e-Infrastructure view on the EOSC EU Node Federation

T. Ferrari, J. v. Wezel, N. Manola, L. Florio

(https://events.geant.org/event/1529/timetable/#20231130.detailed)

Outline

1. Federating the European Research Commons - T. Ferrari (EGI Foundation)
2. EUDAT Contribution to the EOSC ecosys - J. v. Wezel (EUDAT CDI)
3. EOSC Nodes to tie the whole eScience community - GÉANT Community reflections - L. Florio,
4. OpenAIRE input to the EOSC Node Federation - N. Manola (OpenAIRE)

Blue-Cloud Position Paper on EOSC

The expectations of the Blue-Cloud community

Blue-Cloud supports the view of EOSC and expects EOSC to provide:

- Generic e-infrastructure services (e.g. AAI, PIDs, etc) and access to resources such as HPC, storage, cloud computing;
- Seamless access to other thematic clouds to support multi-disciplinary science;
- Easy to use APIs to make "Blue" services and data available to the target of the 1.7 Million researchers in Europe (and beyond) to accelerate FAIR science;
- A framework creating awareness on the importance and best practices for FAIR data and providing training on data management.

Credits: the BlueCloud project (Grant Agreement No.862409) – 10.5281/zenodo.5525851

ENVRI-FAIR Position Paper on the EOSC

