

ELIXIR competence center - The first year

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*European Life Sciences Infrastructure for
Biological Information*

www.elixir-europe.org



ELIXIR competence center

- **ELIXIR**: Research infrastructure focused on life science data. Supported by EBI and 18 European countries



- The **ELIXIR competence center** (part of EGI-Engage project) aims to facilitate and promote usage of EGI resources among ELIXIR and molecular biology research community.

ELIXIR CC members

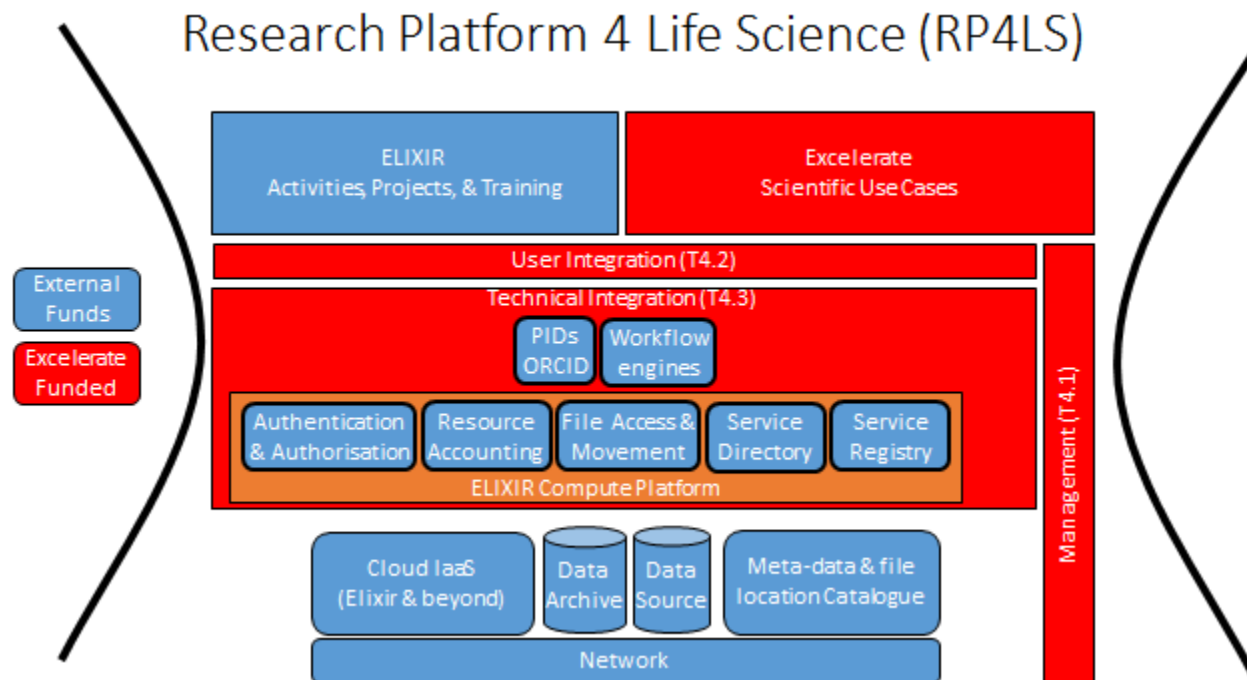


- CESNET (<https://www.cesnet.cz/>)
- CNRS IFB-core (<https://www.france-bioinformatique.fr>)
- CSC (<http://www.csc.fi>)
- EMBL-EBI (<http://www.ebi.ac.uk/>)
- GRNET (<https://grnet.gr/en/>)
- SurfSARA
(<https://www.surf.nl/over-surf/werkmaatschappijen/surfsara>)
- Other collaborators: (Open Science Grid, other ELIXIR nodes)



The ELIXIR Compute Platform

A common compute platform to support ELIXIR-EXCELERATE H2020 use cases.
Later on other users.



