



The EOSC EU Node

<https://open-science-cloud.ec.europa.eu/>

Peter Szegedi

DG CNECT C.1



EUROPEAN OPEN
SCIENCE CLOUD

What is EOSC



A process

- Accelerate Open Science, FAIR data management and use of digital methods and services
- Stimulate co-operation in science and research, new insights and innovations, higher research productivity and improved reproducibility in science.

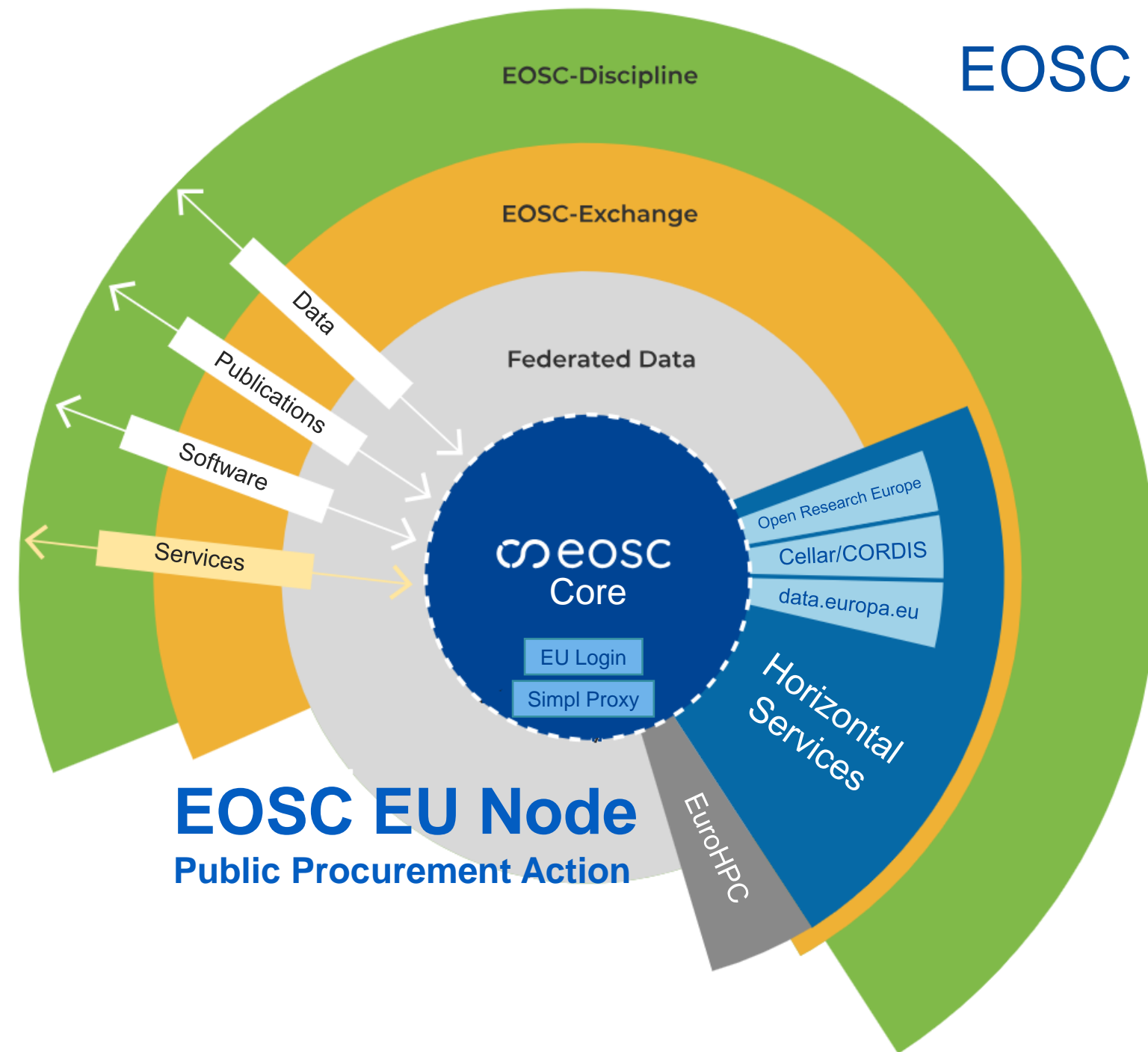
An open, trusted, federation of infrastructure

- Access existing Research Infrastructures in Europe;
- Enable circa 2 million European researchers to store, share, process, analyze, and reuse research digital objects (e.g. data, publications and software)

An evolving ecosystem

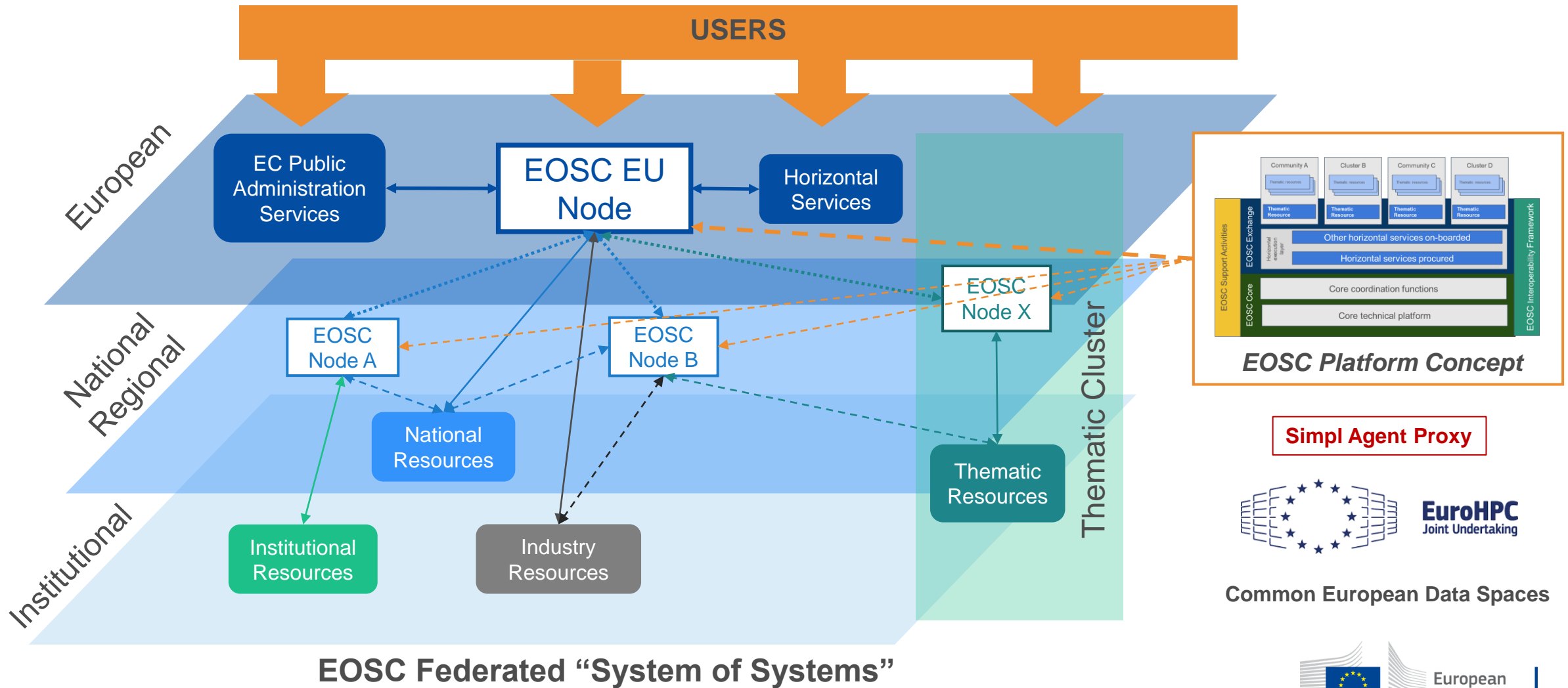
- Bringing together the European Commission, the governments and the many R&I stakeholders involved in the European Research Area
- Co-created across European, national, and institutional levels

