

PROV4ITDATA

Transparent and direct transfer
of personal data to personal stores

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OUTLINE

The current situation

PROV4ITDaTa

Demo

THE CURRENT SITUATION

Personal data

scattered across service providers

heterogeneously structured

vendor lock-in

Existing initiatives

hard-coded

service providers need to implement adapters

lack transparency & interoperability

different service-provider, same level of control

GOAL: CONFIGURABLE PORTABILITY TOOL TO TRANSPARENTLY TRANSFER PERSONAL DATA TO PERSONAL STORES

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PROV4ITDaTa

RML.io

Comunica

Solid

Demo

PROV4ITDATA

An open-source Web application
<https://prov4itdata.ilabt.imec.be/>

Allows to transparently transfer personal data

Generates Linked Data

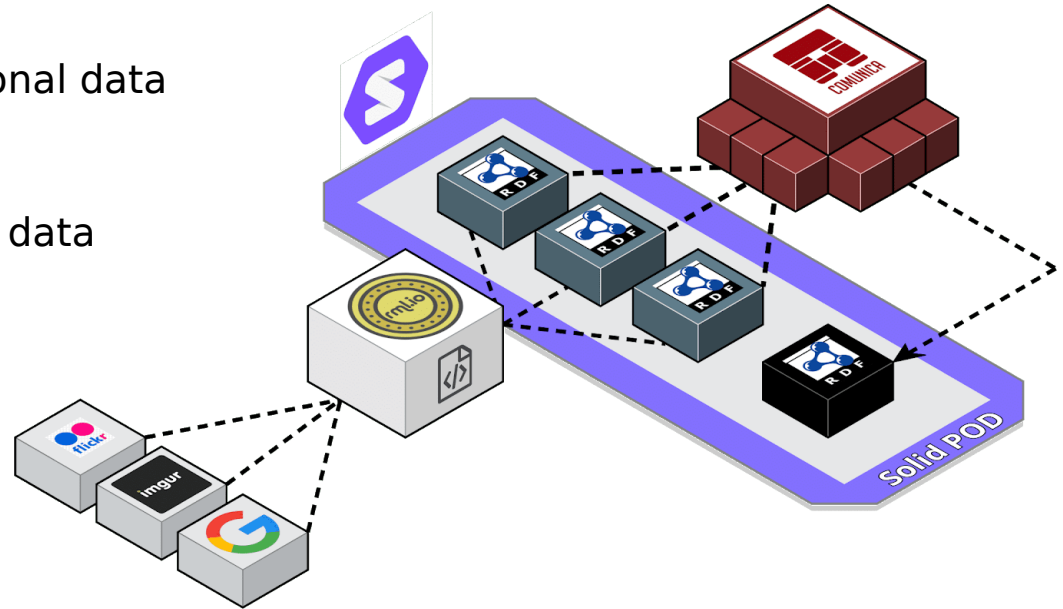
Stores the Linked Data onto personal data stores

Powered by

[RML.io](https://rml.io)

[Comunica](https://comunica.dev)

[Solid](https://solidproject.org)



