CSC

ICT Solutions for Brilliant Minds

Why AAI (Authentication and Authorization Infrastructure) matters: current developments in EOSC and in the Life Science area

6 June 2022

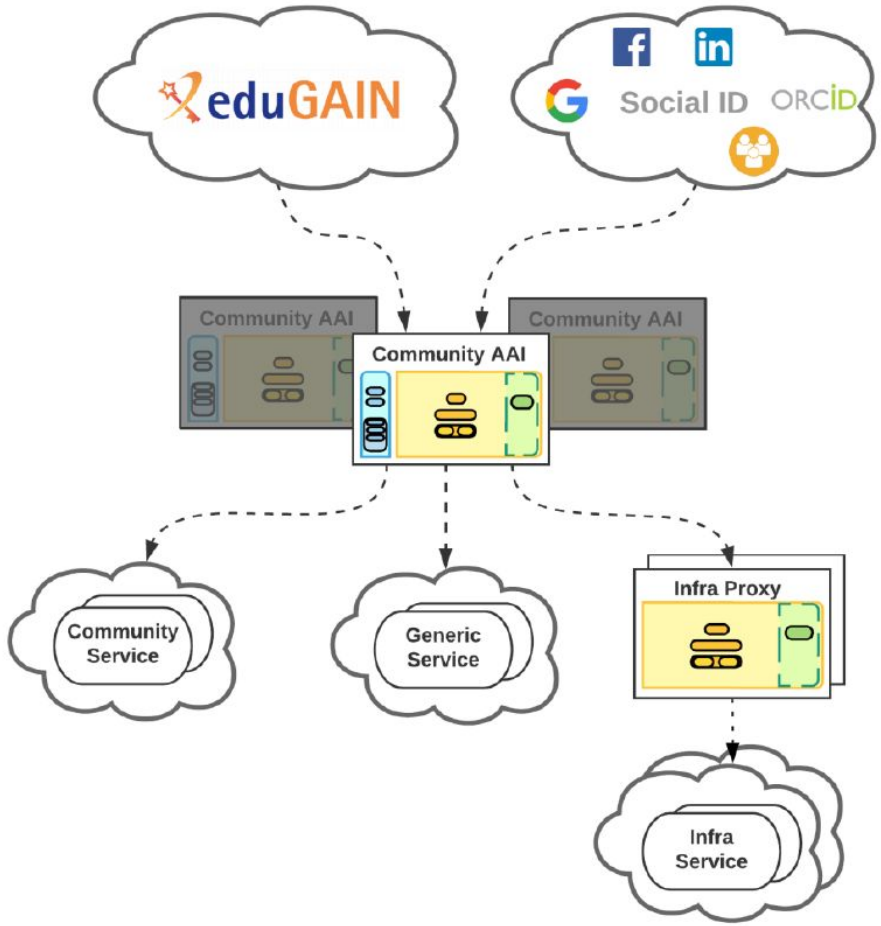
Mikael Linden, CSC - IT Center for Science

Authentication and authorisation infrastructure (AAI)?

- User has a single identity (username)
- User has a small number of credentials (password, multi-factor authentication)
- User's group/community membership and other properties define their permissions

Integrated AAI service to rely on (in EOSC)

=> services can focus on their core business



Short history of research AAI in Europe

AAI federations Haka, GEANT

Research AAIs Grids, EGI

AAI blueprint architecture

AARC project 1&2 2015-19

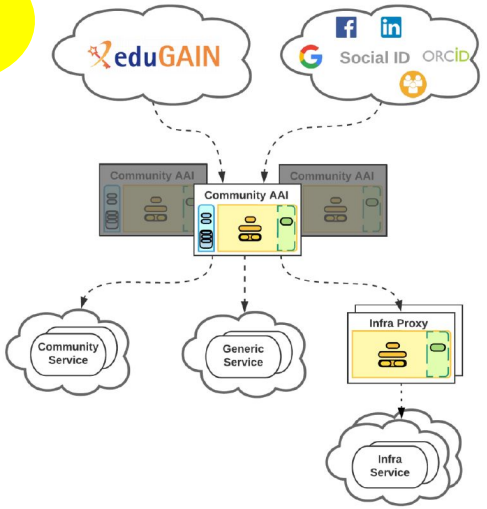
EOSC Architecture WG 2019-20

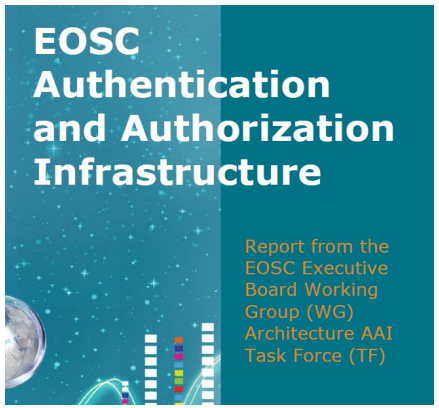
EOSC-A TF-AAI 2021-23

EOSC Future AAI impl. XWG 2021-23

Implement!

