A Registry of digital research objects

Blockchain4openscience

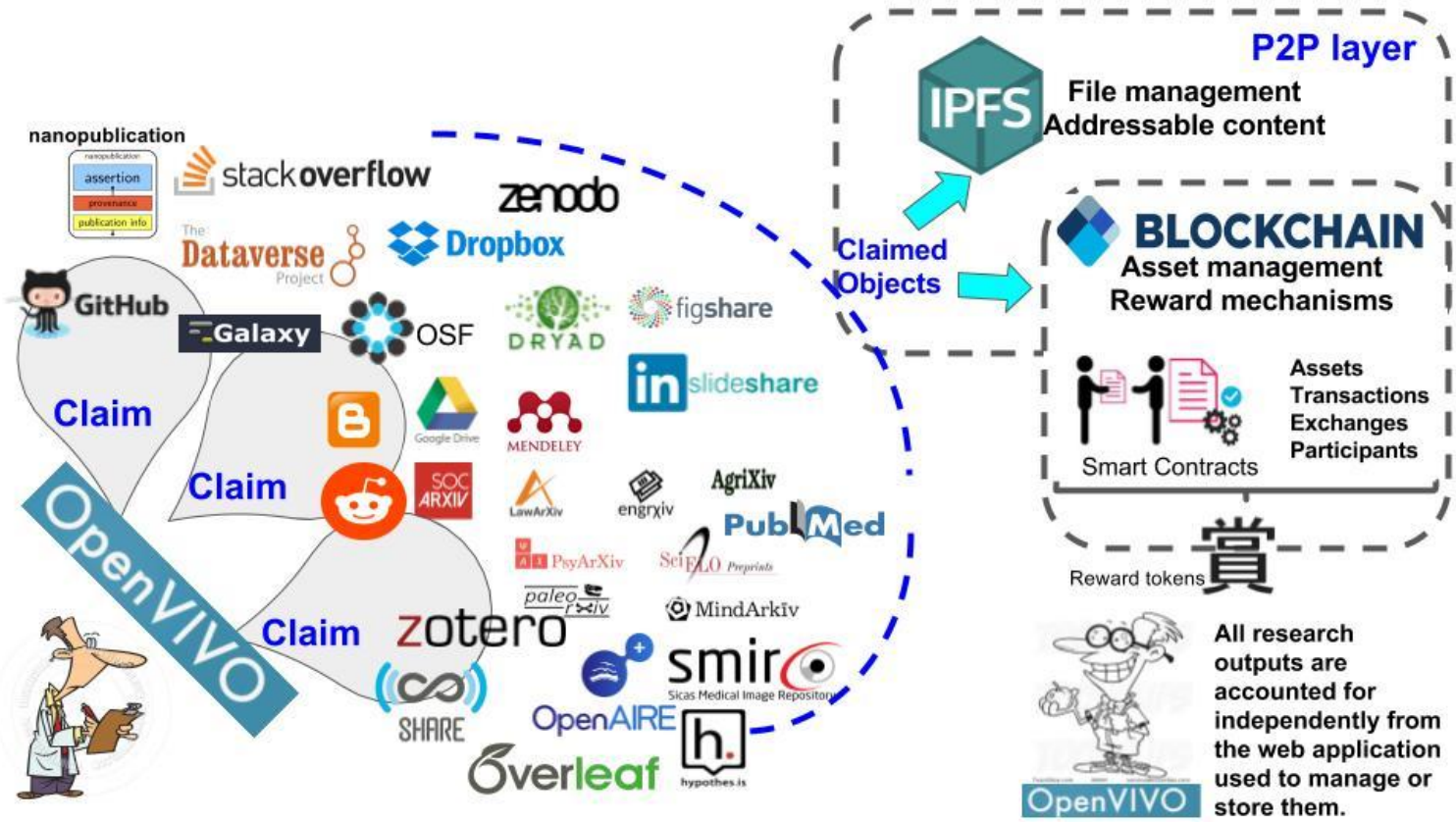
Open science is a new movement in science that promotes principles of open access to research data, publications, and scientific collaboration. Open science promises to increase transparency and quality of research, provide reproducibility by reusing scientific datasets and increasing trust in the scientific collaboration.