EOSC EU Node Value Proposition



- **Facilitate** the creation of the “*Web of FAIR data and interoperable services*” (aka. EOSC Federation) under the Open Science Policy
- **Put** a “*seed in the ground*” by operationalizing the first recognised EOSC Node at the European level for the initial 3 years
- **Offer** “*core services*” for scientific research infrastructures to federate (single-sign-on, catalogues, knowledge graph, application workflow, monitoring, accounting, helpdesk) and common “*horizontal services*” for end-users to benefit from (compute, containers, data transfer, notebooks, file sharing, open research data)
- **Define** the *pathway and blueprint* (EOSC Interoperability Framework) for other potential EOSC Node operators to join the federation

EOSC EU Node – Federation Approach



EOSC EU Node: Technical and Public Launch

18 September 2024 – ERA Stakeholders Conference, Brussels, Belgium



During the [ERA Stakeholder Conference](#) held on 18-19 September 2024 in Brussels, the upcoming launch of the European Open Science Cloud (EOSC) EU Node was announced. *Iliana Ivanova, the European Commissioner for Innovation, Research, Culture, Education, and Youth, highlighted EOSC and the EU Node in her keynote speech as an example of collaborative efforts aimed at promoting Open Science across Europe.*

10 October 2024 – Technical Launch Event, Brussels, Belgium



This event marked a significant milestone and provided the opportunity for panel discussions surrounding the EOSC Federation build-up and European data spaces.



<https://www.youtube.com/watch?v=67mirPt-FhY>

22 October 2024 – EOSC Symposium, Berlin, Germany



The recent [EOSC Symposium in Berlin](#) (October 21-23) was a landmark event, marking the **official launch** of the EOSC EU Node and showcasing its potential to enhance the development of an integrated and effective digital research ecosystem.

<https://open-science-cloud.ec.europa.eu/>

Unique Features - New User Experience

- **Authentication, Authorization, Accounting (AAA)**

- eduGAIN and EU Login (with eIDAS) integration
- Policy-based Access Control (PBAC) retrieving user attributes from home IdP
- Virtual Credits and Wallets (personal, group)



- **Contributor tiers (discoverable, onboarded, native)**

- Resource Hub collecting 127 mil research objects from OpenAIRE, CORDIS, data.europa.eu, Software Heritage and more
- Curation service for resource object owners
- Recommendations, Favourites, Persistent Identifiers



- **Integrated User Space with Automated deployment workflows**

- TOSCA templates into Virtual Machines and Kubernetes containers
- Application and Data to Infrastructure



- **Monitoring and Helpdesk**

- Availability dashboard and support for end-users



EOSC EU Node Offers

Researchers

If you are a researcher or citizen scientist in Europe interested in collaborative, data-driven Open Science, the EOSC EU Node offers easy access to diverse data, publications, software, and services from across Europe's research networks.

- Discover, access and use **tens of millions** of scientific **publications, data** and **software**
- Find and access **services** and **tools** from research infrastructures, technology providers, leading scientific clusters and more.
- **Use integrated** compute, storage as well as interactive collaboration tools, applications and services free at the point of use.
- Create **teams** and **work together** putting Open Science principles in practice

Resource hub

Search resources

All resources | Publications | Data | Software | Other Products | Services | Data Sources | Training | Interoperability Guidelines | Tools

Recommended for you:

- PUBLICATION: Current Perspectives and Progress in Preoperative Portal Vein...
- PUBLICATION: Choc-Tadalafil Fusion: Unlocking Solubility and Taste Harmony with...
- PUBLICATION: Synthesis and Biological Evaluation of Cleistocaltone A, an...
- PUBLICATION: OZBEKISTON RESPUBLIKASIDA SAYLOV TIZIMI VA U...
- PUBLICATION: Ali...

Showing 1 to 20 of 47,345,005 resources

Access right: Open access

Scientific domain

Document type

Year: 2010 | Views: 0 | Downloads: 0

The wxacO gene of Xanthor lipopolysaccharide biosynt virulence

Name	Type	Status	Visibility	Protected	Disk Format	Size
image-0	Image	Active	Public	No	QCOW2	539.25 MB
image-1	Image	Active	Public	No	QCOW2	15.55 MB
image-2	Image	Active	Public	No	QCOW2	217.38 MB
image-3	Image	Active	Public	No	QCOW2	247.50 MB
image-4	Image	Active	Public	No	QCOW2	267.25 MB
image-5	Image	Active	Public	No	QCOW2	611.44 MB
image-6	Image	Active	Public	No	QCOW2	640.25 MB
image-7	Image	Active	Public	No	QCOW2	559.13 MB

European Commission

EOSC EU Node Offers

The screenshot displays the EOSC EU Node user interface. At the top, it says "European Open Science Cloud EU Node" and "Access your account and take advantage of the free resources, perform research and collaborate." Below this is a "Log in" section with a "Select identity provider" dropdown menu. A search bar contains "Budapest" and a "Search" button. Below the search bar, several identity providers are listed, including "Budapest Metropolitan University", "Corvinus University of Budapest", "Eötvös Loránd University", and "University of Veterinary Medicine".

Below the login section, there are several service status cards:

- Core Services Monitoring**: EOSC EU Node, LOT-1-MS1
- Core Services Status**: LOT-1-MS1
- Credits**: Overview of your credits. Your wallet: 343 remaining credits, 597 capacity to use, 85 days next renewal.
- Services**: File Sync & Share (14 credits consumed in the period), Interactive Notebooks (Access enabled), Cloud Container Platform (403 credits consumed in the period), Virtual Machines (10 credits consumed in the period), Large File Transfer (1 credit consumed in the period), Bulk Data Transfer (Access enabled).

At the bottom, there is a "Helpdesk" form with fields for "Full name", "Email", "Subject of message" (pre-filled with "EOSC Helpdesk"), and "Message". A "Submit" button is at the bottom of the form.