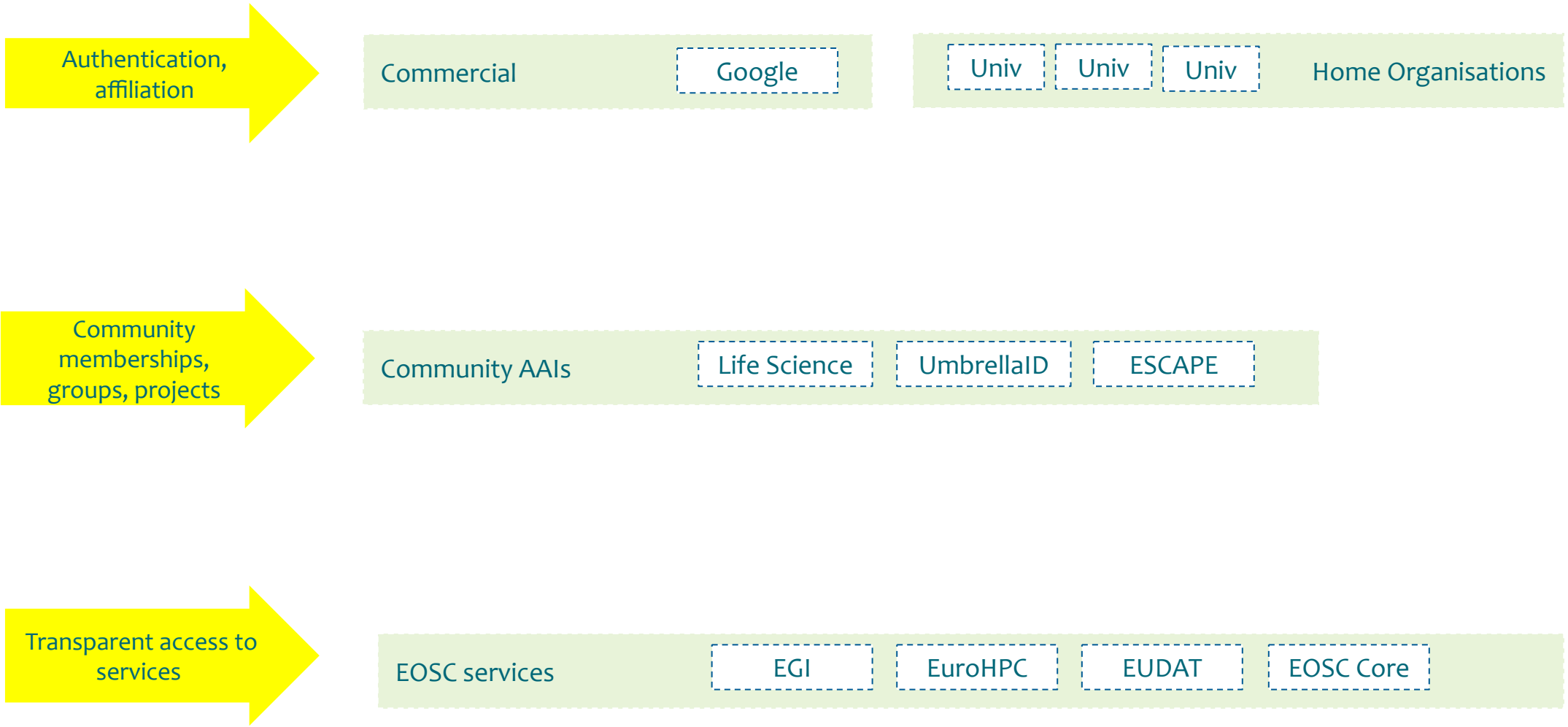
Implement!



