NEXTGEOSS
Contributing to the Vision of GEO

deimos
elecnor group

User Management

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Agenda

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- Introduction
- User Management
- Federation Objectives

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Introduction

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- High-Level Architecture

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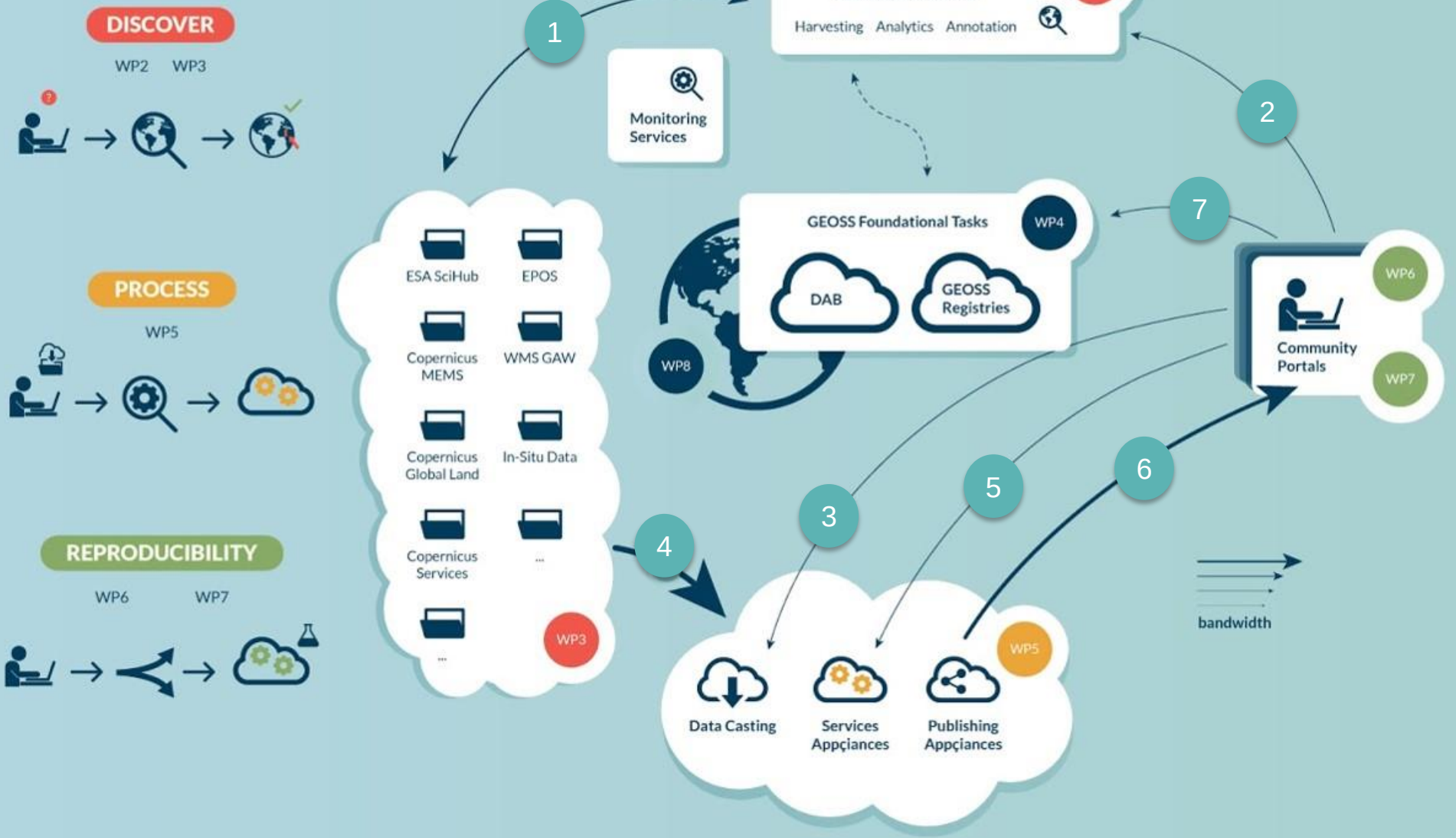

1 **DataHub** harvest and register data, providing links to original sources

2 **Discovery Enablers** empower search on DataHub from users

3 **Access Enablers** allow community hubs to create data buckets for access

4 Enhanced distributed gateway from research and operational infrastructures

5 **Processing Enablers** allow community hubs to deploy distributed ICT technologies

