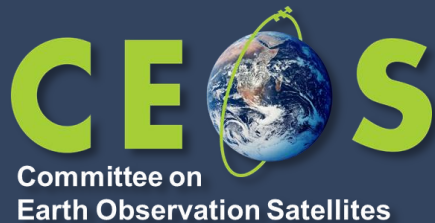


Federated AuthN/Z White Paper Status



F. Marchesi, Solenix/ESA
Agenda Item 4.2
WGISS-61
16-20 March, 2026
Dehradun, India

WGISS-57 Survey



Federated Authentication & Authorization Survey



Goals behind the questionnaire:

- ❖ Investigate the current Federated Authentication and Authorization landscape among members
- ❖ Identify the use cases and scenarios of interest to the group related to this topic.
- ❖ Define steps forward depending on interests emerged

CEOS Committee on Earth Observation Satellites

Federated Authentication and Authorization survey

This questionnaire was prepared by the Federated Authentication and Authorization use cases and scenarios of interest to the group.

fillippo.marchesi@solenix.ch [Switch account](#)

* Indicates required question

Email *

Your email

Your Agency / Organization / Company

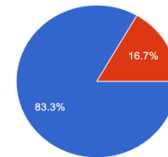
Your answer

CEOS involvement – White Paper / BP



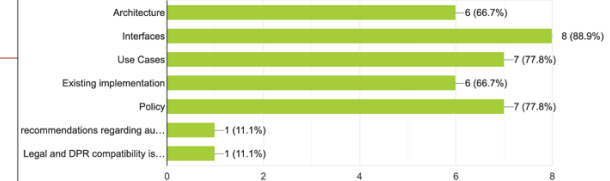
Do you think a White Paper/BP would help your agency on implementing Federated Authentication and Authorization topic?

12 responses



If you answered Yes to Q19, what do you expect to be covered inside the White Paper/BP?

9 responses



WGISS-58, 16-17 October 2024

WGISS-58, 16-17 October 2024

Slide 14

WGISS-61, 16-20 March, 2026

Slide 2

Planned Deliverable



Number	Title	Completion Date	Description	Responsible CEOS Entity(ies)	Contributing Agency(ies)
DATA-25-01	White paper on federated access	Q1 2027	The White Paper on Federation is expected to present background information related to federated authentication and authorisation. Later, through the description of a selected list of use cases, will attempt to provide basic conclusion useful to CEOS members willing to implement federation	WGISS	ESA



- DAIG / TEIG shared actions

WGISS-58-20	DAIG to investigate the infrastructure costs of centralised and decentralised authentication methods.
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WGISS-59-11	DAIG and TEIG to consider whether a separate white paper on Data Federation is needed, alongside the current work on User Federation.
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- Possible SEO involvement

WGISS-57-15	DAIG to discuss with SEO the possibility of a central CEOS Authentication mechanism.
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WGISS-58-21	TEIG to investigate with DAIG and SEO the available technologies for federated authentication, and which would fit with the objectives of CEOS.
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❖ Table of Contents definitions

- In & Out of scope
- Assign contribution
- Use Cases definition
- Existing documentation

❖ GitHub repository coordination ([link](#))

- Review/contribution process coordination
- JupyterBook format for automatic update



Q Search

36 + K

Federated EO Access: Executive Overview & Introduction

Understanding Federated Identity:
Core Concepts and Protocols

Use Cases Definition

Centralised vs Decentralised

Challenges and Strategic Solutions

Conclusions: Way Forward

Table of Contents (1)



1. Federated EO Access: Executive Overview & Introduction
2. Understanding Federated Identity: Core Concepts and Protocols
3. Use Cases Definition
4. Centralised vs Decentralised
5. Challenges and Strategic Solutions

Included	User Federation
Excluded	Federation of catalog Data federation <i>WG/ISS-59-11</i>



Q Search

[Federated EO Access: Executive Overview & Introduction](#)

Understanding Federated Identity:
Core Concepts and Protocols
Use Cases Definition
Centralised vs Decentralised
Challenges and Strategic Solutions
Conclusions: Way Forward



Federated EO Access: Executive Overview & Introduction

This chapter introduces the evolving landscape of digital and unified Earth Observation (EO) access, setting the foundation for understanding federated authentication and authorization in the context of EO data systems.

Seamless & Secure EO Access: An Overview

The Modern Dilemma: Why Unified EO Access is Critical



Contents

[Seamless & Secure EO Access: An Overview](#)

The Modern Dilemma: Why Unified EO Access is Critical

The Federated Solution: Authentication & Authorization

Purpose & Audience

Where are we now? what should the future hold?

Terms and Definitions

Reference Documents

Table of Contents (2)



3. Use Cases definition

- a. ESA/NASA MAAP – *Saskia (ESA)*
- b. JAXA/ESA MAAP - *Yousuke/Saskia (JAXA/ESA)*
- c. NASA Use Case – *Doug? (NASA)*
- d. DestinE - *Barbara/Saskia (ESA)*
- e. **Bilateral ESA-DLR – *Ulrich (DLR)***

Use Case Example	Key Technologies Applied	AuthN	AuthZ	Objectives
ESA/NASA MAAP	(e.g., OIDC, OAuth 2.0, SAML, XACML, Attribute Exchange)	Yes/No	Yes/No	(e.g., cross-agency collaboration, data sharing, unified access)

a. **EOPCA – *Richard (TPZ UK)***

b. **eduGain - *Ulrich/Richard (DLR/TPZ UK)***

c. **SSI Decentralised - Japan Activity – *Yousuke (JAXA)***

5. Challenges and Strategic Solutions

- a. Technical Complexities and Interoperability
- b. Authorization Management and Governance
- c. Policy, Legal and Compliance Considerations
- d. Transformative Benefits for CEOS/EO Ecosystem
 - CEOS possible implementation

Included	costs & security control
Excluded	not mandatory converge to suggest a specific solution

6. Conclusions: Way Forward

- a. Call to Action/Recommendation
- b. Future Best Practices?

❖ Cooperation with SEO to apply identified CEOS Guidelines

Organization, Strategic Framework and Implementation **Guidelines**

- Open collaboration model adopted - anyone can pull request
- Team structure mirroring CEOS groups
- Real name required
- Code of conduct - *applied*
- Default license (CC-BY 4.0 for docs) - *applied*
- 2-Factor Auth - *applied*
- Governance document
- Training repository

Coordination - Future Meetings



Meeting	Date	Topics
Kick off meeting	Jun. 04, 2025	Discussed vision, table of contents draft
#2 meeting	Jul. 10, 2025	Contribution assignments
#3 meeting	Sept. 11, 2025	Content review and additional assignments
#4 meeting	Sept. 30, 2025 12:00 UTC	Content review
#5 meeting	Nov. 26, 2025 13:00 UTC	Content review
#6 meeting	Jan. 22, 2026 13:00 UTC	Content review
#7 meeting	Feb. 26, 2026 13.00 UTC	Content consolidation for WGISS #61 (16-20 March)

- Postpone deliverable to Q1 2027 to consolidate the activity, and dedicate adequate time for discussion/challenges during next (not joint) WGISS-62