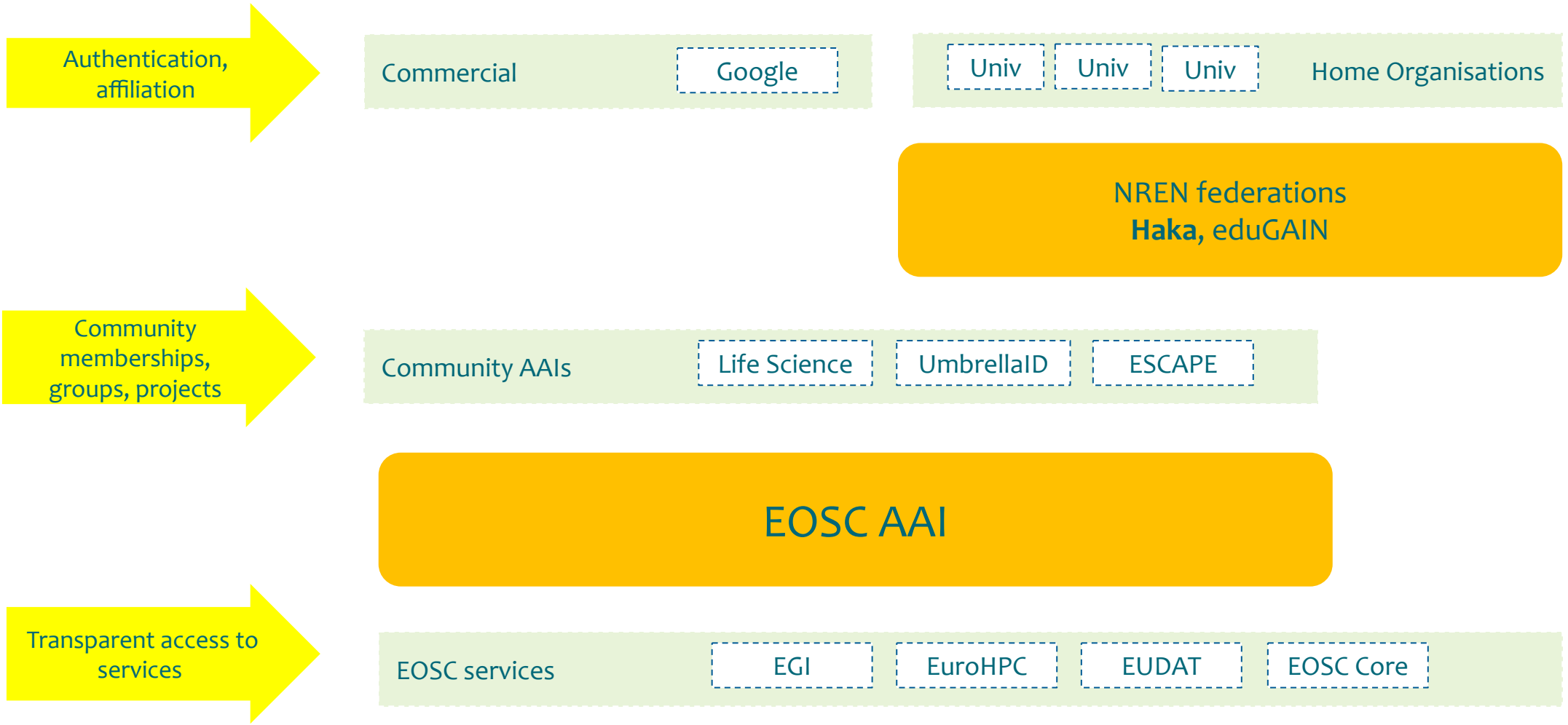


[EOSC AAI report]
[TF-AAI homepage]
[EOSC Future AAI XWG]

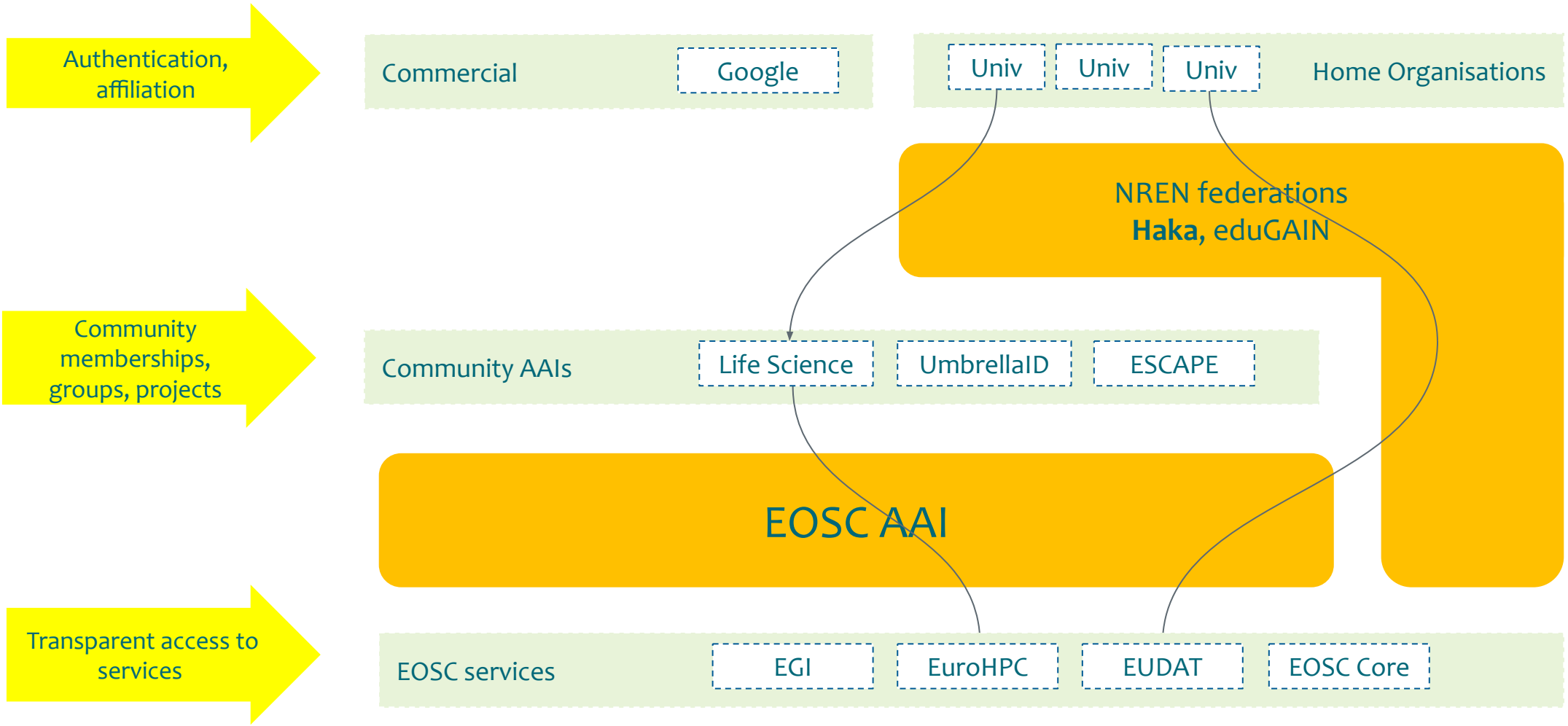
EOSC Authentication and authorisation infrastructure