The ELIXIR Compute Platform

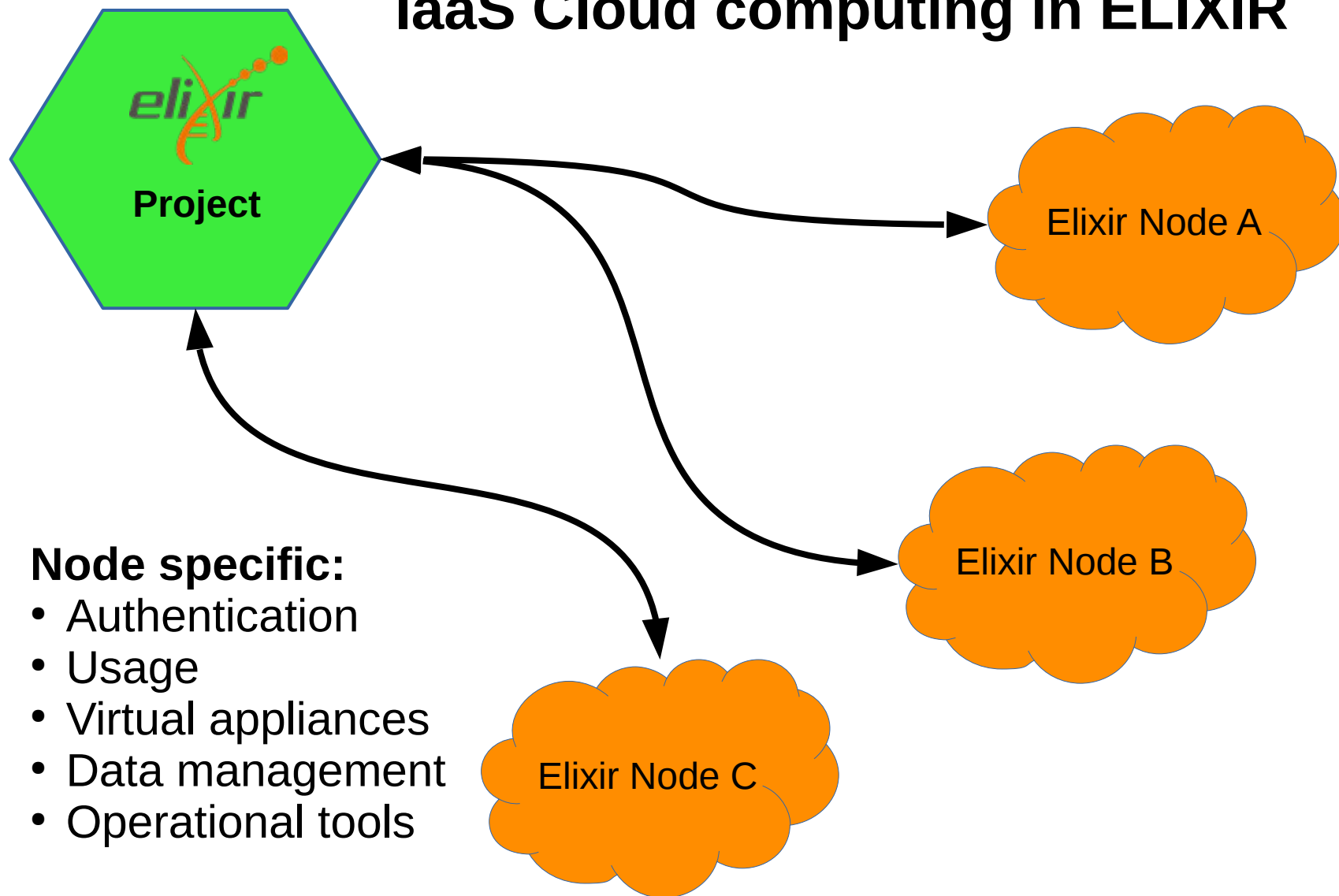
A coherent collection of services and technologies that allow effective production bioniformatics services

- Computing (**cloud** & HTC)
- Storage and Data transfer
- **Authentication and authorization**
- **Applications and tools**

EGI, EUDAT, PRACE, and **GEANT** are among potential service providers.