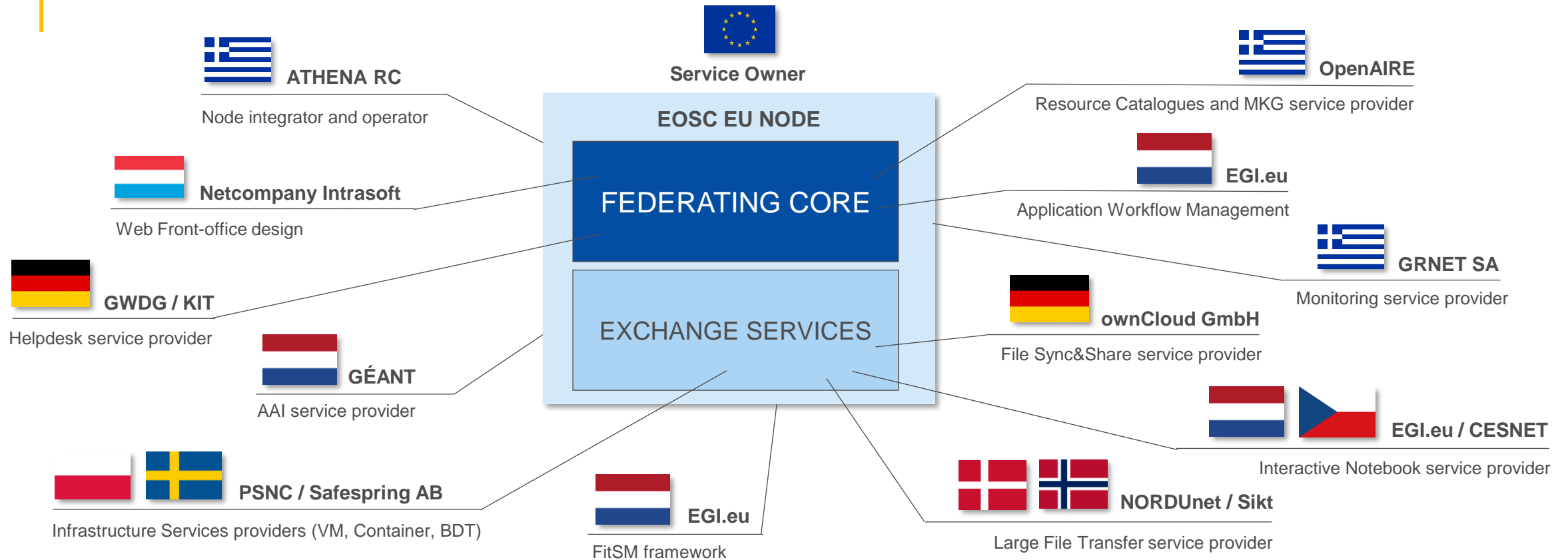
On the right side of the screenshot, there is a "Monitoring" section with a bar chart showing uptime percentages for various services over time. The chart shows four bars with the following uptime percentages: 100% uptime Today, 11.13% uptime, 99.94% uptime, 98.99% uptime, and 98.92% uptime. Each bar is composed of vertical bars representing individual data points.

Contributors

If you are a scientific resource provider in Europe, the EOSC EU Node invites you to contribute your research objects - such as data, software, services, and tools - to support the mission of promoting Open Science.

- Benefit from the **federated AAI** capability, get single user identity and group membership attributes
- Get user entitlements for automated **authorization** decisions
- Utilize **virtual credit** allocations in multiple **wallets** across applications and services
- Harvest curated **catalogues** and connect to metadata **knowledge graph**
- Share **deployment templates** across infrastructures, get **monitoring** probes and first-level support via **helpdesk**