6 **Publishing Appliances** deliver to the community hubs processed results

7 **Community Portals** register selected products and services to GEOSS

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User Management

- Context - User Stories
- Objectives
- Main Functionality
- State-of-the-art protocols
- Logical Architecture
- Implementation Status
- KPI Analytics

Context – User Stories

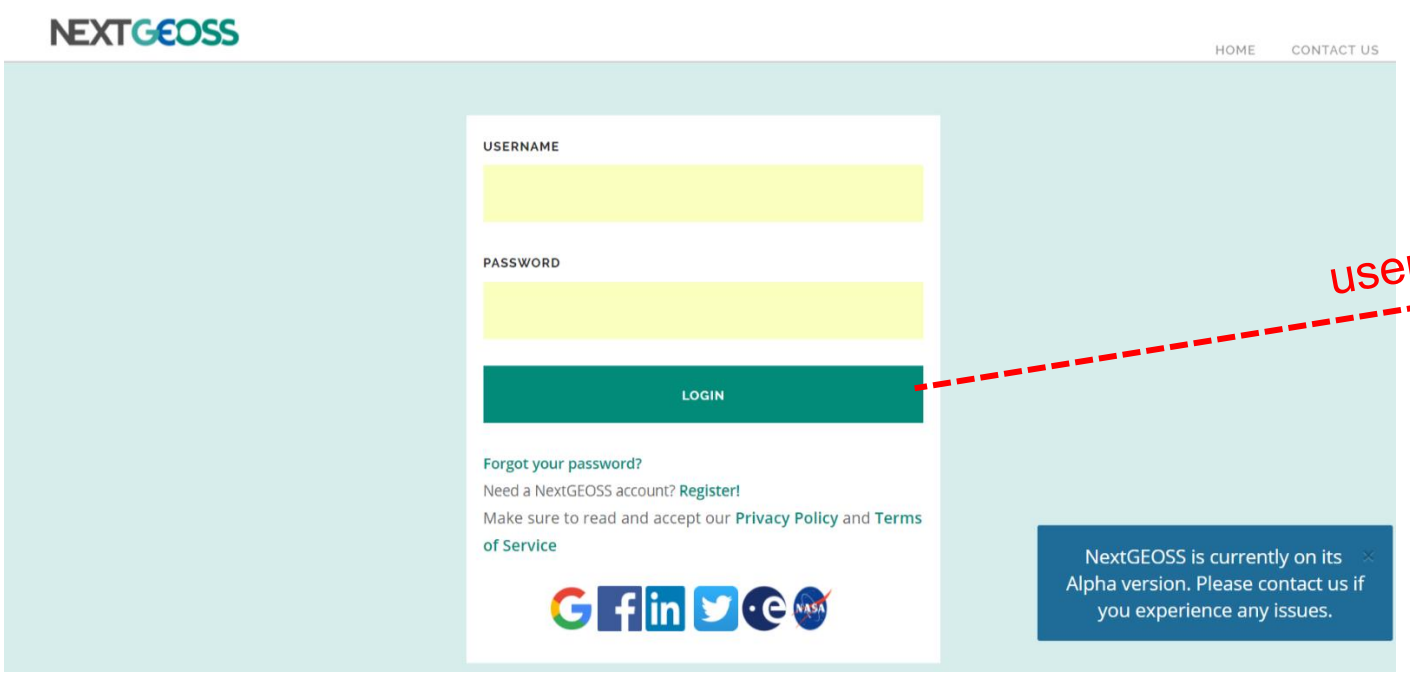
- As a **GEOSS user**, I want to be able to **register** myself in the GEOSS community so that the user information is provided to a centralized authentication server to support single sign-on (SSO) with GEOSS providers.

