        }
      ]
    },
    {
      "@id": "cp7glop.ai",
      "@type": "File",
      "name": "Diagram showing trend to increase",
      "contentSize": "383766",
      "description": "Illustrator file for Glop Pot",
      "encodingFormat": "application/pdf"
    },
    {
      "@id": "lots_of_little_files/",
      "@type": "Dataset",
      "name": "Too many files",
      "description": "This directory contains many small files, that we're not going"
    }
  ]
}
```

ResearchObject / ro-crate-pyPublic

Watch36

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Star23

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Actions

Projects

Security

Insights

master5 branches19 tags

Go to fileAdd fileCode

 simleo Merge pull request #136 from simleo/fix_missing_file1a45d86 on 20 Sep557 commits

.github/workflows	Package: update Python version support	7 months ago
examples	update copyright headers [no ci]	7 months ago
notebooks	schema.org notebook: add consideration on mapping the types to P...	12 months ago
rocrate	raise an error when writing a dir whose source does not exist	last month
test	raise an error when writing a dir whose source does not exist	last month
tools	update copyright headers [no ci]	7 months ago
.dockerignore	restructure tests for pytest	2 years ago
.gitignore	add swp ignore	2 years ago
CITATION.cff	version bump	5 months ago
CONTRIBUTING.md	Package: update Python version support	7 months ago
Dockerfile	added info on Dockerfile to readme	2 years ago
LICENSE	license	2 years ago
MANIFEST.in	add CITATION.cff and LICENSE to the distribution	15 months ago
Makefile	Add \$(VENV_DIR) to .PHONY Makefile rules	17 months ago
README.md	add docs for append_to [no ci]	5 months ago
requirements.txt	lowercase	2 years ago
setup.cfg	fix handling of non-http(s) uris	9 months ago
setup.py	update copyright headers [no ci]	7 months ago

About

Python library for RO-Crate

metadata

galaxy

cwl

researchobject

biohackeu20

biohackcovid20

ro-crate

Readme

Apache-2.0 license

Cite this repository

23 stars

36 watching

16 forks

Releases18

ro-crate-py 0.7.0Latest

on 30 May

+ 17 releases

Packages

No packages published

Used by26



+ 18

Contributors10

⋮ README.md

Work in progress....

- RO-Crate (or similar/extended approach) could provide a simple way to describe DRPs
 - based on JSON-LD, relations using schema.org
 - data entities are described using contextual entities
 - simple.
(minimal example requires are name, description, datePublished)