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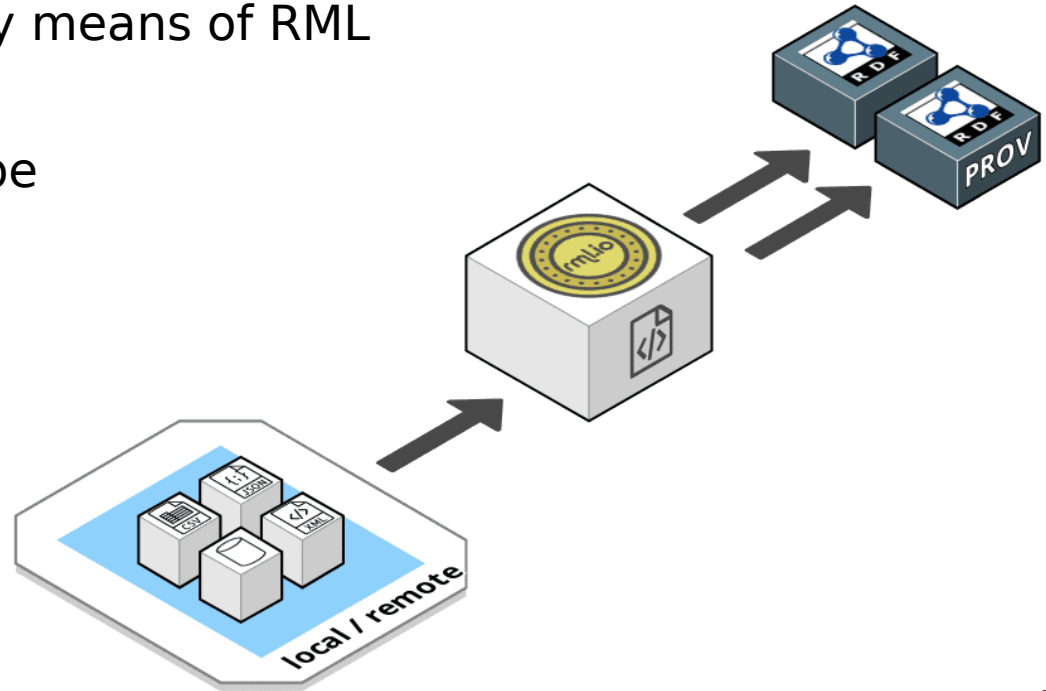
RML.IO

Set of open-source tools to generate KGs from heterogeneous data sources by means of RML rules

RML rules declaratively describe

Access

Transformation



RML.IO

Curated list of RML rules

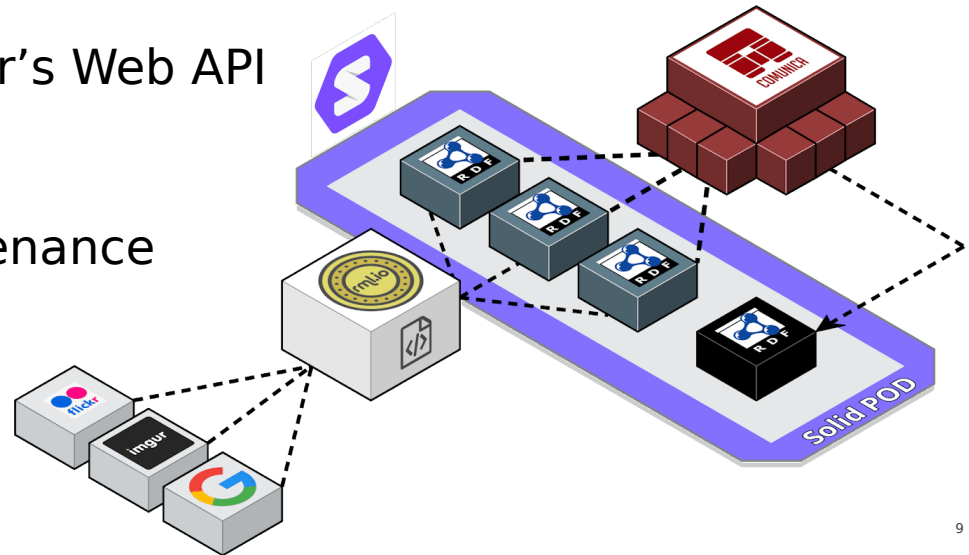
Different vocabularies

RML Processor

Consumes the service provider's Web API

Transforms to RDF

Automatically generates provenance



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Our solution: PROV4ITDaTa

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COMUNICA

A highly modular and configurable meta-query engine

Custom Comunica query engine

[@prov4itdata/actor-init-sparql](https://github.com/prov4itdata/actor-init-sparql)