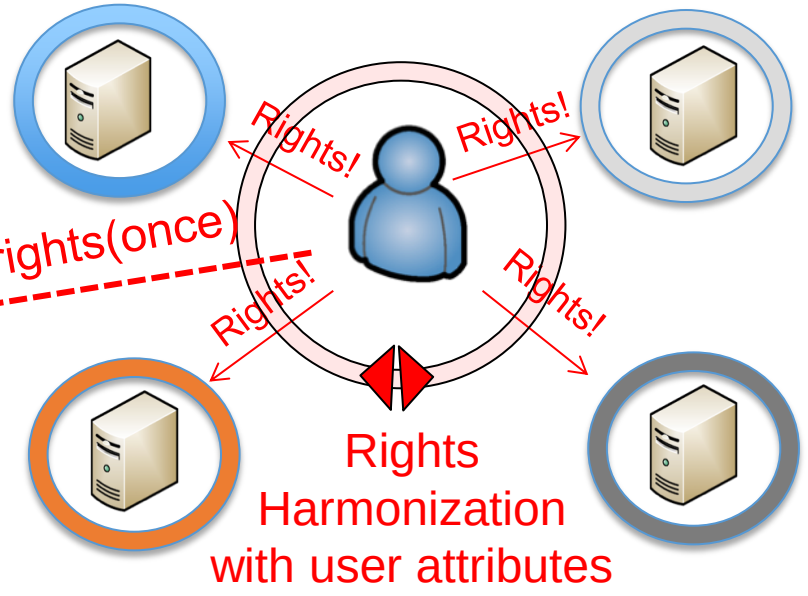
- As a **GEOSS user**, I want to be able to **authenticate and authorize** me in the GEOSS community with single sign-on (SSO) so that I can access to resources (data and some services)

A GEOSS user can be a data provider or a final user.

Objectives

- Current state-of-the-art technologies
- Support SSO: for minimizing the impact on data users to access and usage: register and login once in the GEOSS community
- Support federation





Main functionality

- Allows **registration** of users into the GEOSS community providing user information (user name, family name, email, telephone number, gender, ...)
- Allows **authentication and authorization** mechanisms based on GEOSS user credentials
- Provides **SSO** capability that enables a registered GEOSS user to log in once, and access multiple GEOSS applications without being required to authenticate for each application separately.
- Allows dynamic **client registration** of GEOSS services (i.e. harvesting, discovery, access and processing data) to be able to use the authentication and authorization mechanisms
- Allows integration of **social network login** (Google, Twitter, Facebook, LinkedIn).
- Allows integration of other SSO systems to provide a **federation** (e.g. ESA-https://eo-sso-idp.eo.esa.int, NASA-https://urs.earthdata.nasa.gov/).
- Is compatible with **different protocols**: OIDC, SAML2, Oauth2, ...

State-of-the-art protocols (I)

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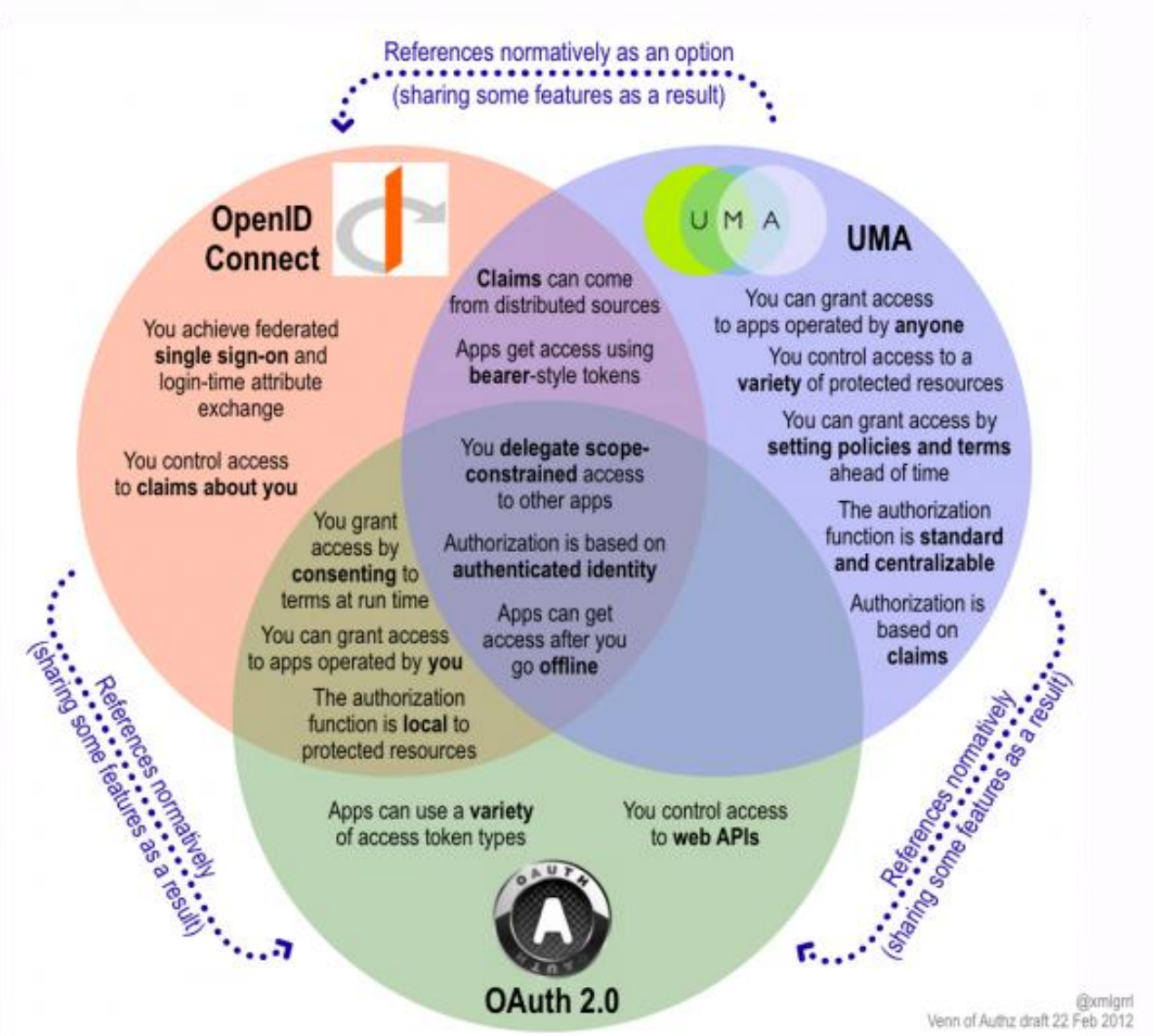
Authentication viewpoint