EOSC EU Node – Contractors



CURRENT OR PLANNED NODE CANDIDATES



EU Node



Polish Node

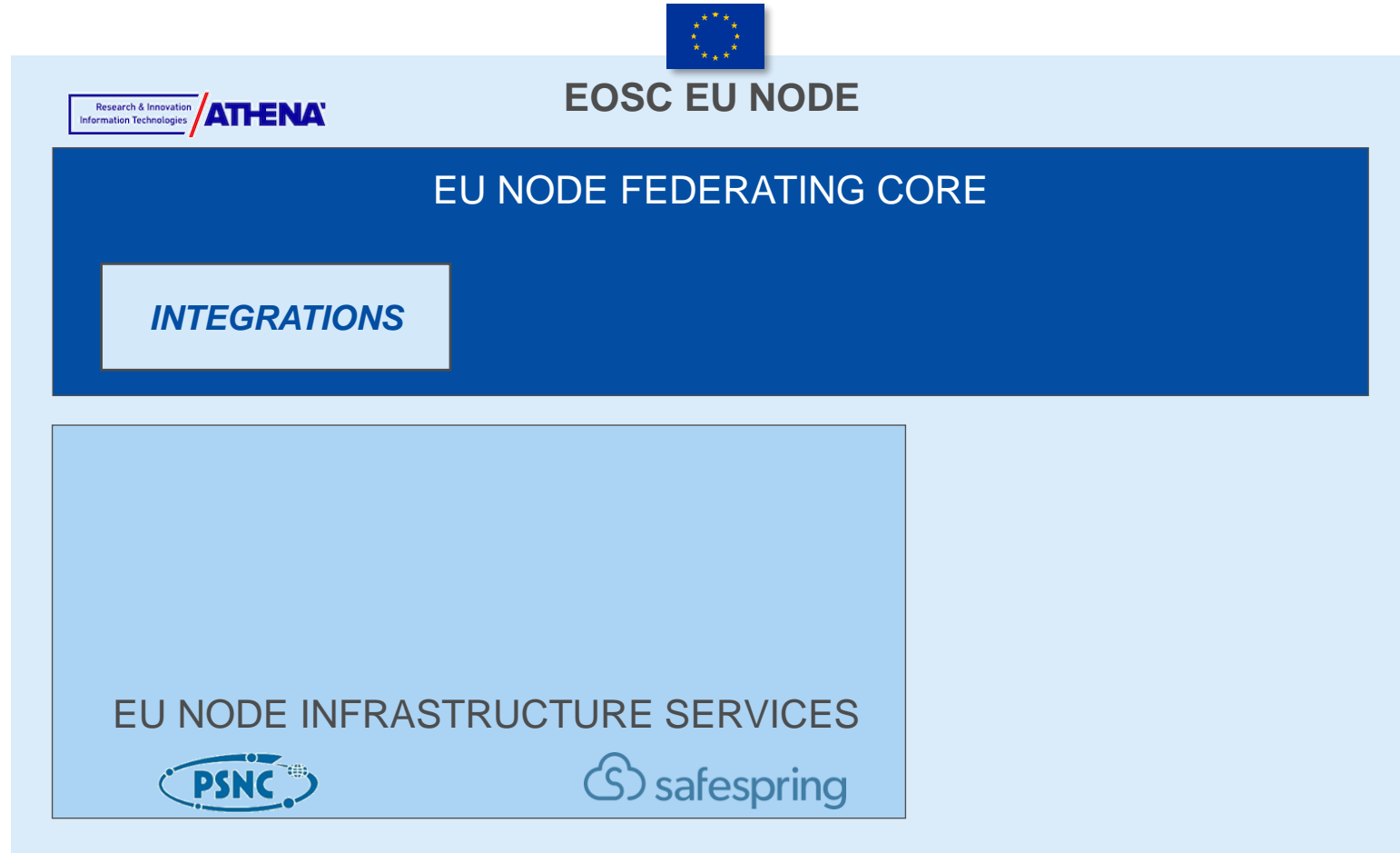


Czech Node

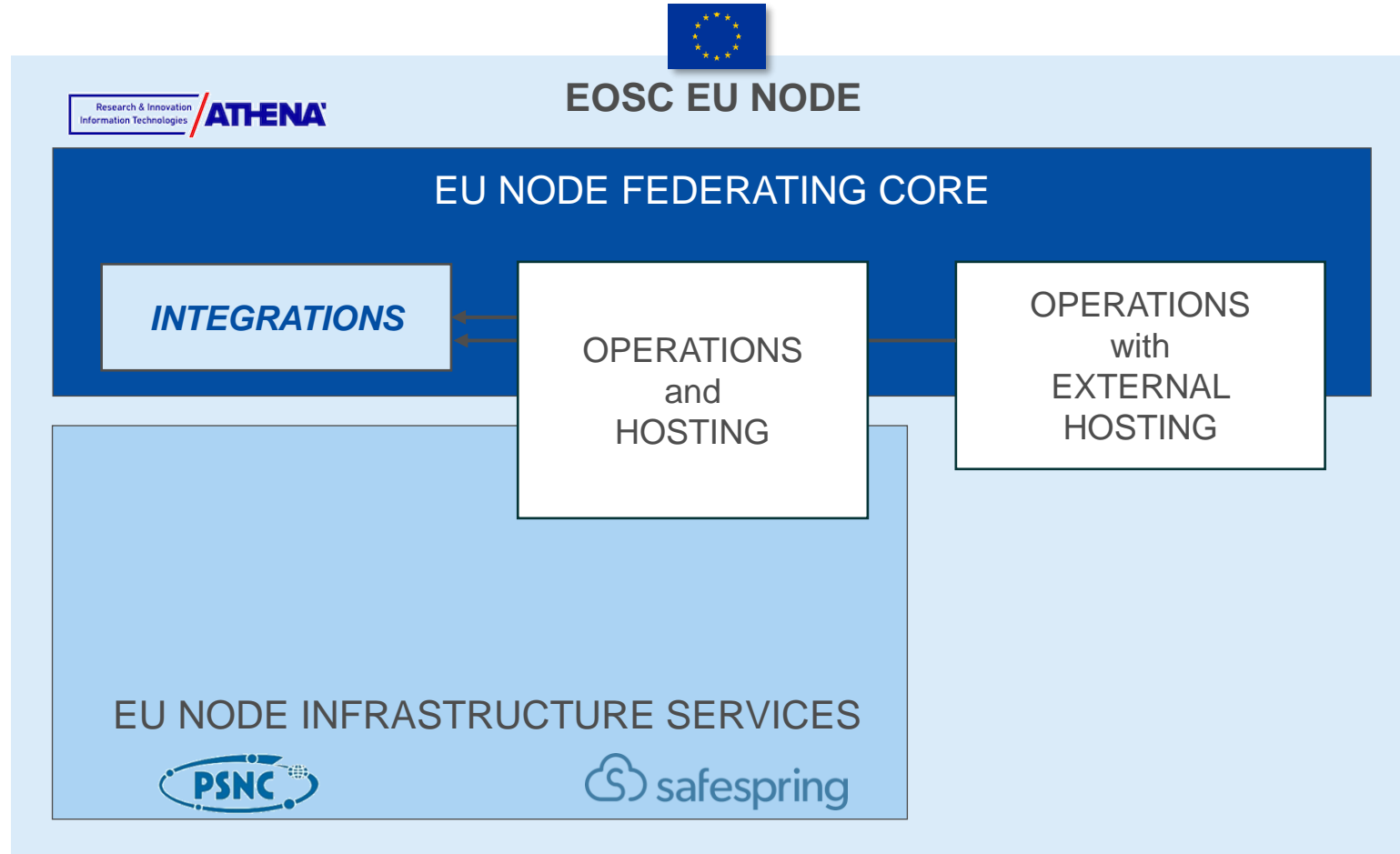


German Node

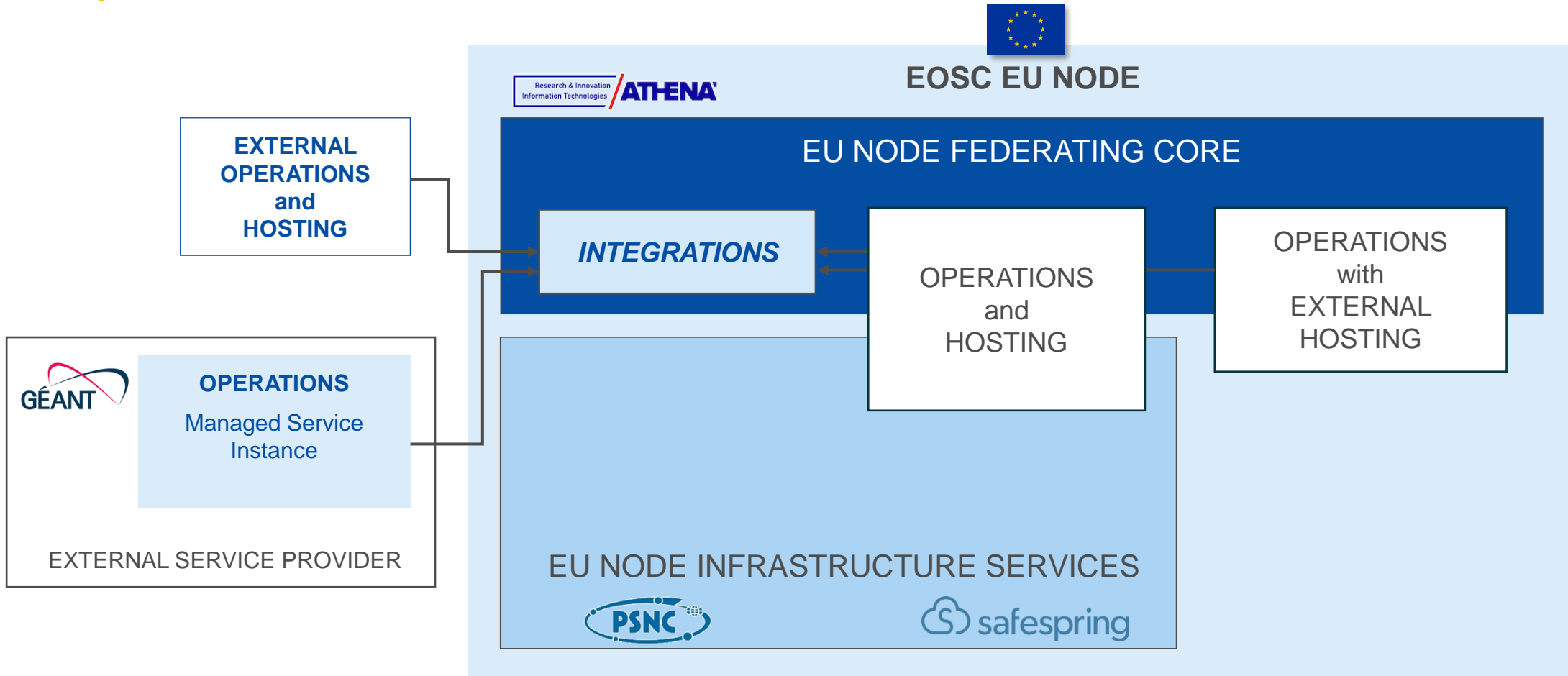
EOSC EU Node – Service Models



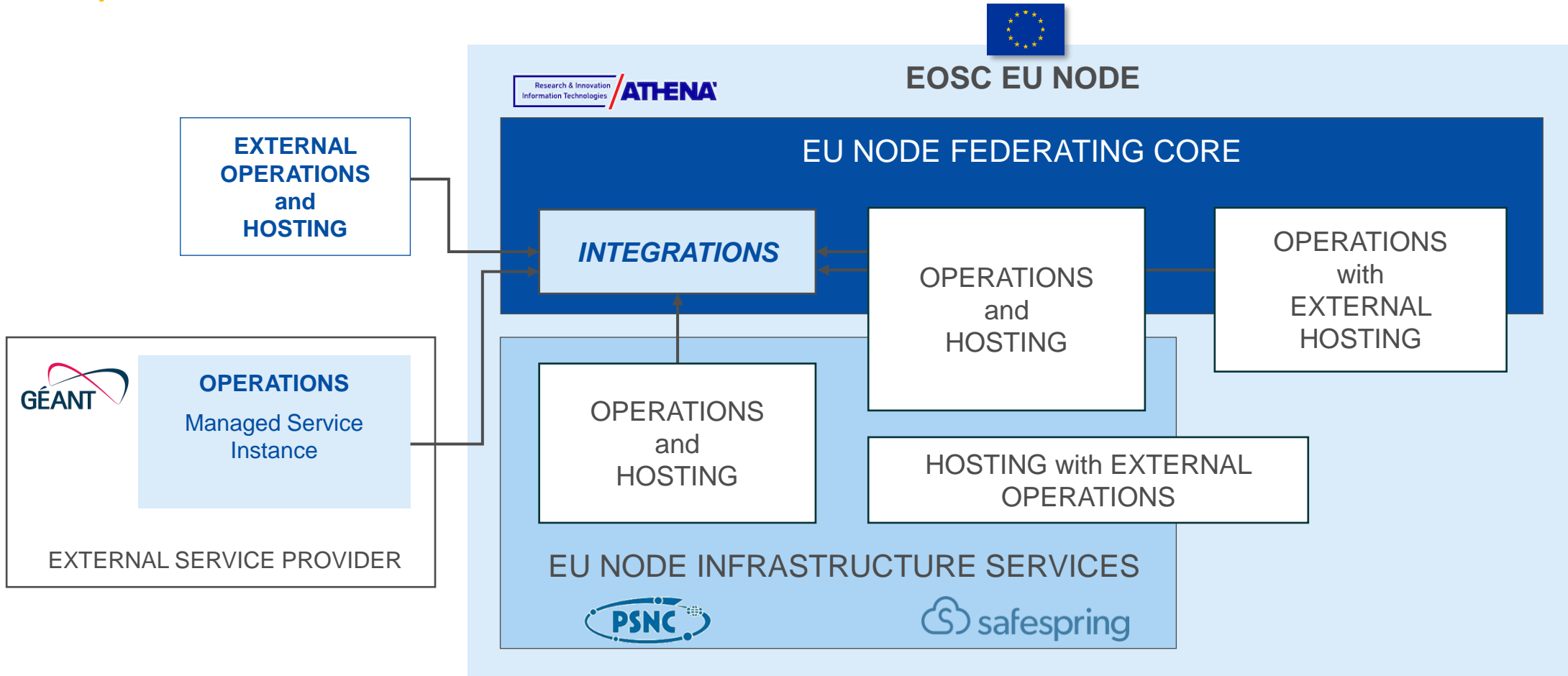