What ENVRI-FAIR needs from the EOSC
Generic infrastructure services such as for AAI, PID, and provenance, for tailoring to specific Research Infrastructure needs and adoption by individual research infrastructures
Generic workflow management tools and services, for tailoring to specific Research Infrastructure needs and adoption by individual RIs
Access to shared resources such as repositories, HPC, HTC and data management tools
Standard APIs to support remote data discovery, access, and sharing
Provision of notebook-based environments which allow to access and integrate data services for the community
What ENVRI-FAIR can offer to EOSC
Collective domain-specific knowledge and competencies that underlie all the data and other services provided by the European ENVRIs
FAIR-based tools and resources for easy and seamless access to environmental data and services provided by the European ENVRIs
ENVRI-hub – a federated machine-to-machine interface to access environmental data and services provided by the contributing ENVRIs

Credits: the ENVRI-FAIR project (Grant Agreement No. 824068) – 10.5281/zenodo.3666805

The research data infrastructure perspective
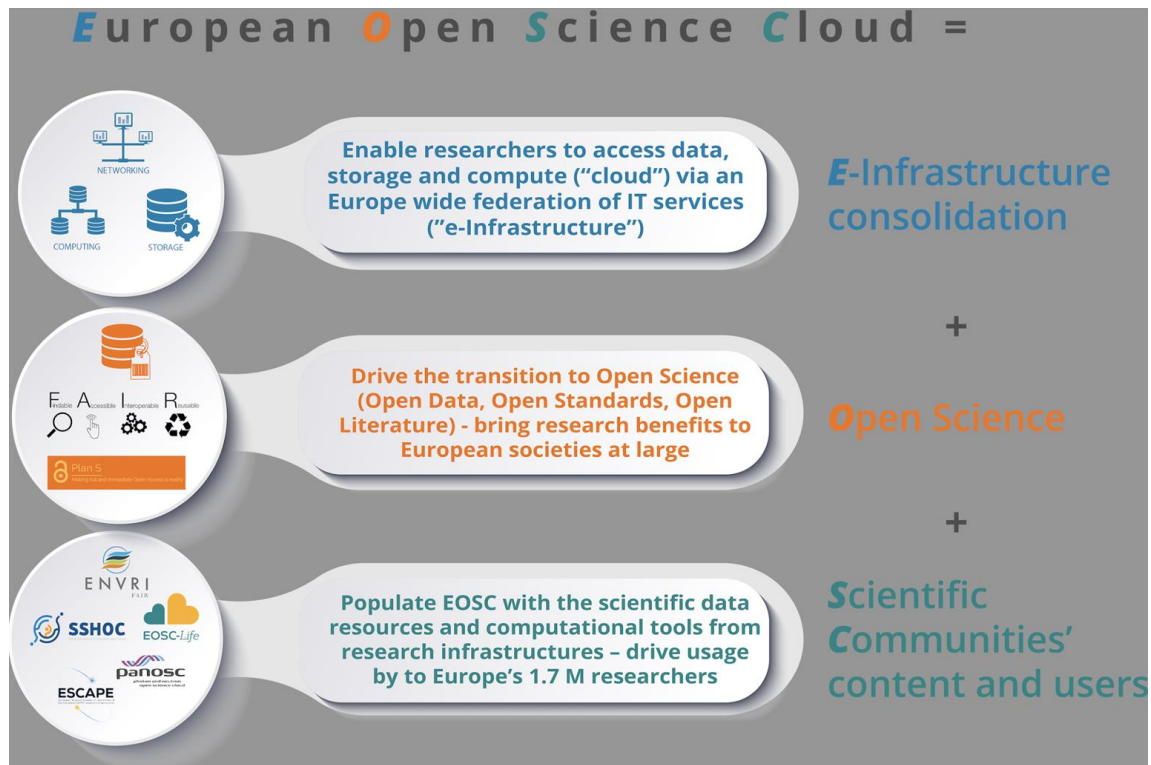
Credits: ESFRI thematic cluster view on EOSC – 10.5281/zenodo.3631246

