

ICEI: Fenix AAI services

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The Interactive Computing E-Infrastructure (ICEI) project is funded by the European Commission (2018-2023) under the Framework Partnership Agreement of the Human Brain Project (HBP). The five leading European Supercomputing Centres BSC (Spain), CEA (France), CINECA (Italy), ETHZ-CSCS (Switzerland) and JUELICH-JSC (Germany) are working together to develop a set of e-infrastructure services that will be federated to form the so called Fenix Infrastructure.

Goal

Develop a robust and reliable Authentication and Authorization Infrastructure (AAI), a trustworthy environment where users can be managed and granted to access resources securely and as seamlessly as possible.

Objectives

- Provide users with as seamless as possible access to services and resources made available by the Fenix infrastructure, possibly using a single set of credentials
- Support different levels of assurance according to the origin of federated Identity Providers (IdPs)
- Deliver a secure, trustworthy and sustainable solution
- Rely on existing Identity Directories
- Be able to grow by incorporating new centres

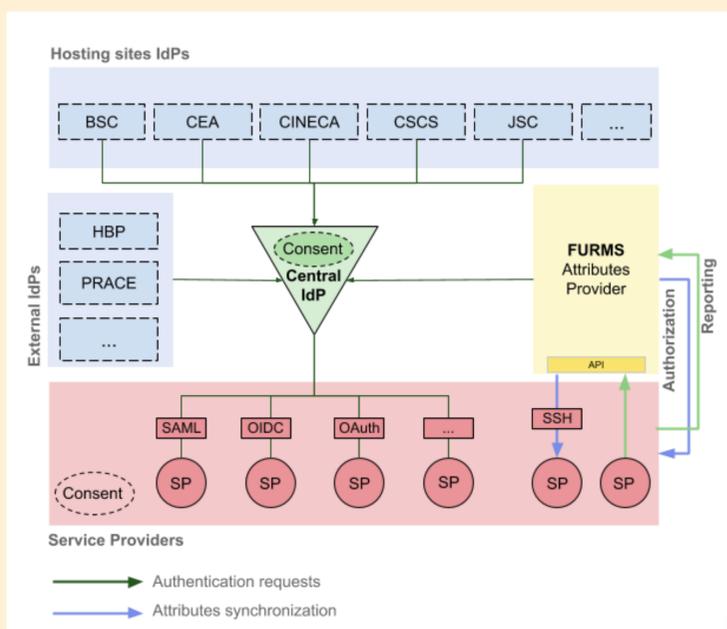
Architectural design

- Create a federation of IdPs by establishing:
 - a central proxy (authentication requests)
 - an attribute provider (authorization records)
- Leverage on standard authentication protocols, such as OpenID Connect or SAML v2.0 to ensure high interoperability and sustainability
- Manage users profile to assert basic attributes presence and validity
- Ensure federated sites remain independent from the federation; keep functioning regardless of the status of the central proxy
- Follow local access and security policies

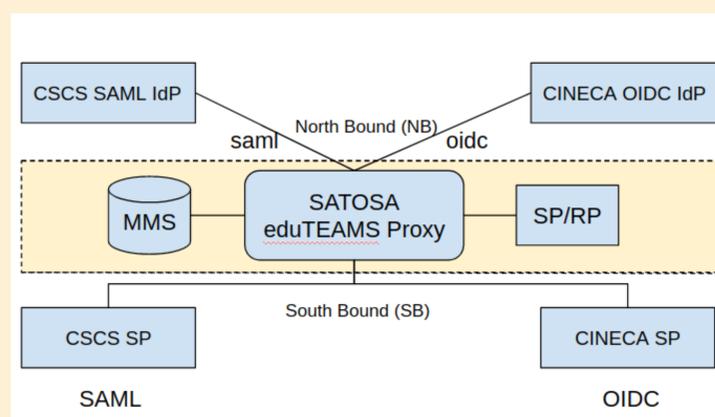
Components

- Fenix Central Proxy IdP
- Proxy of users authentication requests
- Users identification and authentication (homeless users)
- Validation of users profile attributes
- Policy registry and management of principles of engagement
- Group/budgets membership management
- SSH public keys management
- Managing site specific Usage Agreements
- Access statistics

Fenix AAI



Pilot implementation of the Fenix AAI



- The technology adopted to implement the Fenix Central Proxy IdP is SATOSA
- Starting from January 2019 a Fenix SATOSA Proxy Pilot Service is running on GÉANT resources federating CINECA and CSCS IdPs + OpenStack Service
- Other sites (BSC, CEA, JUELICH) will join the federation soon, HBP IdP will be federated as well
- Web and non-web services will be federated (SSH, OpenStack, UNICORE)

Status and outlook

- Current status:
 - Fenix AAI defined as an agreement among participants
 - Final version of the Fenix Central Proxy IdP (Géant) ready for production
 - Fenix sites production IdPs federated with the Fenix Central Proxy IdP
- Next steps:
 - Complete the integration between Fenix sites SPs and the Fenix Central Proxy
 - Production version of the Fenix Central Proxy