EOSC EU Node – Service Models



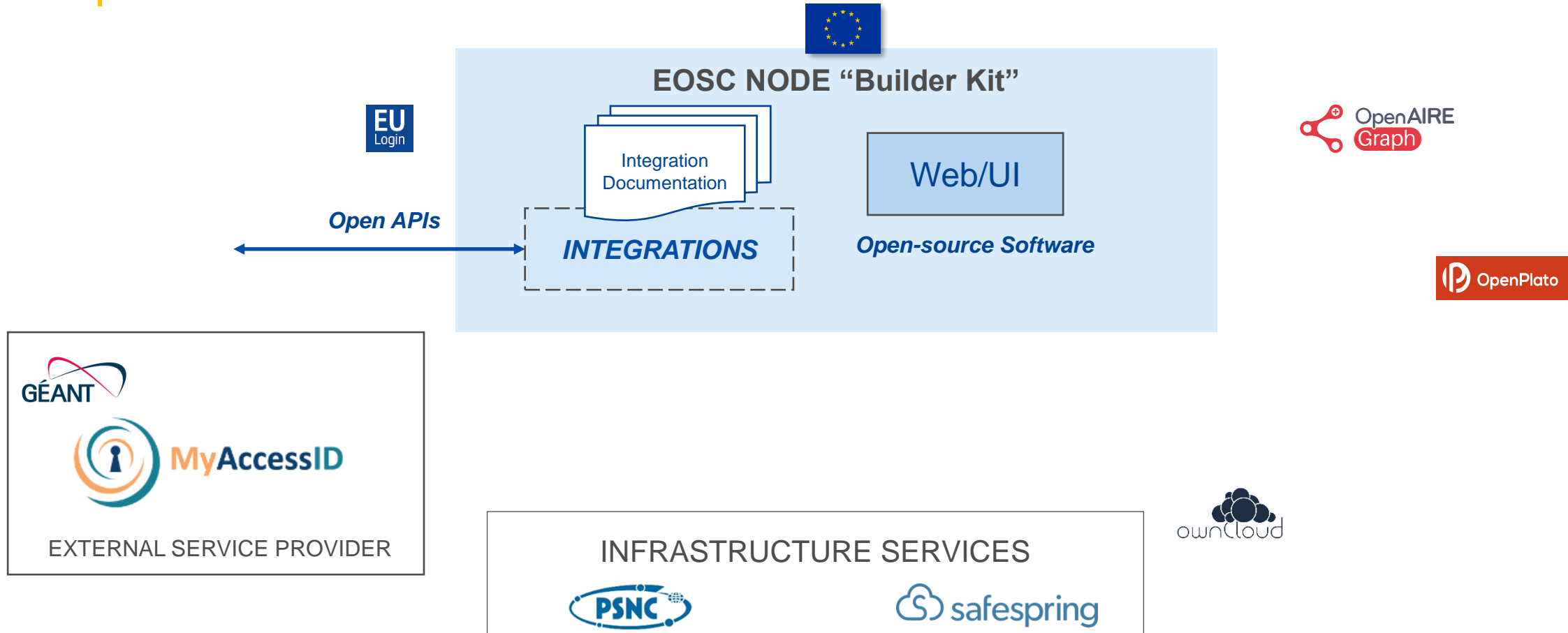
EOSC EU Node – Service Models



EOSC EU Node – Service Models



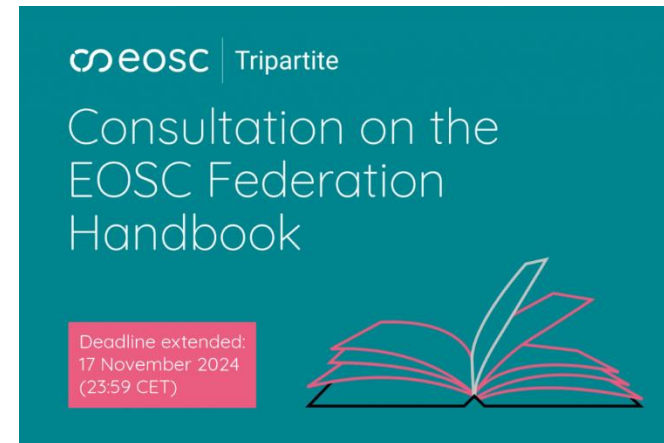
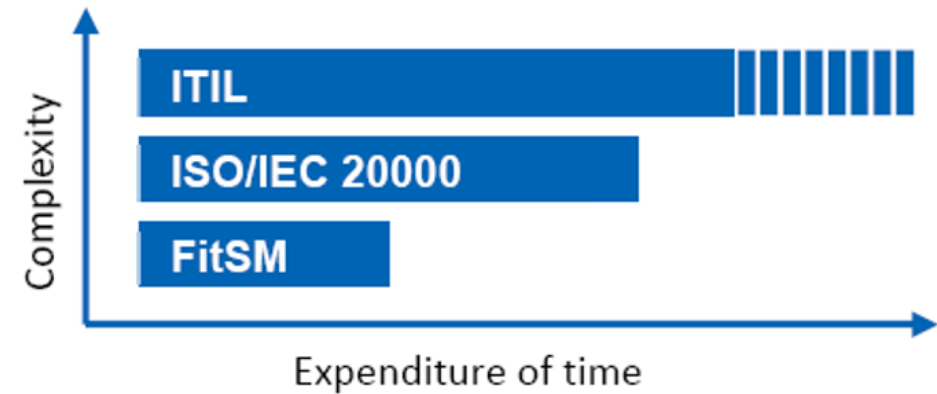
EOSC EU Node – “Builder Kit”



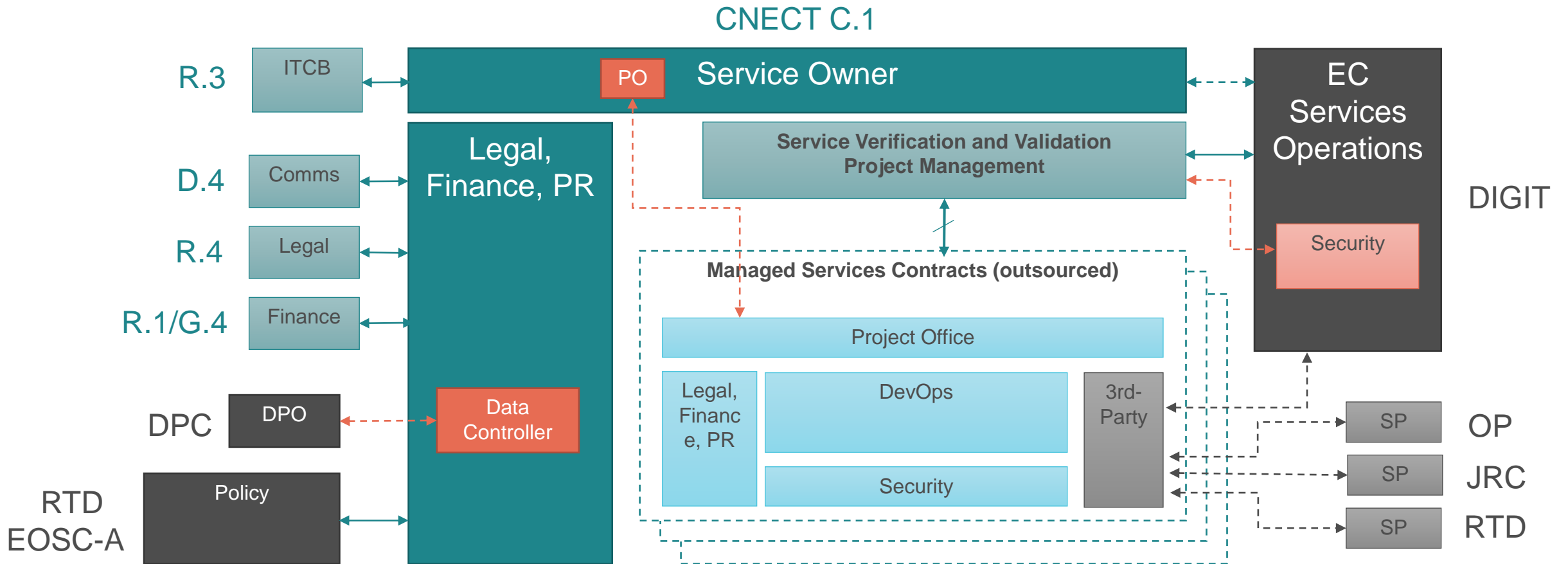
FitSM-based Operations in EOSC Handbook

- Recommendation to EOSC Nodes is to operate a Service Management System (SMS) according to ITIL compatible standards and industry best practices.
- The EOSC EU Node uses FitSM-based SMS provided by EGI.eu for both EOSC Core and Exchange service operators.