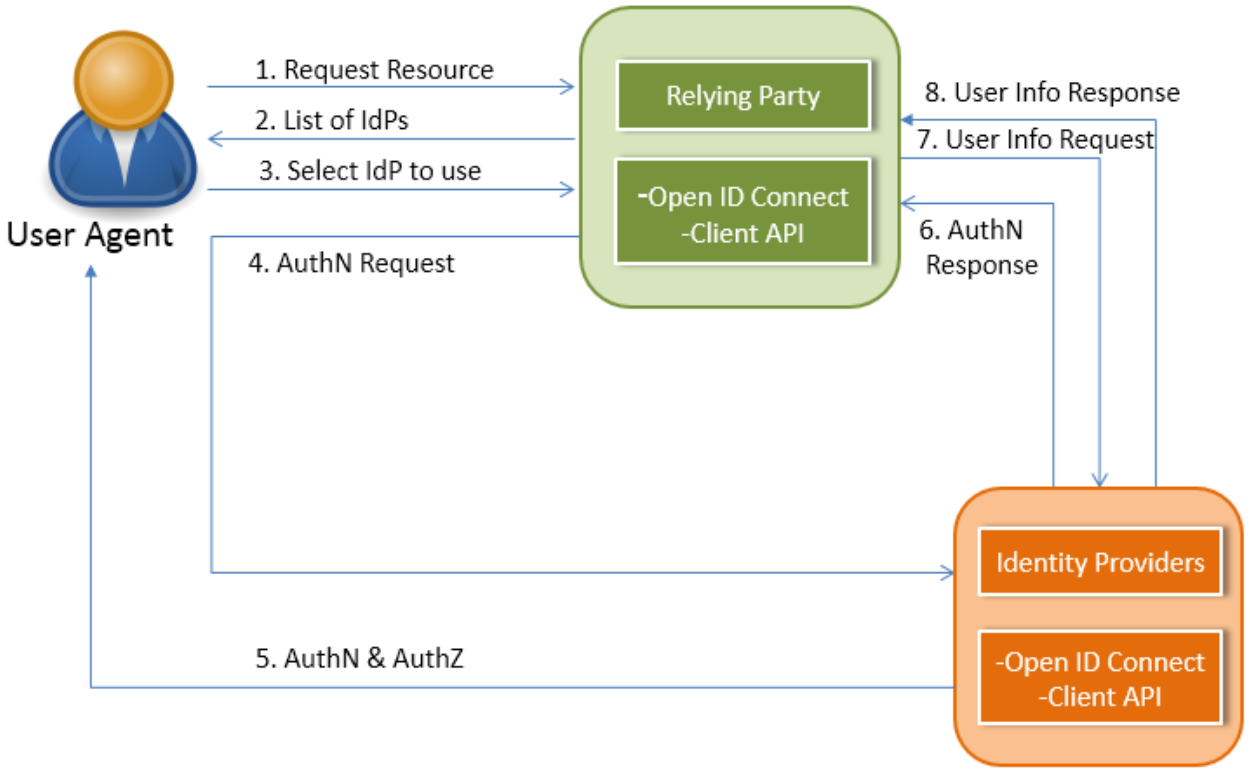
OpenID Connect turns SSO into a standard OAuth-protected identity API