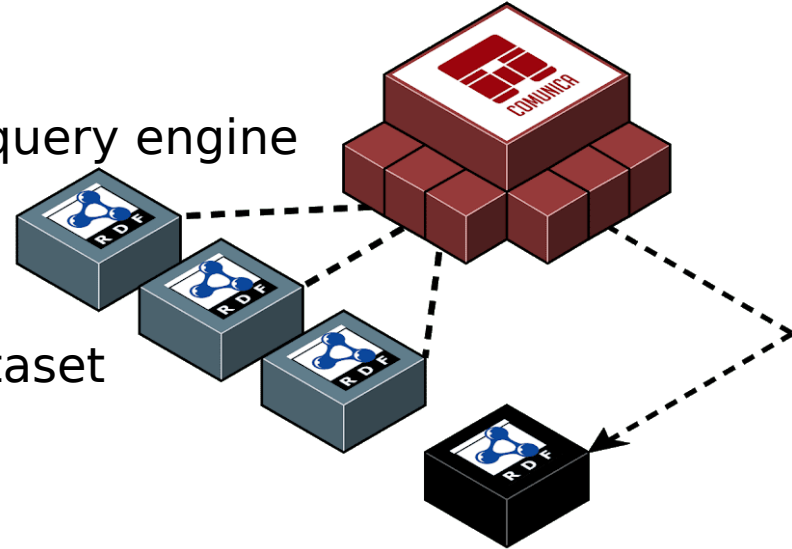
Intermediate datasets → query → final dataset

Fine-grained configuration of the transfer

Provenance feature

[@prov4itdata/actor-rdf-metadata-extract-annotate-provenance](https://github.com/prov4itdata/actor-rdf-metadata-extract-annotate-provenance)

[@prov4itdata/actor-init-sparql](https://github.com/prov4itdata/actor-init-sparql)



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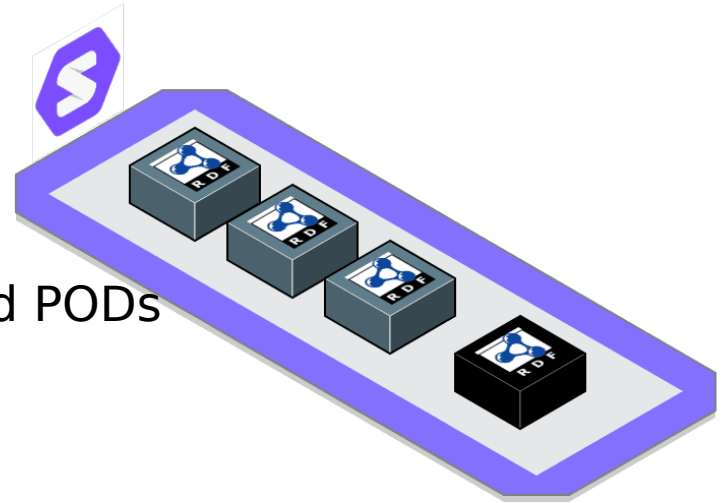
SOLID

The Solid ecosystem

Set of W3C standards and tools

Based upon Linked Data principles

Decentralized personal data stores: Solid PODs



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DEMO: TRANSFERRING GOOGLE CONTACTS & FLICKR PHOTOSETS

PROV4ITDaTa-DAPSI

Mapping Selector

Select a mapping

Execute

RML Mapping [Download](#)

Generated RDF [Download](#)

Provenance [Download](#)

Solid

DEMO: SOURCE-LEVEL PROVENANCE PROTOTYPE



PROV4ITDaTa-DAPSI

Mapping Selector

Transfer Flickr collections using Schema.org vocabulary

Execute

RML Mapping Download

Generated RDF Download

Provenance Download

Solid

Settings

Query

Prov

```
{
  "totalItems": 75,
  "__prov": [
    {
      "resolvedFrom": "https://dapsi-client.solidcommunity.net/private/google.ttl",
      "totalItems": 9
    },
    {
      "resolvedFrom": "https://dapsi-client.solidcommunity.net/private/imgur.ttl",
      "totalItems": 36
    },
    {
      "resolvedFrom": "https://dapsi-client.solidcommunity.net/private/flickr.ttl",
      "totalItems": 30
    }
  ]
}
```

SUMMARY

PROV4ITDaTa

Open-source

Allows users to transfer personal data to personal data stores

Configurable

Transparent

Interoperable

CURIOUS?

PROV4ITDaTa

Experiment using your own

RML rules

Queries

Online demo: <https://prov4itdata.ilabt.imec.be/>

Source code: <https://github.com/RMLio/prov4itdata-web-app>

PROV4ITDATA

Control & Connect
your personal data

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