EOSC Authentication and authorisation infrastructure



EOSC Authentication and authorisation infrastructure



EOSC-Life

LS LOGIN

Life Science Login

Common AAI for the Life Sciences ESFRI cluster

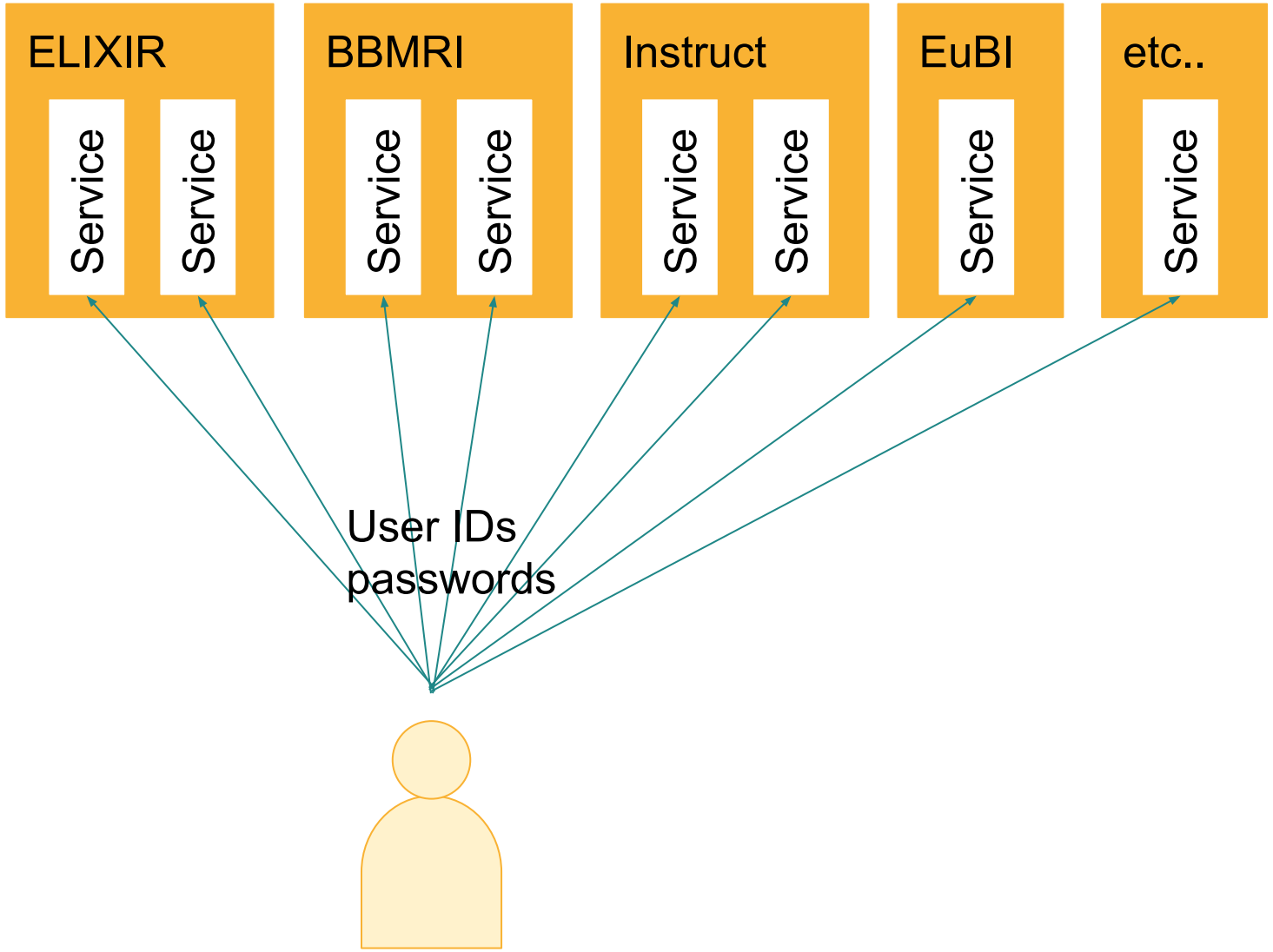
Mikael Linden, ELIXIR-Finland

EOSC-Life Consortium

- 13 ESFRI Health and Food Research Infrastructures
  - 46 Partners and 17 linked 3rd parties
  - Sourcing e-Infrastructure services from EOSC (Cloud, AAI, …)
- 4 year Project, 24M€

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824087

Yesterday: Service specific user IDs/logins



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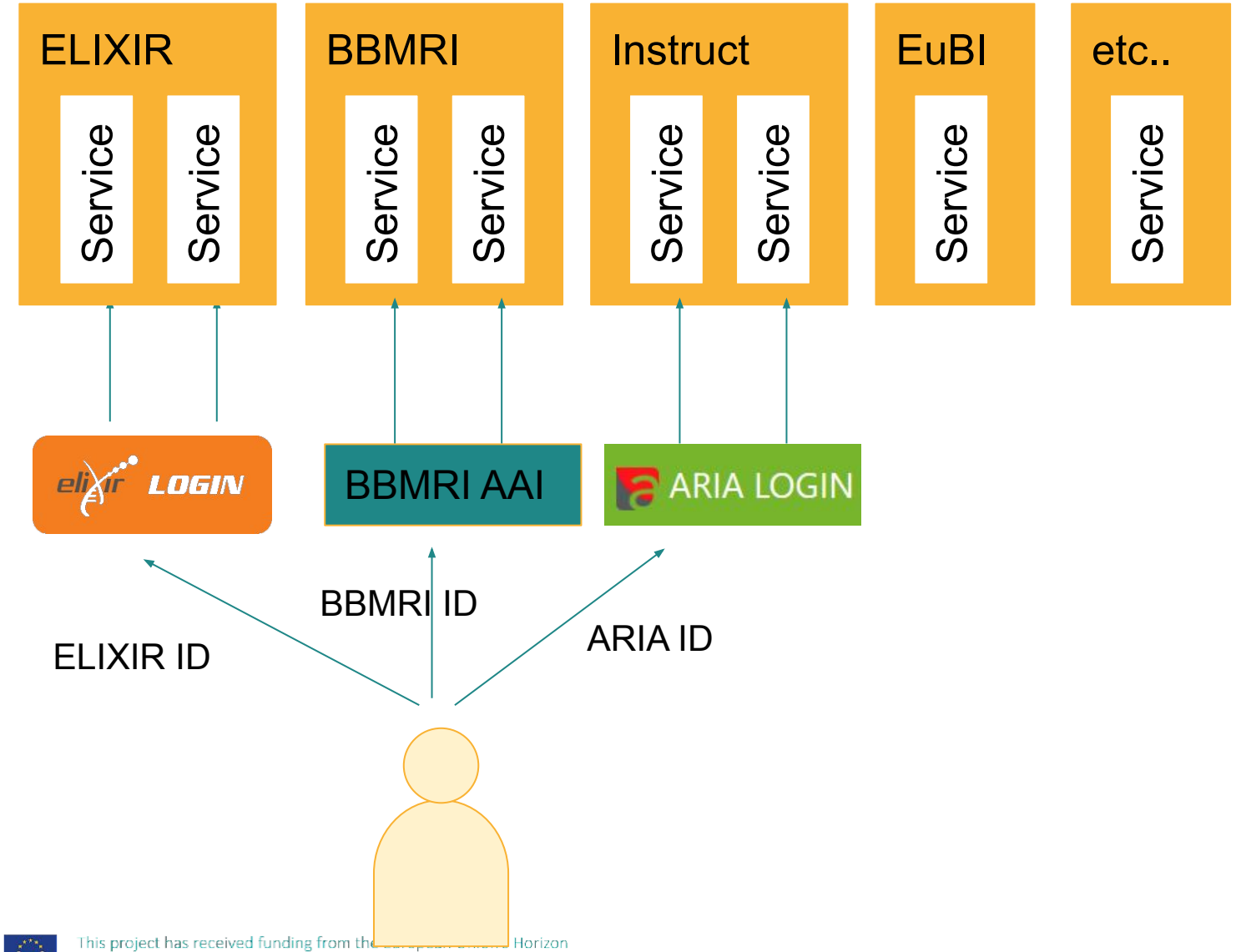
Today: RI specific user IDs/logins