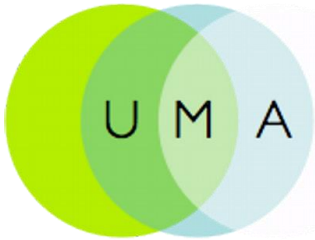
SAML 2.0, OpenID 2.0	OAuth 2.0	OpenID Connect
☑ Initiating user's login session	✗ Not responsible for session initiation	☑ Initiating user's login session
✗ Not responsible for collecting user consent	☑ Collecting user's consent to share attributes	☑ Collecting user's consent to share attributes
☑ High-security identity tokens (*SAML only*)	✗ No identity tokens per se	☑ High-security identity tokens (*using JSON Web Tokens*)
✗ Distributed and aggregated claims	✗ No claims per se; protects arbitrary APIs	☑ Distributed and aggregated claims
☑ Dynamic introduction (*OpenID only*)	✗ Client onboarding is static	☑ Dynamic introduction
✗ Session timeout	✗ No sessions per se	☑ Session timeout (*in the works*)

Authentication/Authorization viewpoint



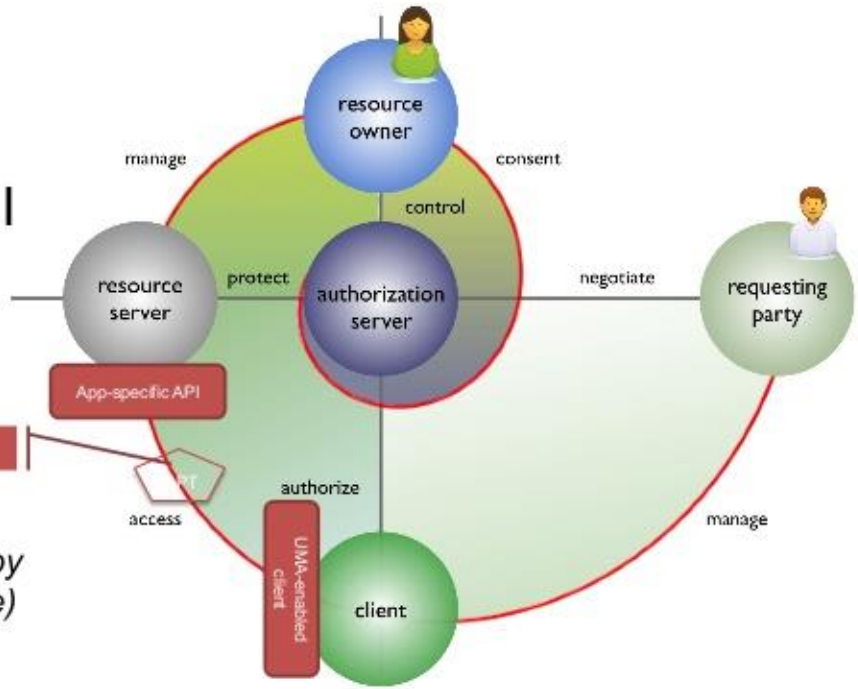
State-of-the-art protocols (II)