EOSC-level Research Commons federated capabilities

- Examples of federated technical functions
  - Federated discovery
  - Federated access channels
  - Federated data deposition & preservation
  - Federated Identity and Access Management
  - …
- Examples of federated processes
  - EOSC-level access policies supporting transnational and cross-institute access
  - EOSC-level support to Research Commons users
  - EOSC-level interoperability framework conformance
  - EOSC-level integrated provisioning - SLAs and OLAs engaging Research Commons holders and infrastructures
  - …
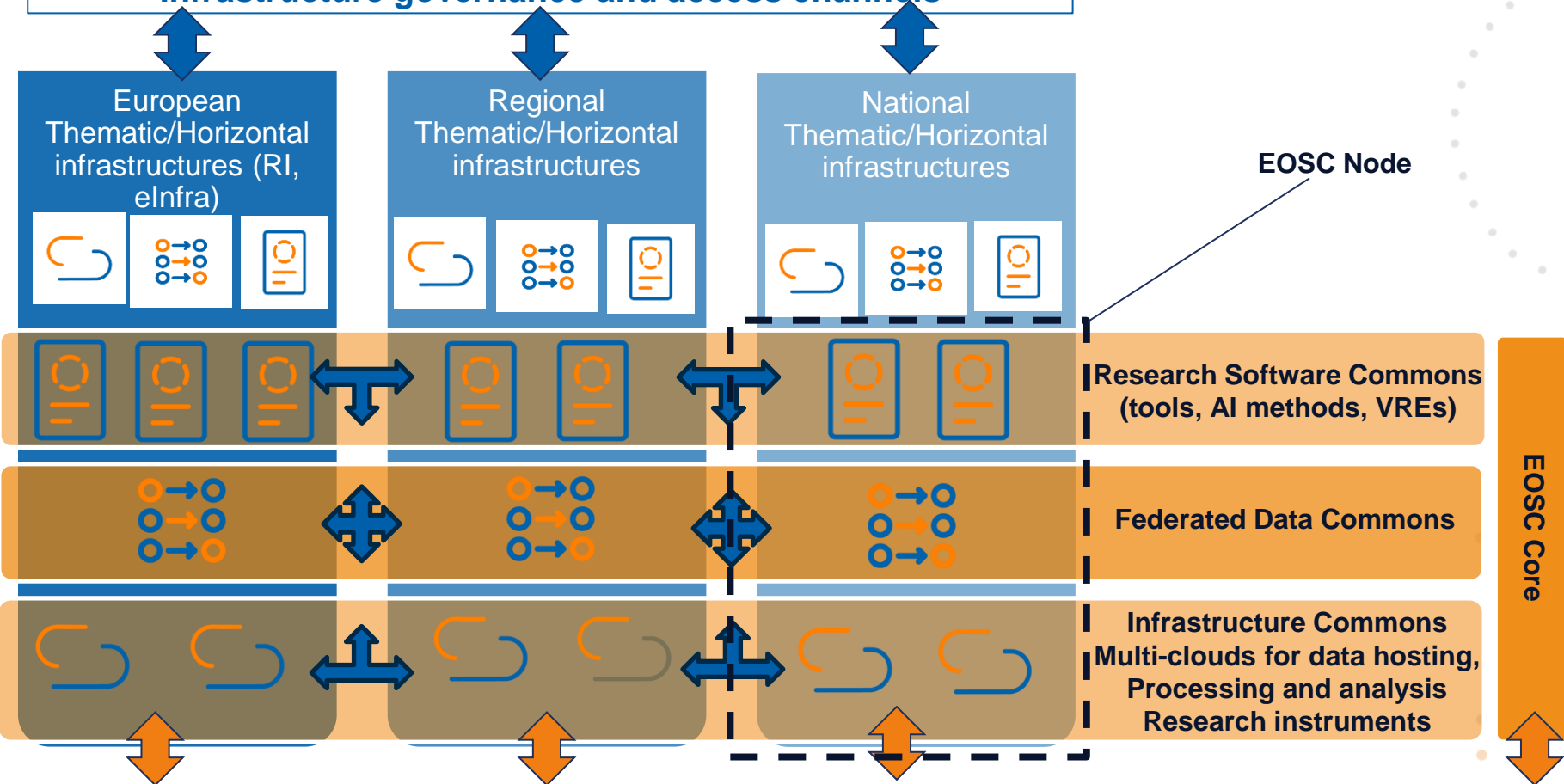
EUDAT input to the EOSC Node Federation