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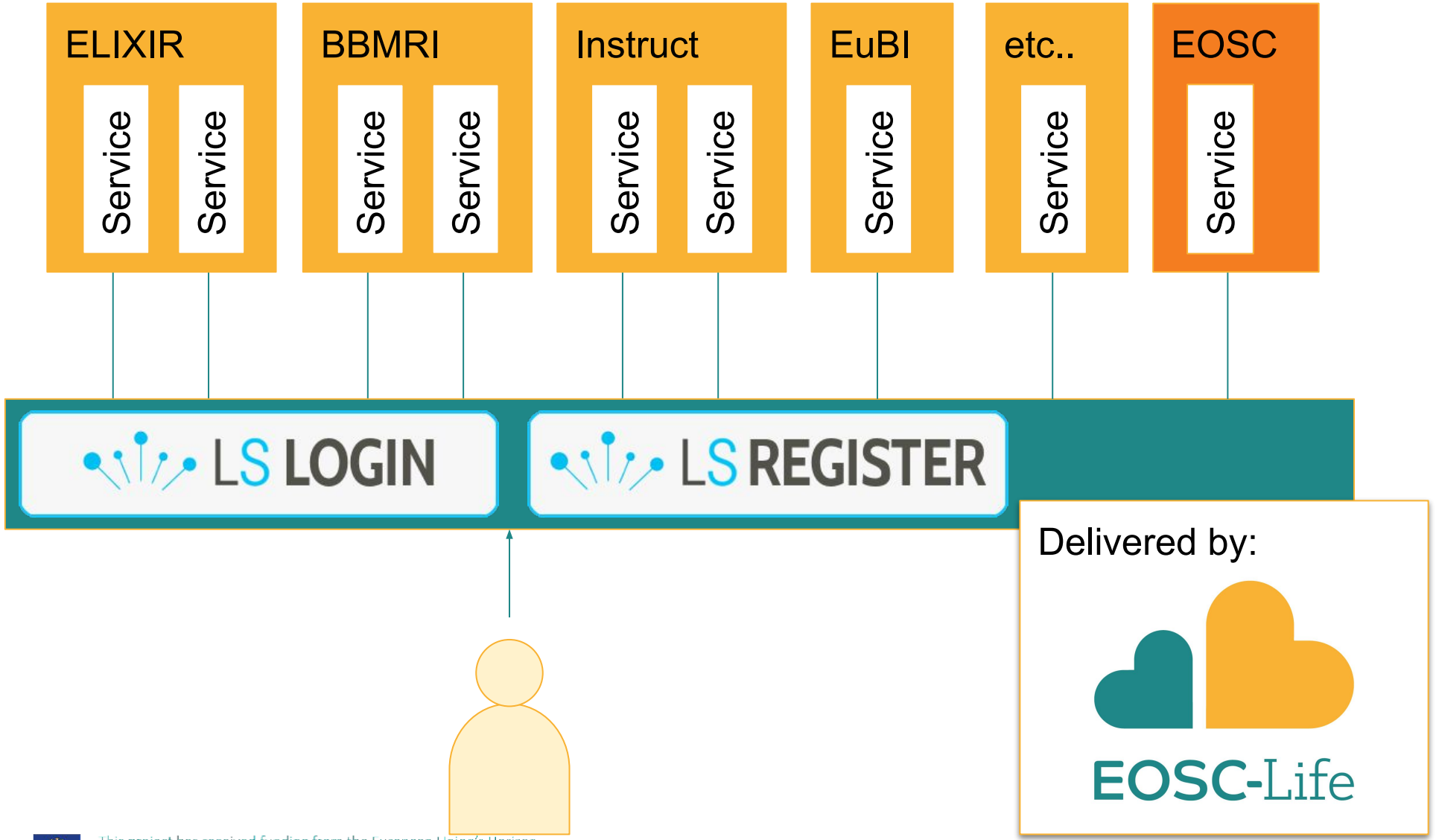
Tomorrow: A Common Life Science Login



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Goals of Life Science Login

Benefits

- A researcher has a single ID for the Life Sciences cluster
- Improved functionality
- Economics of scale

How

- Use existing (institutional) IDs
- E-infrastructure collaboration
  - EOSC, AARC
- Develop sustainable model after EOSC-Life project
  - funding, governance

