ISABEL CAMPOS

CO-CHAIR OF THE TASK FORCE ON:

“RESEARCH INFRASTRUCTURES FOR QUALITY SOFTWARE”
Task force

Authentication and Authorization Infrastructure Architecture (AAI)

Co-Chaired by: Christos Kanellopoulos (GEANT) and Jana Broncova (Masaryk U.)

Web page:  

https://www.eosc.eu/advisory-groups/aai-architecture

Short url: https://bit.ly/3sNdBif
Background and Objectives

(see the charter online)

Develop the next version of the EOSC-AAI Architecture

**Evolution of the AARC architecture**

New version of the EOSC AAI Architecture

New Use cases and Requirements

Governance models for the EOSC AAI
What is the EOSC-AAI work ultimate goal?

- The core of Scientific work are Research Infrastructures (RIs)
- They can be Laboratories, Universities, Facilities (with some big experiment perhaps)
- There are tens to hundreds of different services provided by an RI
  - Storage, Compute, Group Ware,...
- Sometimes there are a couple of different sciences supported per RI
  - Like DESY: HEP, Photon, Biology
  - Or national institutions like CSIC: HEP, Biology, Material Science, etc etc...
- They are called Science Communities
- If those sciences extend the RI, they are called e-infrastructures
  - Like the World-wide (Large Hadron Collider) Computing Grid, WLCG
    > Laboratories Sites around the world
  - The European Southern Observatory, ESO: 16 Member States
- And many scientists are member of different e-Infrastructures.

The goal is that all Scientist can use their home identity to authenticate to get access to all the European resources.
A daily life example

Researcher from institution A wants to share data with researcher from Institution B

For that both need to access the same storage facility operated by eg. Institution B
(1) Patrick sends e-mail to Isabel CSIC official account

You are invited to join a group in the Helmholtz AAI

Dear User,
You are invited to join a group in the Helmholtz AAI. Joining this group can enable you to use specific resources following link, you will be able to join the group via Join HIP. The invitation expires at Tue, 23 Mar 2021 11:00:00

The link for you registration is: https://login.helmholtz.de/unitygw/pub?regcode=b5857f3e-54f1-4301-bba7-5106

If you don’t want to register please ignore this message.

Best regards,
Your Helmholtz AAI Team

(2) After checking that this was really Patrick (and not any spamer), Isabel **clicks on the invitation link**
How does this work in practice?

(3) ... searches for CSIC in the list of authorized institutions to login, and clicks there:

(4) a familiar interface pops-up... and logs in with her institutional credentials
How does this work in practice?

(5) ... ends up here and clicks on “Yes” (on the suspicion that clicking “No” will lead her nowhere)

(6) ... transfers Terabytes data (all FAIR of course) in the cloud storage resources of DESY
What is the AAI Task Force up to?

Enhance the AARC architecture to provide a truly large scale and international collaborative experience

- Enable the harmonisation of national AAI systems so that they can seamlessly work together. EOSC TF AAI drives this to the next level, allowing this across different initiatives in Europe.

  → New development: these are not only European initiatives, but include National ones.

- Current example in Germany: **HIFIS (Helmholtz Cloud Infrastructure)** implements the AARC architecture. **NFDI**, in which HIFIS is one of four players, will be able to have an integrated AAI following the guiding principles (and the details) of **EOSC-AAI**.

"**AARC Entity Category**"

Enable the distribution of Attributes of Researchers at large scale

=> Up to now, this was possible only within well-defined infrastructures (EGI, WLCG, ...).

"**Remote Token Introspection**"

Enable different infrastructures (think EGI + EUDAT) to use tokens crosswise.

=> Allowing EUDAT users to read data from EGI.

In EOSC-Synergy already, we were able to have users from multiple "providers" (proxies).

LAGO is not managed at EGI, but at eduTEAMs: works because of the compatibility.
I will not utter here an explanation of the AARC Architecture

[Diagram of AARC Blueprint Architecture]

Questions on the details of the architecture? profit from the physical presence here of true experts on AAI:

**Marcus Hardt (KIT)** is around: he will tell you everything you need to know on AAI (and more!)

https://aarc-project.eu/architecture
Task force

Infrastructures for quality research software
Co-Chaired by: Isabel Campos (CSIC) and Roberto di Cosmo (INRIA)

Web page:
https://www.eosc.eu/advisory-groups/infrastructures-quality-research-software