J. v. Wezel

EUDAT Contribution to the EOSC ecosys

- Opportunity to federate services with other infrastructures/ecosystems
  - EOSC EU, national and thematic nodes
  - create added value for users
  - EUDAT members have local/national reputation and profile
- Adopt a role in developing and operating an EOSC node
  - Increase longer term collaboration with other eInfras, EOSC at large, national initiatives
  - Leverage contractual commitments, increase mutual acceptance and trust
- Serve as mediator, broker, patcher
  - Impedance matching between local and EU level
  - Not everything is solved with technical interoperability guidance and standardisation

OpenAIRE input to the EOSC Node Federation

N. Manola

@openaire_eu

EOSC Federation - In practice

The OpenAIRE view

Natalia Manola, CEO

SCIENCE.
SET FREE.

OpenAIRE

OpenAIRE key services goals
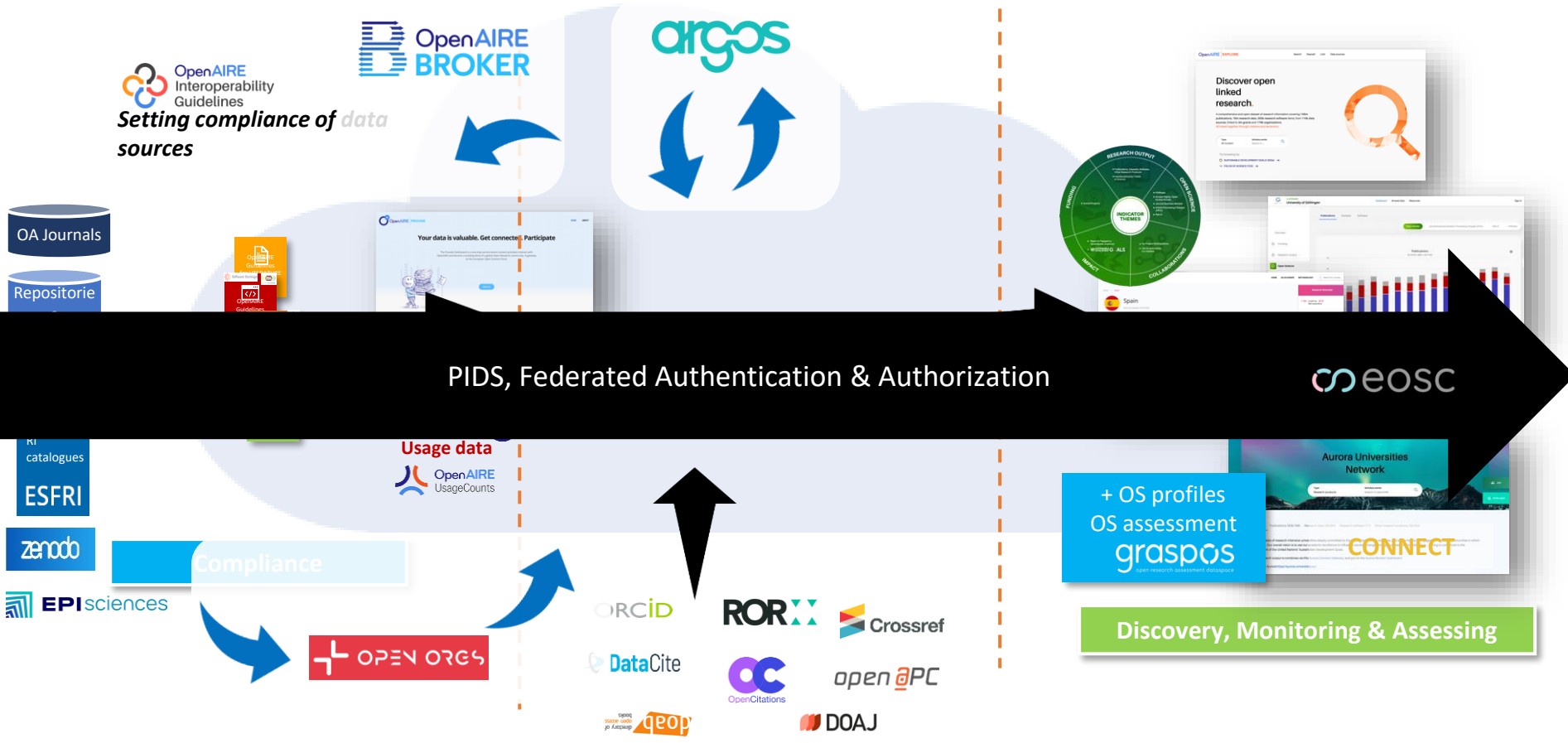
INTEROPERABILITY