Blockchain4openscience

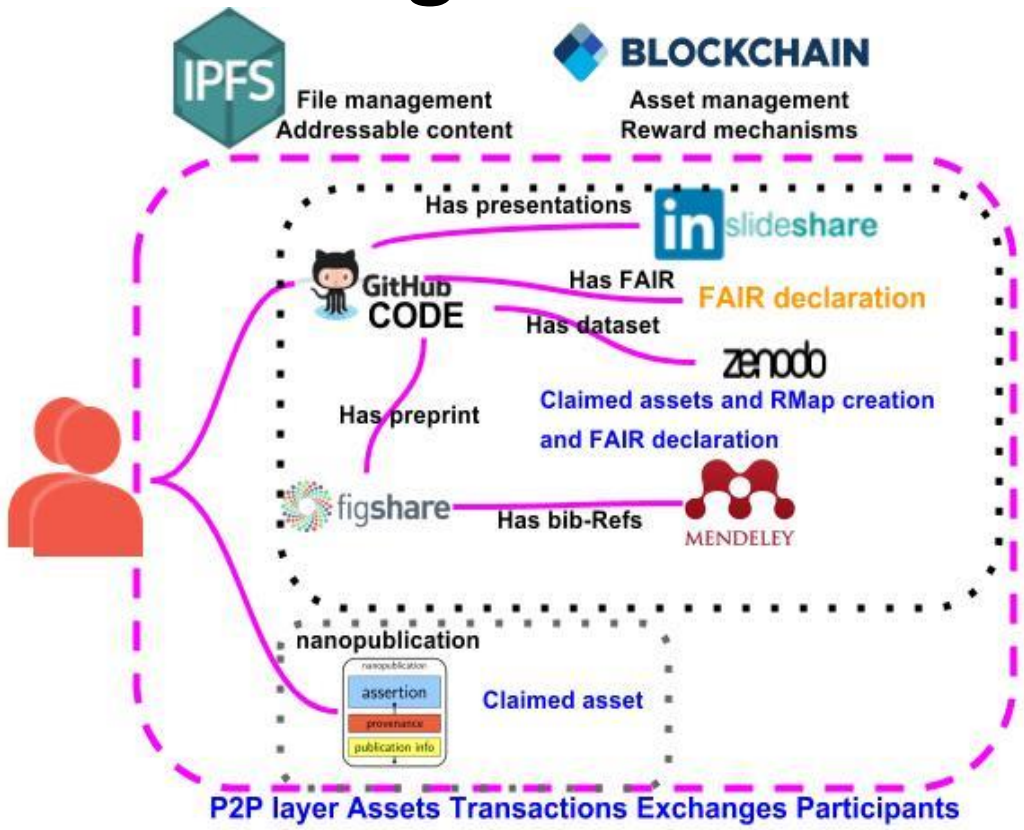
Blockchain fits the mindset of open science and can help to fulfill open science principles: transparency and availability of blockchain makes scientific outputs open & transparent; disintermediation removes subjectivity from scientific reviews; integrity and possibility to secure transactions in the competing environment increases trust in scientific results; smart contracts allows to manage access to scientific outputs; immutability represents precise relationships between the works with such features as richness, time-based relationships, and logical precursors: a digital continuum

Blockchain4openscience

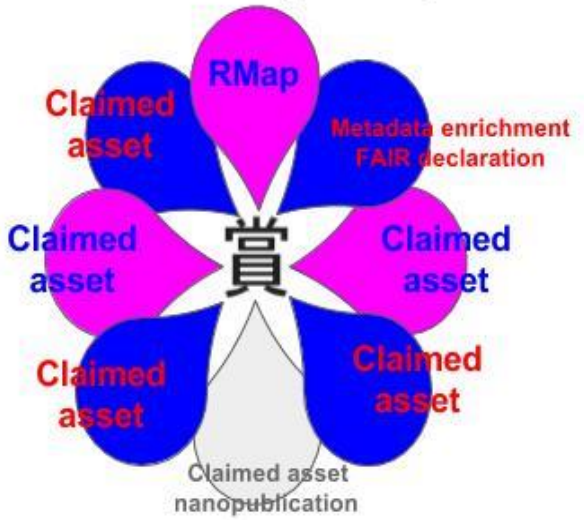
Successful integration of a registry, the storage of the asset and a reward system (tokens), using existing frameworks:



Claim, enrich and get rewards from digital research objects



The token is built upon the definitions for assets, transactions, participants and smart contracts. This means that communities can define their own features and still interact with all other nodes in the ledger/IPFS space.



Pluggable registry for science

Scientific contributions are kept in many decentralized repositories (GitHub) and tagged on different sites (RO2share) that provide a historical record of individual or group contributions. This record requires additional steps to keep it up to data, lacks proper security regarding who contributed what and how this contribution relates to other scientific contributions.