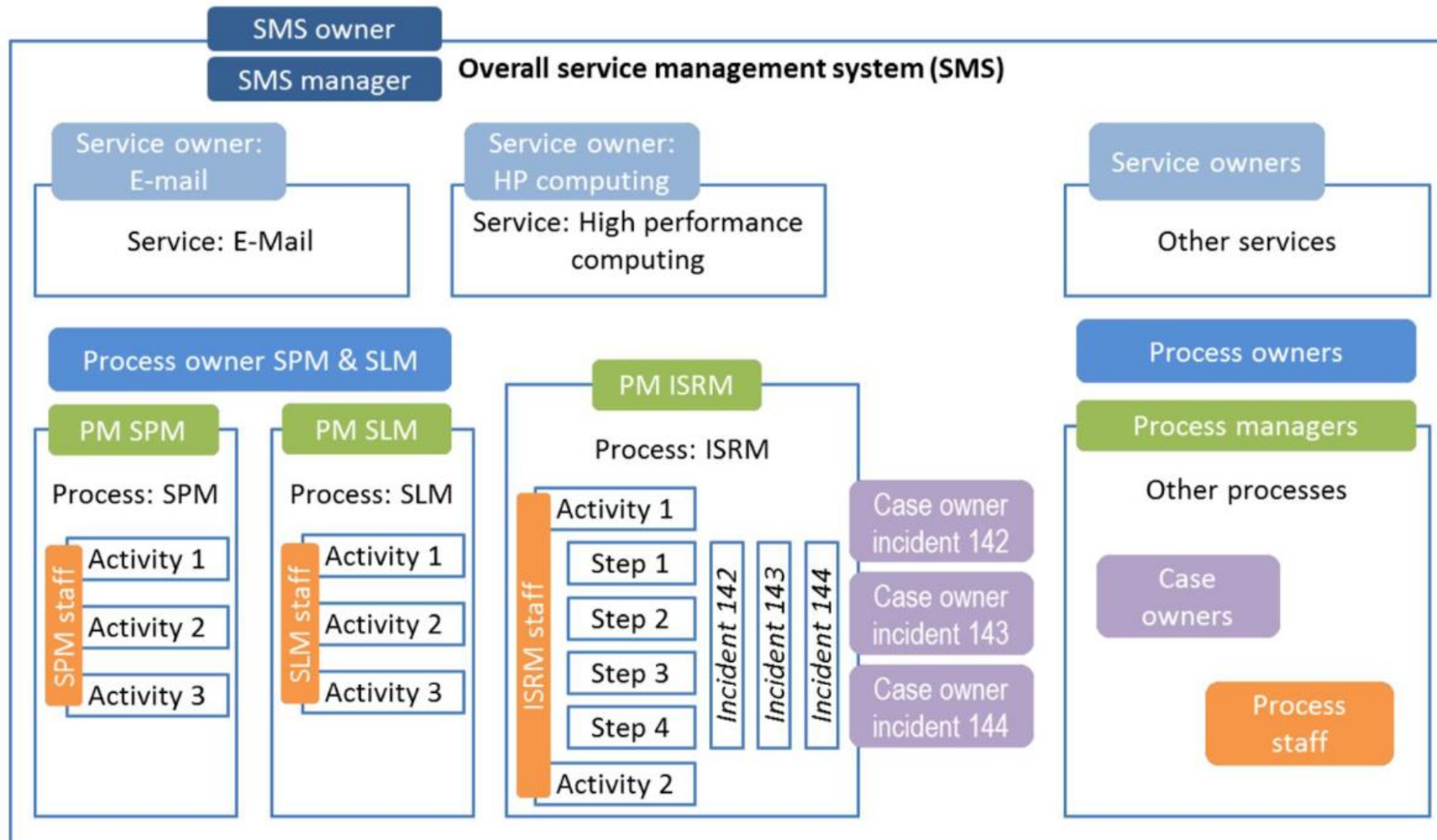
<https://eosc.eu/eosc-federation-handbook/>



Operational Structure



EOSC EU Node – Service Management Roles



Service Management overview and layers according to the FitSM family of standards

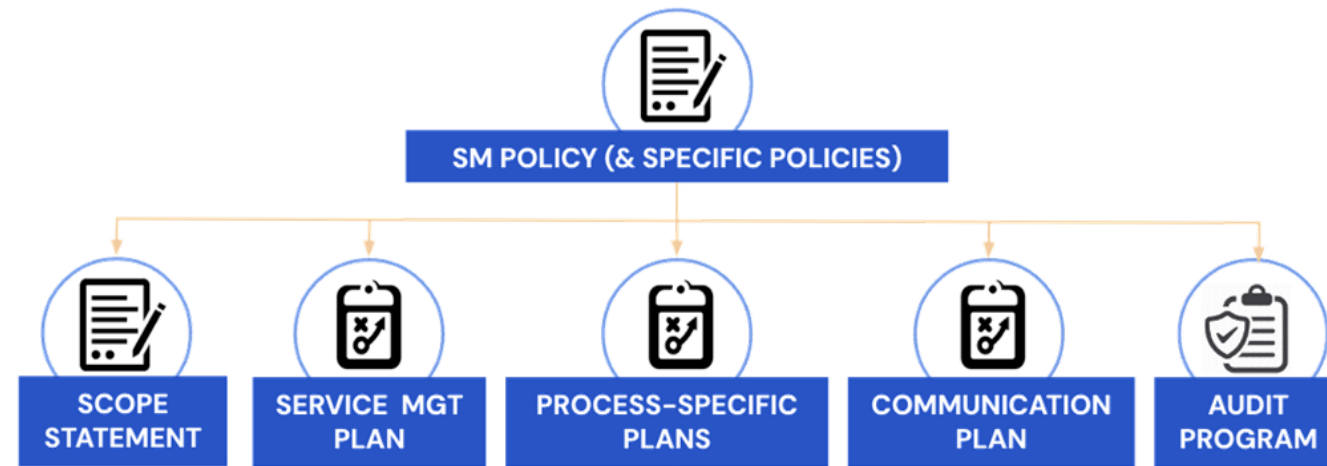
GOVERNANCE

Who is involved?

Top Management and Process Owners.

What do they do?

Policies, Policy and specific ones e.g. IT Security Policy. Scope Statement, Plans and Audit Program.



CONTROL

Who is involved?

Process Managers and Team.

What do they do?

Processes e.g. Incident Mgt



OPERATION

Who is involved?

Team, Departments, Functions.

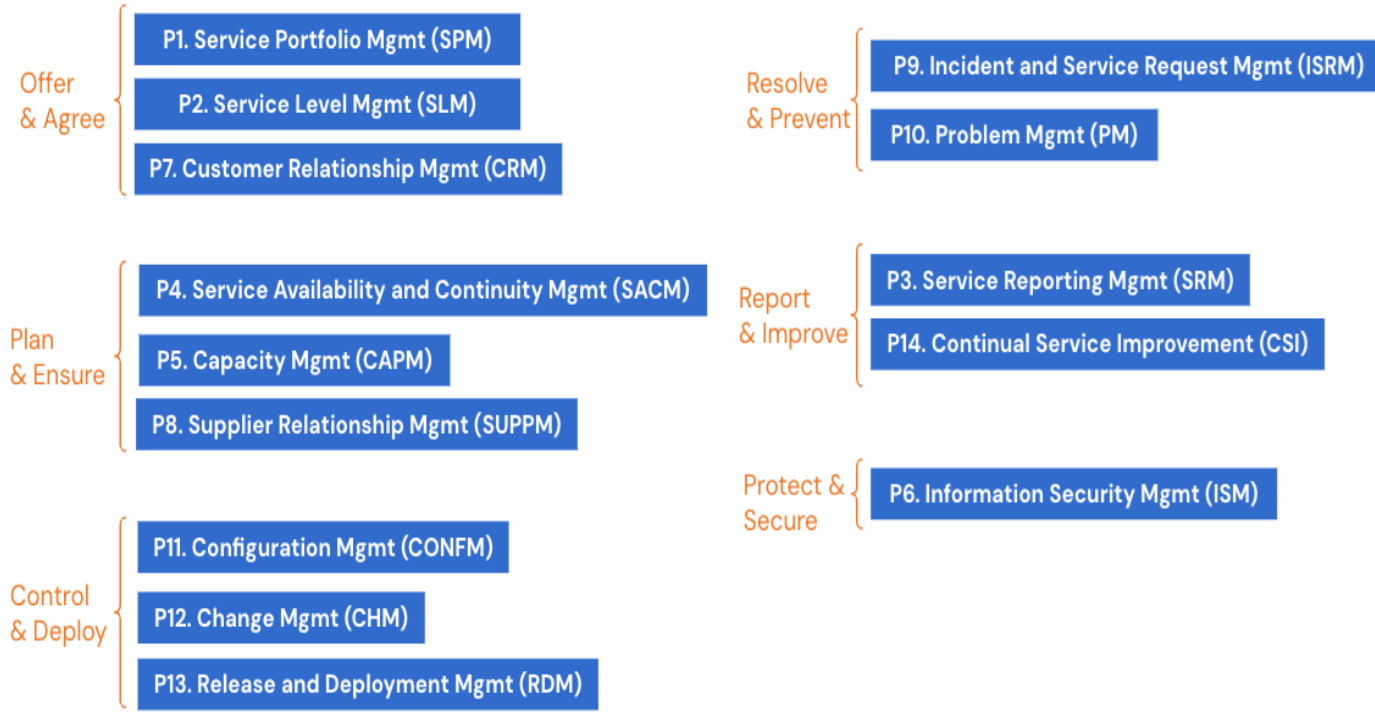
What do they do?