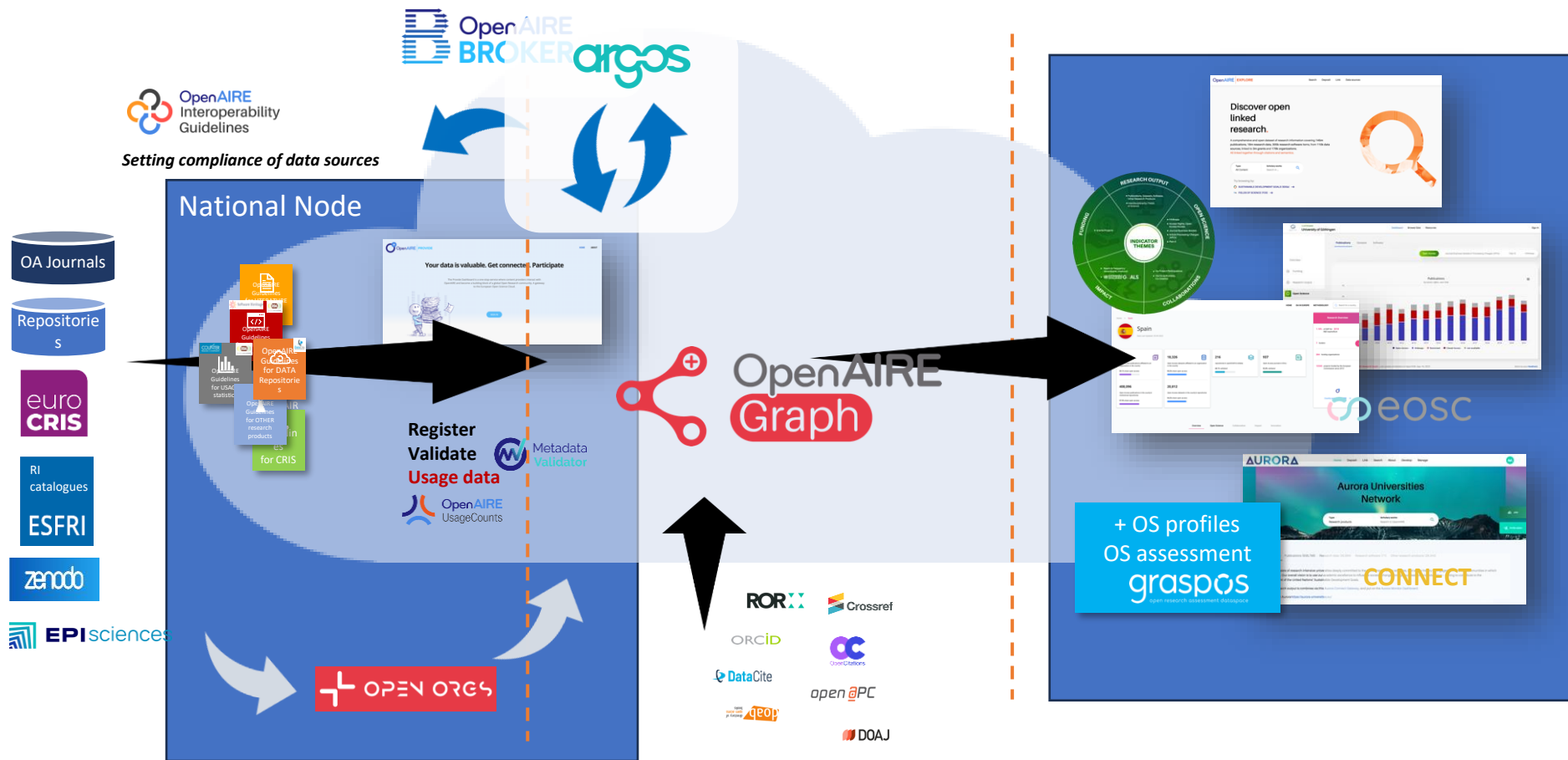DISCOVERY

MONITORING

LEARNING

Our model of current operation: **What we have now**

Our envisioned model in a federation: **What it would look like**

What this would entail or impact

- **Increased quality** due to local engagement and targeted knowledge
- Shared costs
- Updated access modes (and business models)
  - Local deployments – Implement EOSC Interoperability Framework
  - Shared services – PROVIDE, MONITOR, EXPLORE **as-a-Platform** (EIF is embedded)
- Distribution of upskilled personnel
- **Already happening in a few countries!**

- **In addition:** federated knowledge for skills and policy advising

EOSC Nodes to tie the whole eScience community

GÉANT Community reflections on the EOSC Nodes

Licia Florio
Senior Strategy and Policy Officer, NORDUnet

licia@nordu.net

eIRG Meeting
Nov 2023

EOSC Node...a (not so) new term in the EOSC universe

The EOSC Node (re)introduced:

- EOSC is the federation fabric for the **EOSC Nodes,** enabling them to interoperate, share resources and facilitate their discovery, access and composability

- Each node of this network may be "*a full implementation of the EOSC Platform concept*", a federation of providers, resources and/or users with its autonomy, an own governance model and a well-defined offer in terms of services and resources