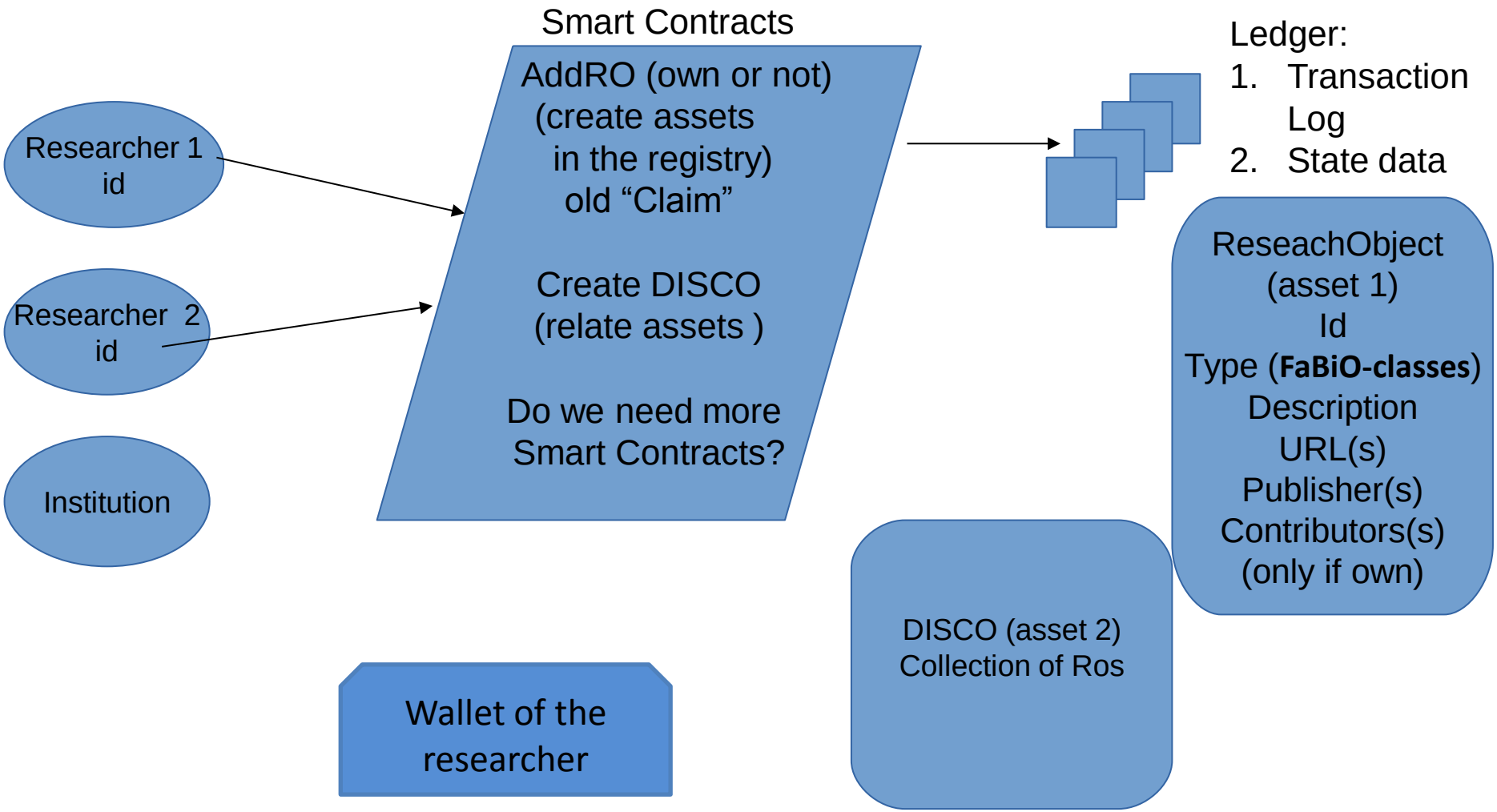
Pluggable registry for science

exiting archive | Blockchain Business Network

1. User log-in.
2. Queries and displays www DB's for RO under user name.
3. Claim RO

1. Create participant (if 1st time). Instantiate wallet.
2. Create an asset (Capture metadata).
3. Claim asset
   a) Assign ownership (with and without approval)
   b) Update wallet (event)
4. Count asset use
   b) Update wallet (event)
   c) Functionality missing

Business Network, bforosv4.bna (playground)



Pluggable registry for science

- ORCID identification
- Research objetcs from: GitHub, figshare, slideshare.
- Add Research Objects.
- Unique identifier using hash().
- Track use (contributors and collectors) of resources with a wallet.
- Define a collection of research objects (DISCO).

Pluggable registry for science: DISCO

A collection of research objects (creation of a DISCO) has two objectives:

1. To aggregate related RO of a researcher of a group of researchers related to a common theme (code, DB, paper..)
2. To stablish (and register) relationships and reusability of RO across researchers.