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Design of Life Science AAI

Relying services

Instruments
- Imaging

Data
- EGA
- Biobank
- Data archive

Computing & cloud
- Tool
- Workflow
- VM

Collaboration
- e-learning
- wikis
- CMS

Life Science AAI

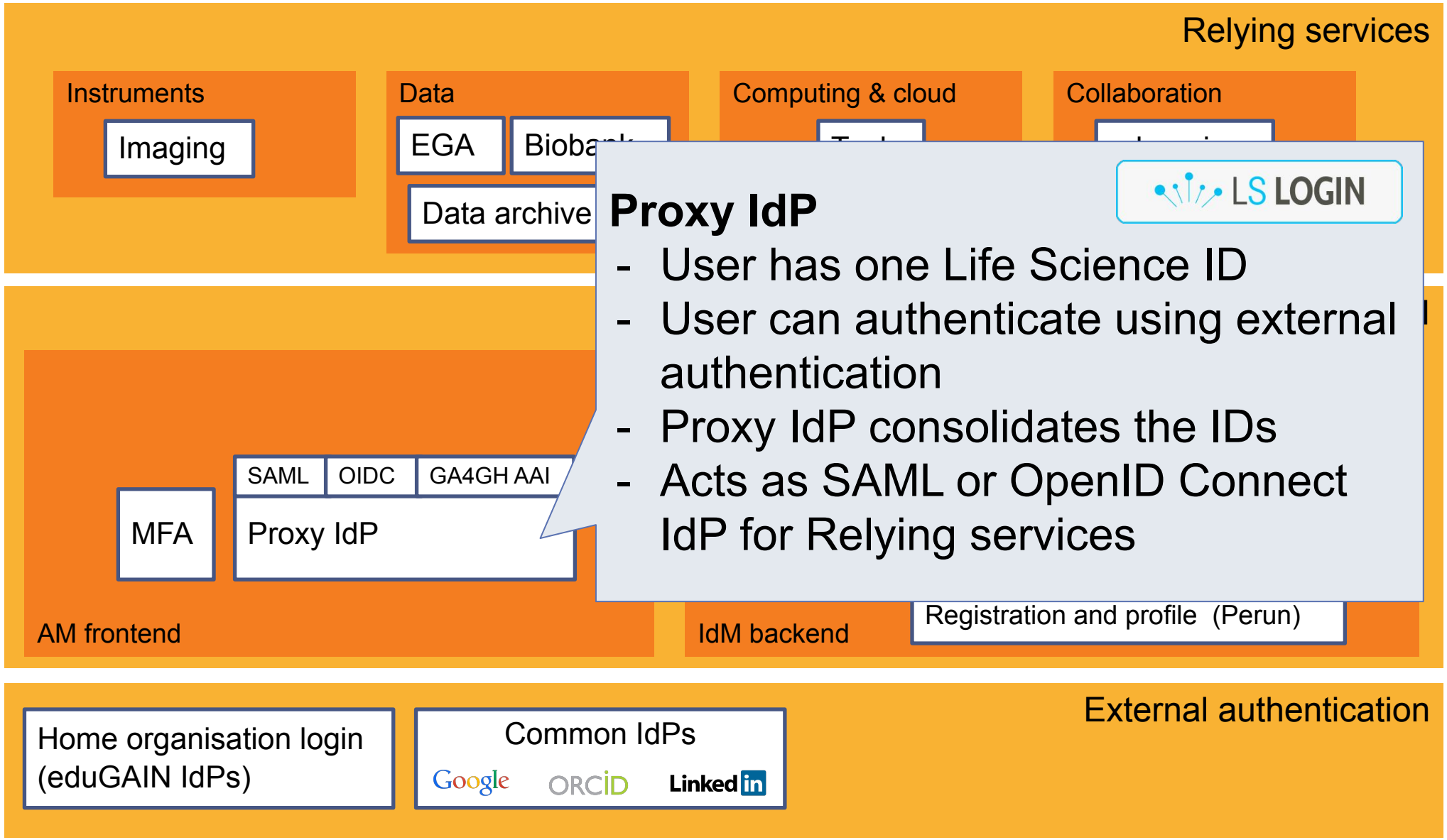
AM frontend
- MFA
- SAML | OIDC | GA4GH AAI
- Proxy IdP

IdM backend
- Data access permissions (REMS)
- Communities and groups (Perun)
- Other attributes (Perun)
- Registration and profile (Perun)

External authentication

- Home organisation login (eduGAIN IdPs)
- Common IdPs: Google, ORCID, LinkedIn

Design of Life Science AAI



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Life Science AAI

User profile service
- Register a Life Science AAI and commit to AUP
- View/edit profile
- Link new external ID to the Life Science ID

LS REGISTER

- Data access permissions (REMS)
- Communities and groups (Perun)
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AM frontend