- There will be an EU EOSC Node to provide the capabilities to enable the EOSC to work smoothly
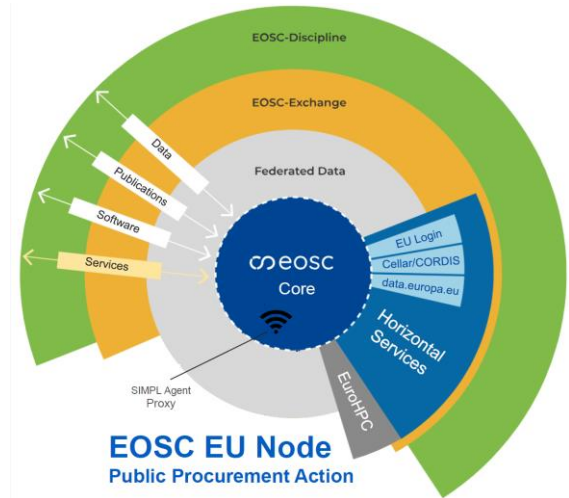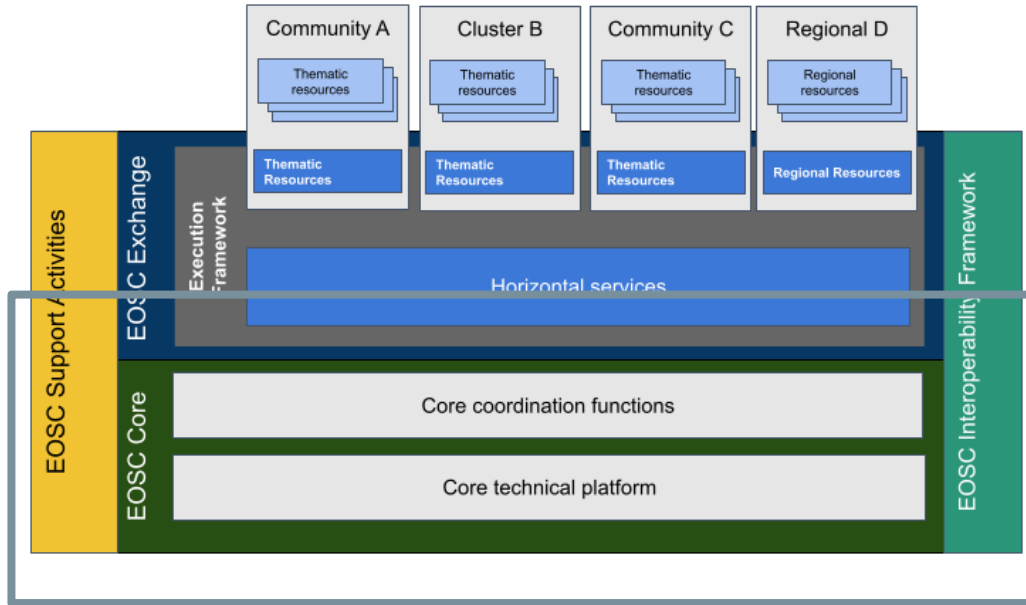
Mapping the EU node to the EOSC Platform Architecture
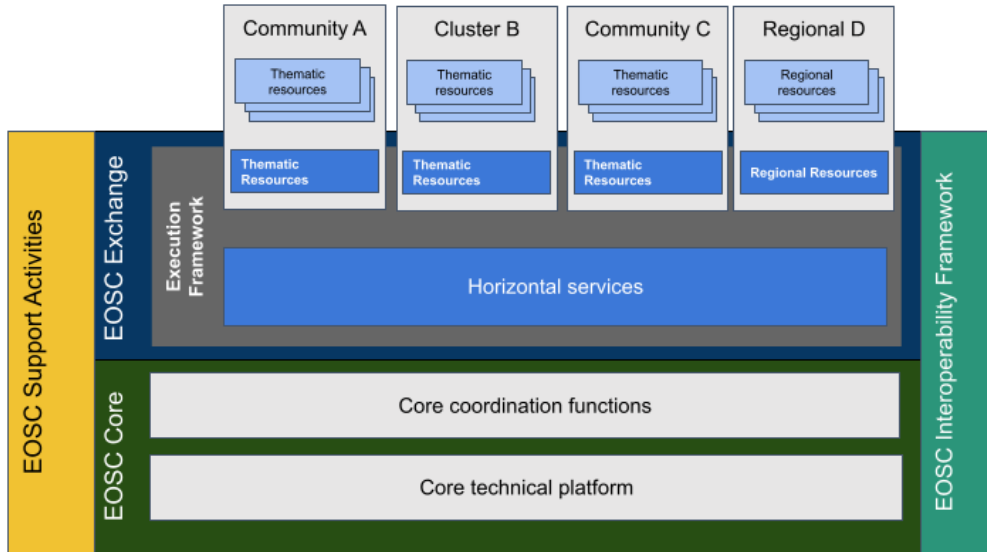
EOSC High level architecture