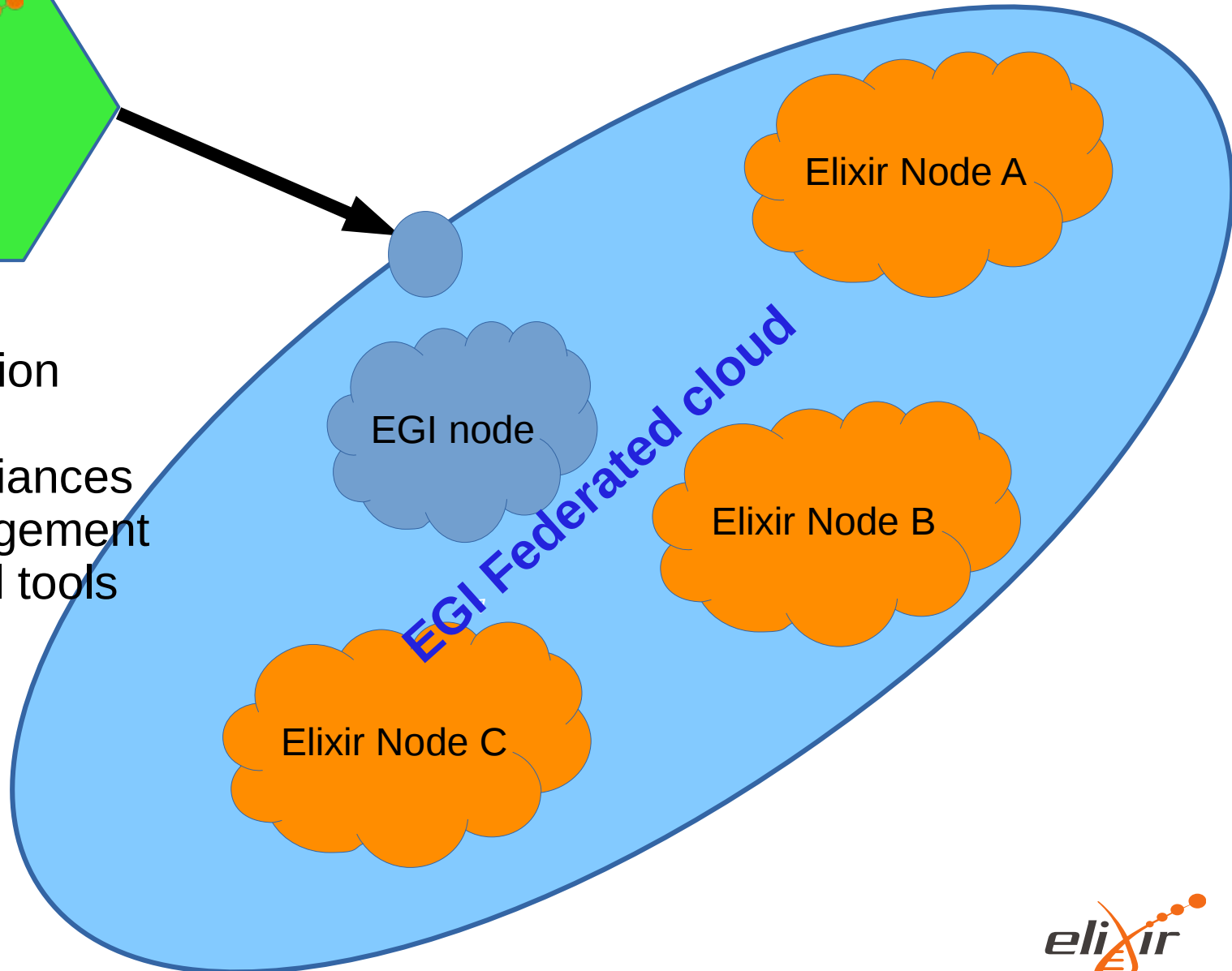
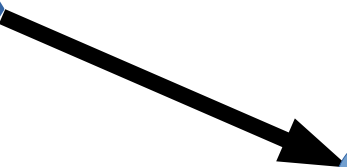
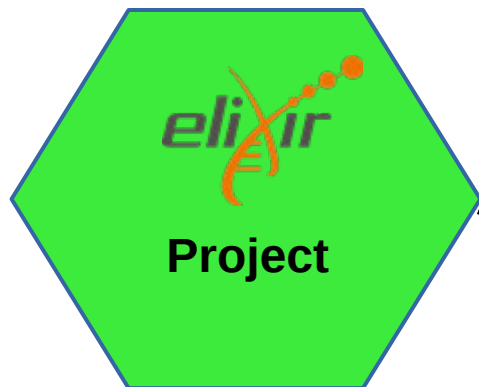
IaaS Cloud computing in ELIXIR



Node specific:

- Authentication
- Usage
- Virtual appliances
- Data management
- Operational tools