IdM backend

External authentication

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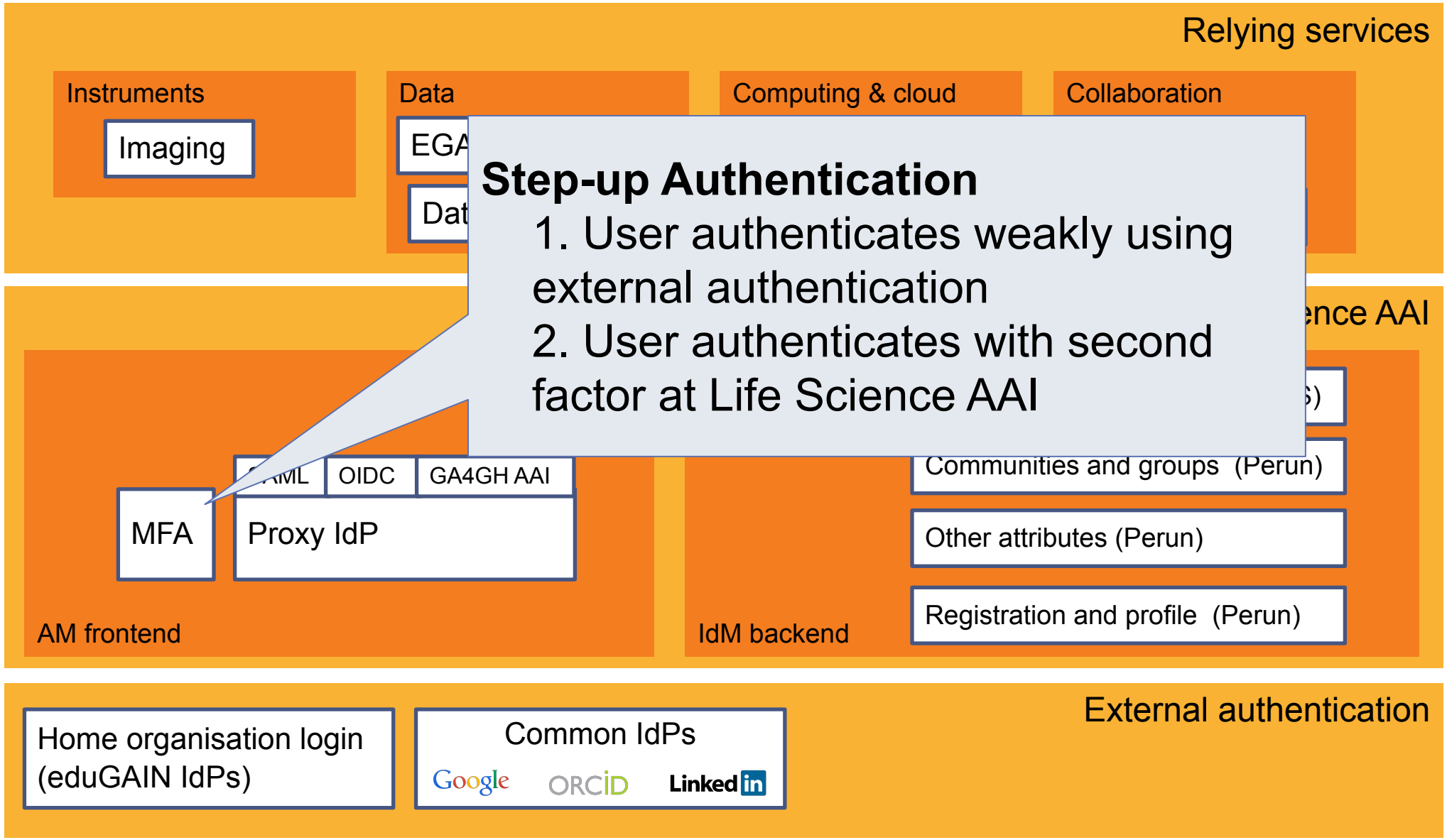
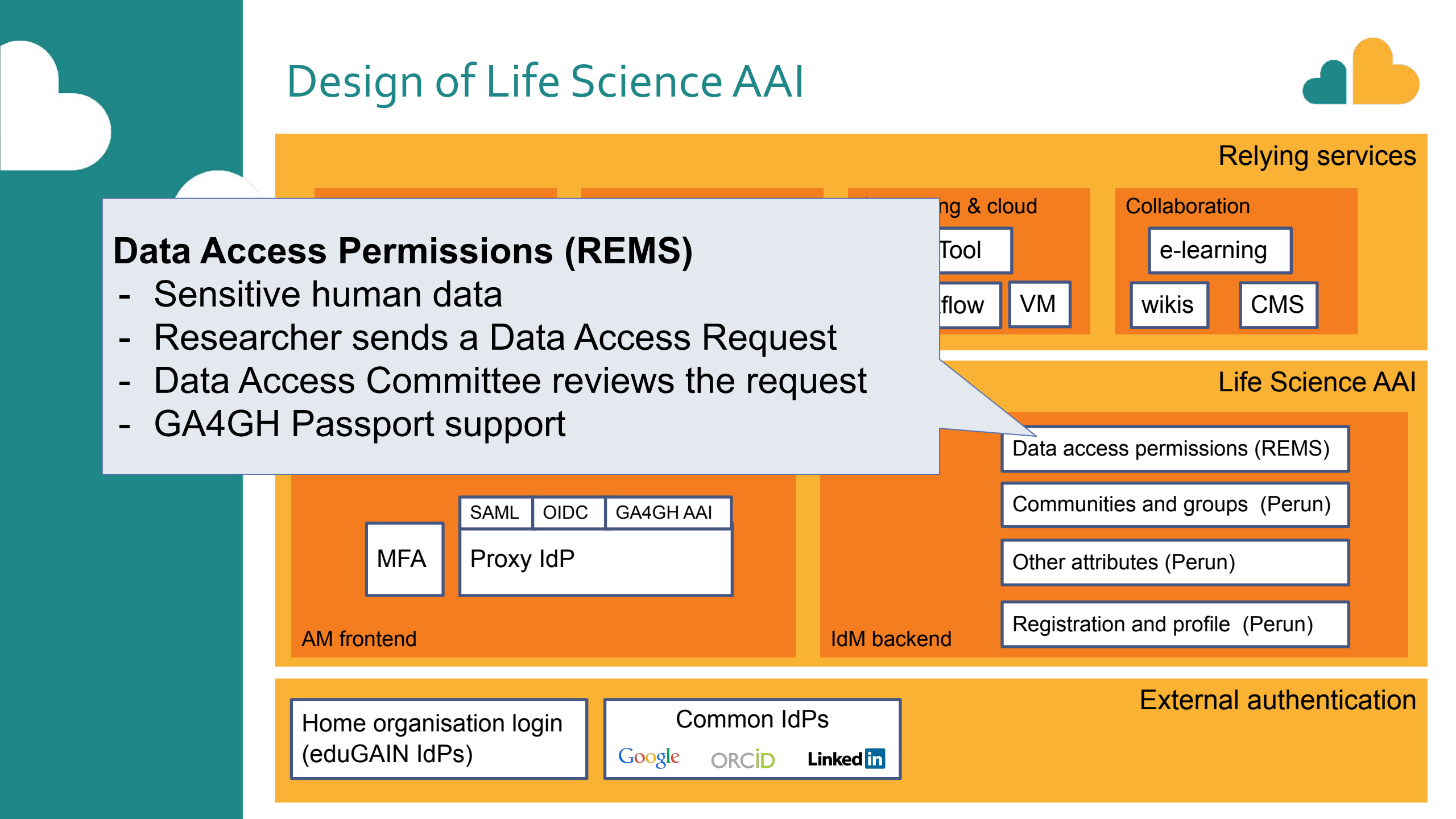
Design of Life Science AAI