Mapping the EU node to the EOSC Platform Architecture

The procurement will implement the EU EOSC Node:

- Or in other words the 'the federating element of the MvE' and some horizontal services

GÉANT and the NRENs Position Paper on the EOSC Node

WHAT
A position paper published during the summer that includes guiding principles for the delivery of EOSC Nodes

WHY
To ensure EOSC Nodes empowers researchers, build on existing delivery channels and to stress that NRENs can play an import role

WHOM
The paper collects the view of the GÉANT Community that forms a large proportion of mandated organisations of EOSC

NRENs Position Paper

GÉANT Community is supportive of the EOSC Node

A set of guiding principles are proposed in the paper with the aim to ensure the continuation of EOSC as a research community-centred initiative

EOSC as a federated environment of nodes

The **strength** of a federated environment is in the trust all members share.

Control is distributed across members based on agreed policies

EOSC Nodes should be **loosely coupled** to the EOSC EU node (no Master Node) and independently governed

Beside EU nodes, **regional, thematic, national nodes** will be created (some already exists)

The GÉANT Community guiding principles

Prefer existing delivery models
Nodes should follow existing (or planned) delivery channels to deliver resources

Community Driven Policies
Policies across all the EOSC nodes should include all operators of the EOSC nodes and be consensus based

Full advantage of the federated model
GÉANT community has extensive experience in building large scale federated infrastructures that can be reusable

The GÉANT Community guiding principles

Subsidiarity
Nodes should comply with the agreed policy and technical framework, which should be enforced locally
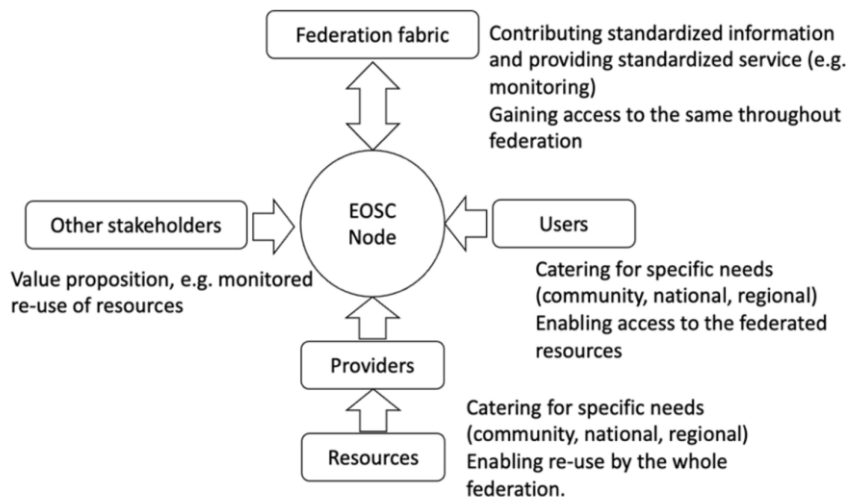
Add value for users
All nodes should provide a consistent entry point into the EOSC federated environment to make resources available in EOSC and to find them easier

Funding
The operations of EOSC nodes should be properly resourced via dedicated funding

To conclude EOSC nodes can fulfill the EOSC potential

From the "GÉANT Community position paper on EOSC Nodes"

Nodes should **make** it **easier** to **connect** users to resources following existing delivery channels.

A **baseline** should be agreed to ensure interoperability across nodes.

The **governance** should include the representatives of all nodes and be driven by consensus.

NRENs look forward to contribute.

Thank You

Any questions?

www.geant.org

Co-funded by
the European Union