Short url: https://bit.ly/3y9RtIE
Background and Objectives

Background:

- **Research software**: Software produced by researchers and used as an enabler for scientific activities
- **Quality**: Criteria to be defined in this TF

Objectives:

- **Foster** the development and deployment of tools and services that allow researchers to properly archive, reference, describe with proper metadata, share and reuse research software.
- **Improve** the quality of research software, both from the technical and organizational point of view for research software in general and in particular the software used in the services offered through EOSC.
- **Increase recognition** to software developers and maintainers of research software as a valuable research result, on a par with publications and data, in the Open Science landscape.
Analyze approaches, tools and platforms across all phases of research software developments, identify gaps as well as the best practices. Formulate actionable recommendations for researchers, organizations and decision bodies.
Task Force Sub-group on “Information Science”

Information Science

José B. Gonzalez Lopez (CERN)
Moritz Schubotz (FIZ Karlsruhe)

Raise awareness of the EOSC SIRS report on Scholarly Infrastructures for Research Software and foster adoption of its recommendations in existing and future infrastructures.

A GAP analysis on the existing popular repositories is being made

A document compiling the current status versus the SIRS report is being compiled and will be made public (Q4 2022)
Identify relevant criteria to assess the quality of research software, based on existing best practices, and tools and mechanisms to measure them.

https://github.com/eosc-sq/ensure-sq

Collaborative work

[D] Analysis of the survey of Software Quality criteria: gaps and evolution
Experts on Software Quality Infrastructures where in Faro you can speak to

Mario David (LIP)

Laura del Caño (CNB-CSIC)

Pablo Orviz (CSIC)
Task force

Technical Interoperability of Data and Services

Co-Chaired by: Eva Sciacca (INAF) and Alvaro López (CSIC)

Web page:

https://www.eosc.eu/advisory-groups/technical-interoperability-data-and-services

Short url: https://bit.ly/3a7vPEW
Background and Objectives

(see the charter online)

Background:
○ Starting from the EOSC Interoperability Framework (EIF) recommendations the TF aims at supporting the development of the EOSC Core and Exchange.
○ Activities include engaging with the community to coordinate the federation of thematic services, infrastructure services, generic services and datasets and activities to advance the composability of resources.

Objectives:
○ A first principles discussion on the guiding principles for interoperability.
○ A landscape overview and analysis of the existing systems and interoperability standards for data and services.
○ Promote alignment between EOSC standards and other major activities (such as RDA, EuroHPC and GAIA-X).
○ A technical architecture discussion for the EIF.
The EC proposes to focus standard-setting resources and communities on 5 priority areas: **5G, Internet of Things, Cloud Computing, Cybersecurity and Data Technologies**

- **Interoperability**: “The ability of computer systems or software to exchange and make use of information”

- **The keyword here is: Standards**:  
  - Standards to exchange information between IT systems.

Example: W3C is an organization to promote open standards on the Web: HTML, CSS, etc...

The EC proposes to focus standard-setting resources and communities on 5 priority areas: **5G, Internet of Things, Cloud Computing, Cybersecurity and Data Technologies**
Ongoing work

**Landscape, Overview and Scouting**

- Landscaping phase started
- Planned 2022 Q2: Deliverable “A landscape overview (capabilities and gaps) of the EOSC IF”

**Data technical interoperability**

- Landscaping phase started
  - Data formats study
  - Gap Analysis

**Services technical interoperability**

- Landscaping phase started
  - Requirements and Use-Cases Identification
  - Gap Analysis
Working groups objectives

Landscape, Overview and Scouting
Chair:
Eva Sciacca INAF

Data technical interoperability
Chairs:
Philip Wieder GWDG
Joan Maso CREAF

Services technical interoperability
Chair:
Damian A. Tamburri TU/e

Technical Architecture recommendations
(Not yet started)

Landscape overview and analysis of the existing systems and interoperability standards that are in place or being developed as part of EOSC Projects, national activities and computing / data centres related to the community and other initiatives including industry.

Inventory of data and metadata formats, interfaces and access protocols, to identify and specify a minimal set of functionalities.

Inventory of application programming interfaces, access protocols, best practices and standards, to identify and specify a minimal set of functionalities.

Guiding principles for interoperability. Identify the main technical areas and gaps that require a further development of interoperability guidelines.
Landscaping should be done before all the paths are built and the flowers planted.

Task Force on “EOSC Interoperability” to collect feedback.

How many flowers will survive the EOSC landscaping?