Design of Life Science AAI



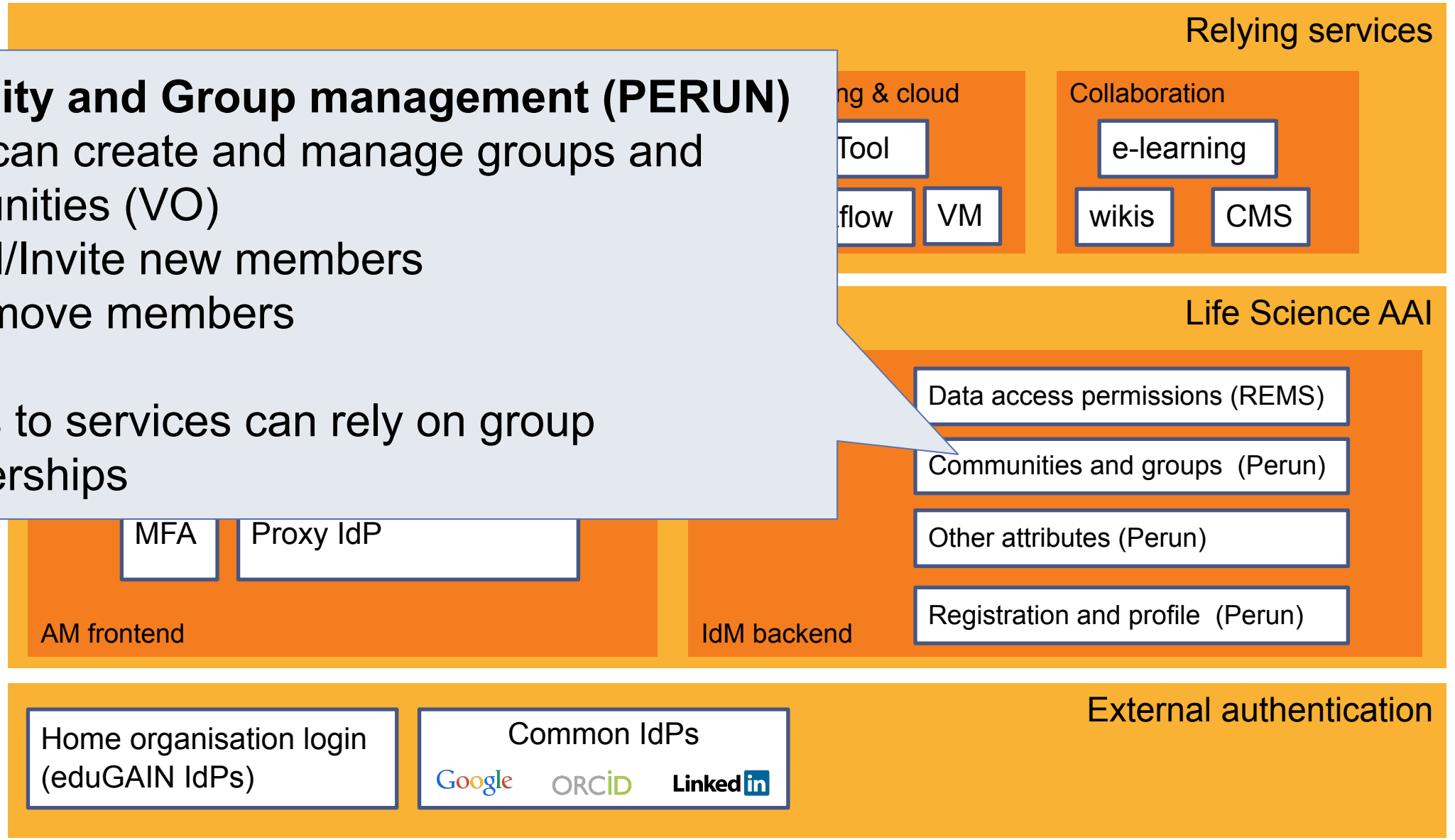
Data Access Permissions (REMS)

- Sensitive human data
- Researcher sends a Data Access Request
- Data Access Committee reviews the request
- GA4GH Passport support

Design of Life Science AAI

Community and Group management (PERUN)

- Users can create and manage groups and communities (VO)
  - Add/Invite new members
  - Remove members
  - Etc
- Access to services can rely on group memberships



CSC activities in (research) AAI

- REMS - CSC's tool for managing access to sensitive data
- ELIXIR AAI
- EOSC-Life WP5
- EOSC Association TF-AAI
- Puhuri – the AAI for Lumi

More information on Life Science AAI

- https://lifescience-ri.eu/ls-login.html
- Life Science AAI blueprint

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