Procedures (step-by-step instructions)



Control level processes and maturity

The control level contains the processes that constitute the SMS's heart. FitSM consists of 14 processes:



SMS Process Maturity

Owned by [Matthew Vojican](#) ...
Last updated: just a moment ago · 1 min read · 10 people viewed

This page provides an overview of the maturity of the processes/activities within the LOT1 SMS during the initial ramp-up phase, using the following simple traffic-light system.

Key	Meaning
●	Process is unstarted
●	Process defined, including essential scope, roles and activities
●	Process is fully production ready and in a state to support full service delivery. All procedures and KPIs are fully defined and approved

SMS Process/activity	Maturity level	Comment
SPM Lots	●	Lot1 SP entries to be approved by July
SPM-Onboarding	●	Procedures added but awaiting new enrolment policy prior to finalisation. Will be done after MS6
SLM	●	Draft procedures ready.
SRM	●	To be done after MS6
SACM	●	Process fully ready, however not all SACM plans completed.
CAPM	●	Process fully ready, however not all CAPM plans completed.
ISM	●	Awaiting new AUP and baseline security policy then operational procedures can be finalised and approved by July
CRM	●	Unstarted. Proposal to include end user satisfaction surveys as part of this process
ISRM	●	Procedure to be approved by July
PM	●	KEDB will be populated after August
CONFM	●	Process fully ready. CIs being identified/completed for all services.
CHaRDM	●	Focus initially on transition to production by MS6
RDM QA	●	Focus initially on transition to production by MS6
CSI	●	To be done after MS6

Example

Service Quality Verification - Environments

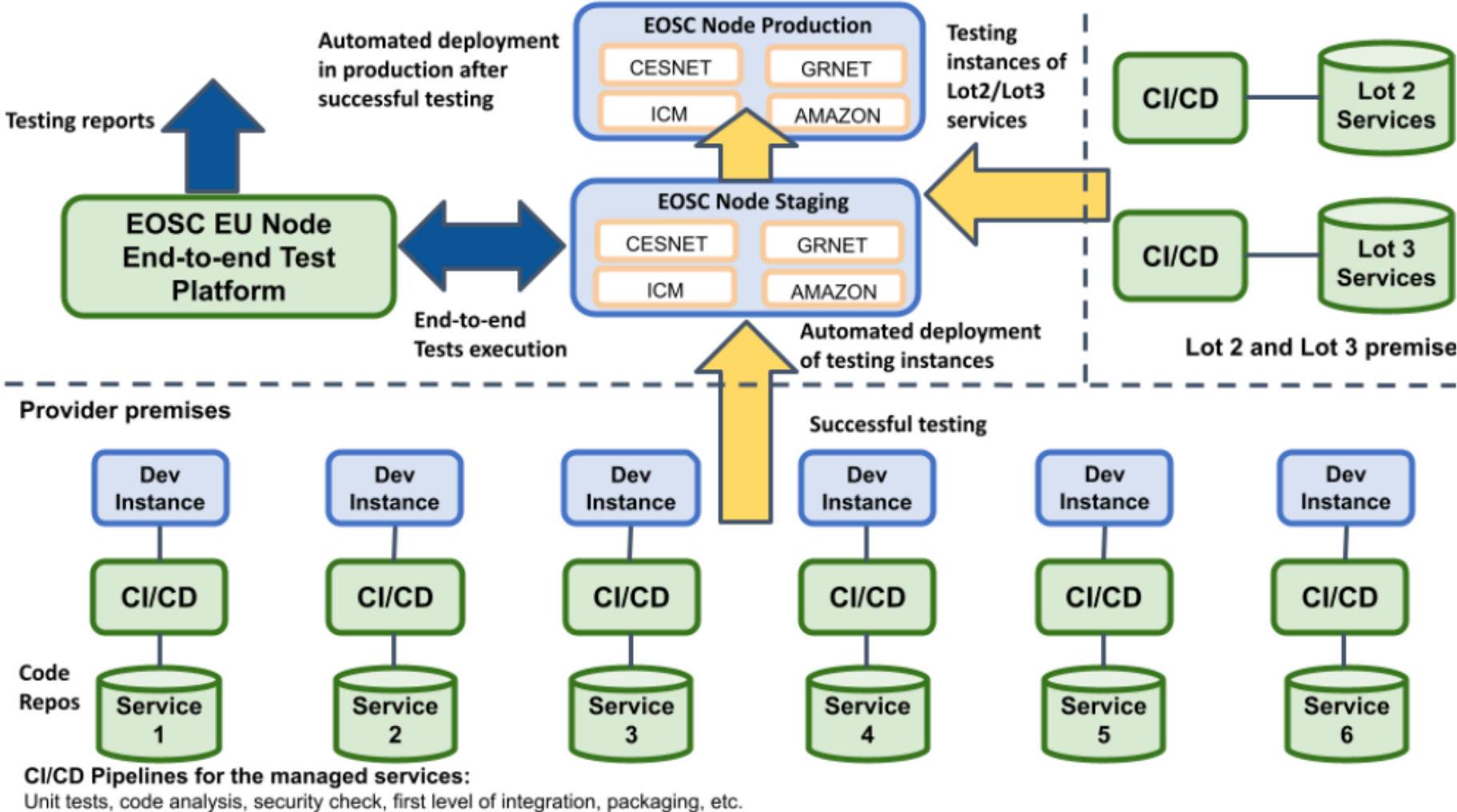


Figure: EOSC Node at European Level Testing Infrastructure

Thank you!