EGI Federated Cloud

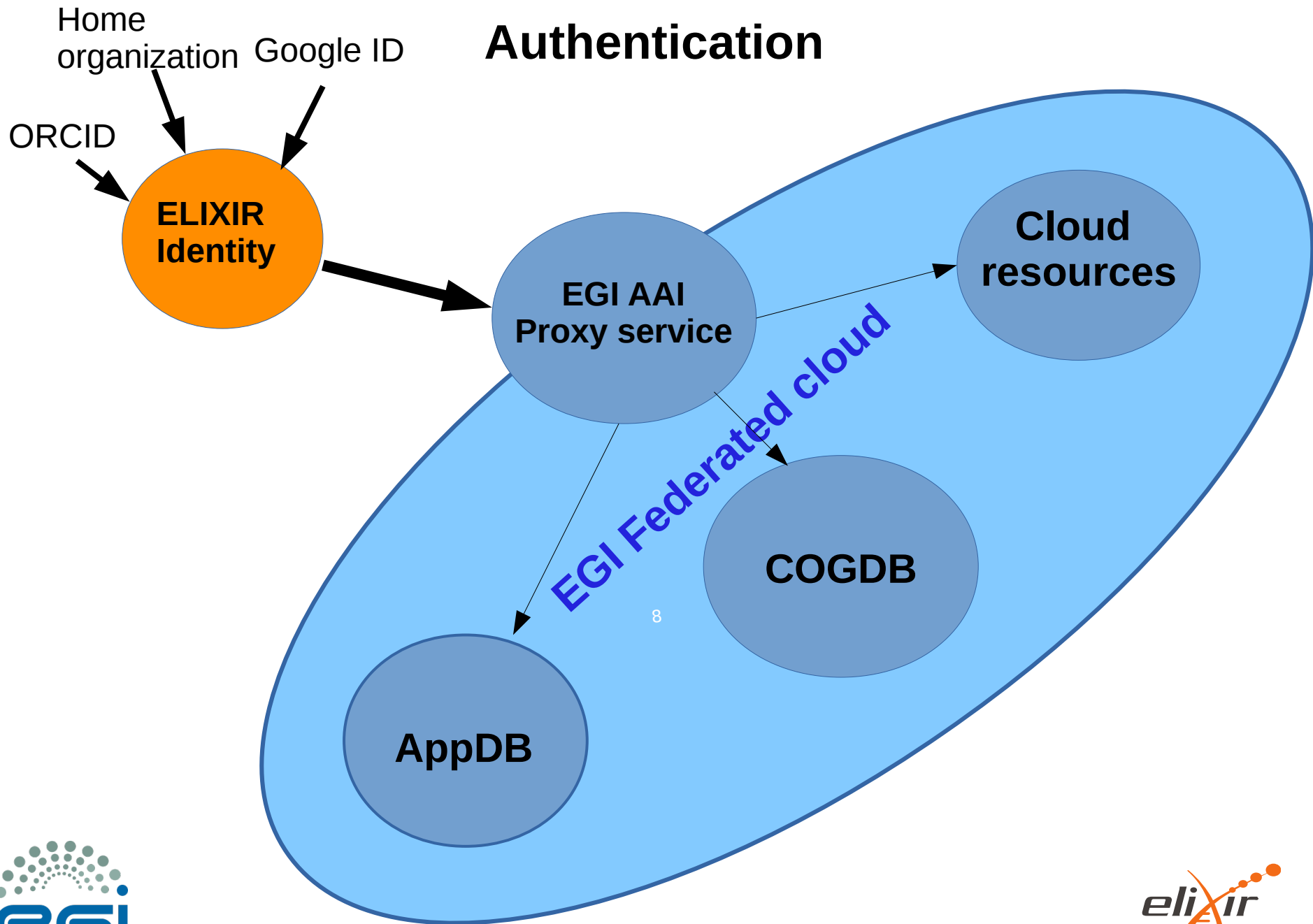


Uniform:

- Authentication
- Usage
- Virtual appliances
- Data management
- Operational tools



Authentication



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- 5 Use cases selected, testing ongoing
- Providing services to EGI Federated Cloud.
 - Best practices and experiences
- Authentication and authorization:
 - Interoperability between ELIXIR AAI and EGI AAI
 - ELIXIR VO established



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- EGI Federated Cloud integration performed and documented in **OpenStack, OpenNebula** and **Synnefo** platforms.
- Still only 3 out of 6 CC members are providing resources for EGI Federated Cloud.

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Issues to solve

- Technical requirements and conflicts
- Resource allocation and user policy



Scientific Use cases

Use cases are used to promote, guide and test the integration between EGI and ELIXIR communities

- **cBioPortal replication:** Docker container to distribute cBioPortal tools and datasets (cancer PDX models) within EGI Federated Cloud. Under prepatation.
- **Marine Metagenomics:** Virtual cluster environment set up in the OpenStack cloud at CSC. Next: adding the MetaPIPE analysis pipeline. Testing/building the compatibility with the EGI Federated Cloud.
- **Insyght Comparative Genomics visualization tool**
Local cloud installation ready, next testing EGI Federated Cloud
- **PhenoMeNal project:** Virtualized EGI compatible applications for metabolomics data analysis

- **JetStream interoperability**

building interoperability between JetStream, EGI and Elixir



Next steps

- Increasing EGI Federated Cloud compatibility
- Implementing use cases
- Piloting usage
- Dissemination

Key issues:

- Resolving issues related to resource providing
- AAI development and testing
- Resource management