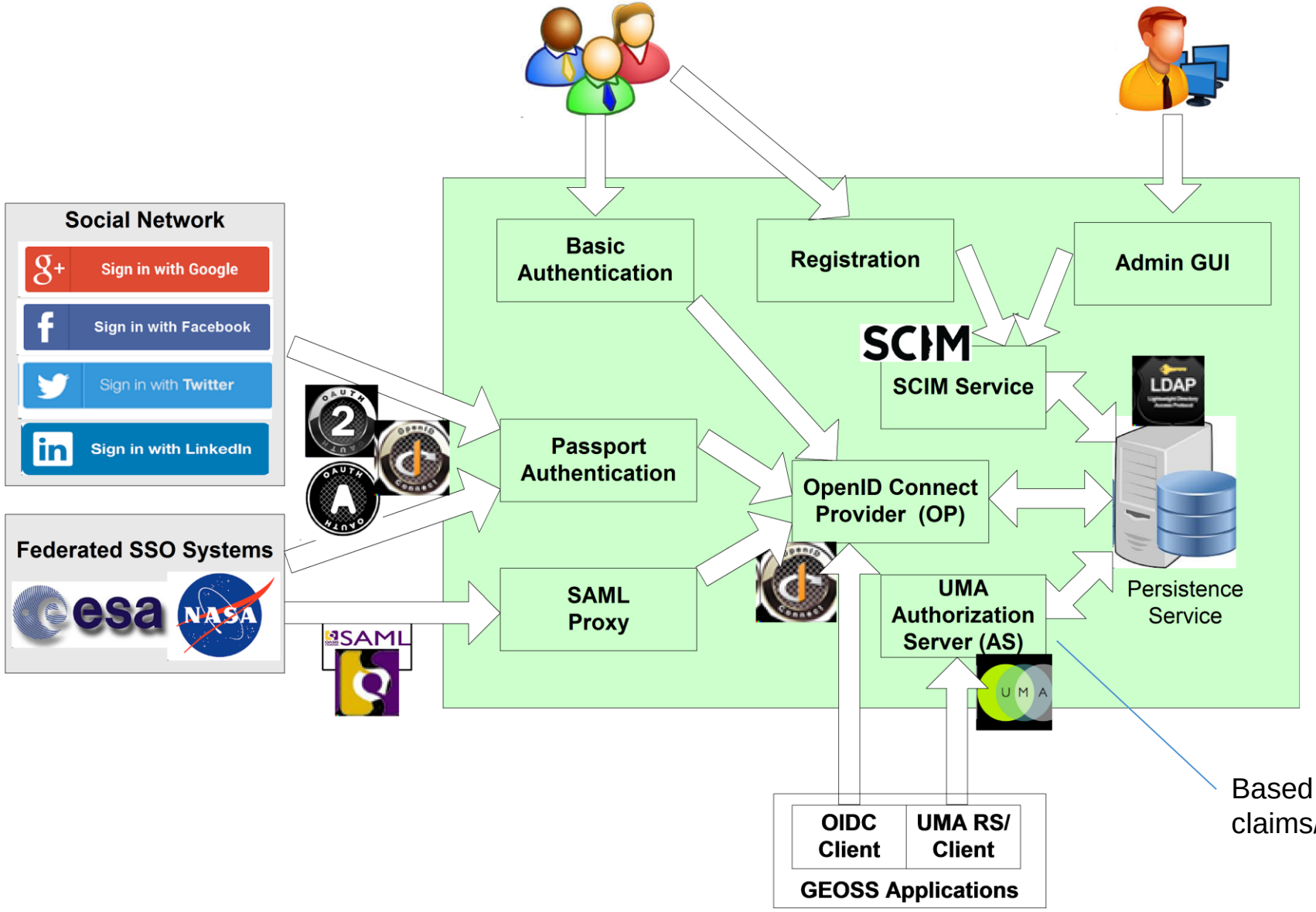


The RS exposes whatever value-add API it wants, protected by an AS

The RPT is the main "access token" and (by default – it's profilable) is associated with time-limited, scoped permissions



Logical Architecture



Implementation Status

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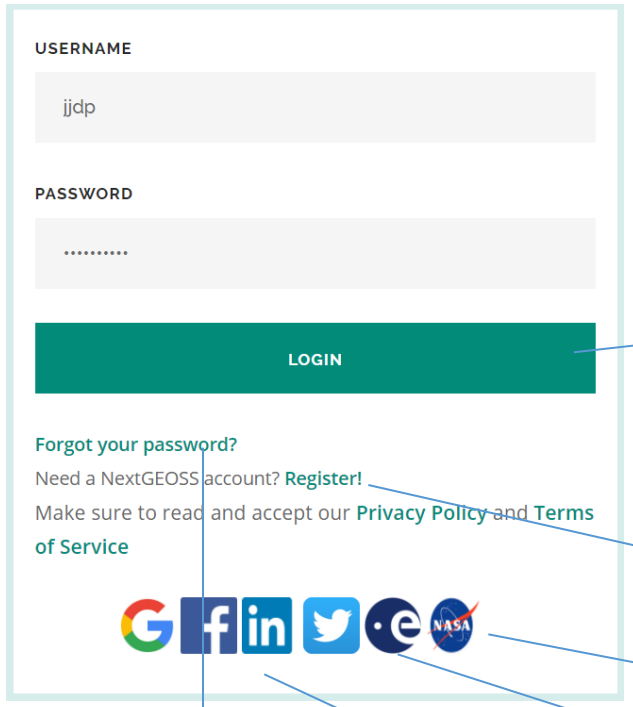
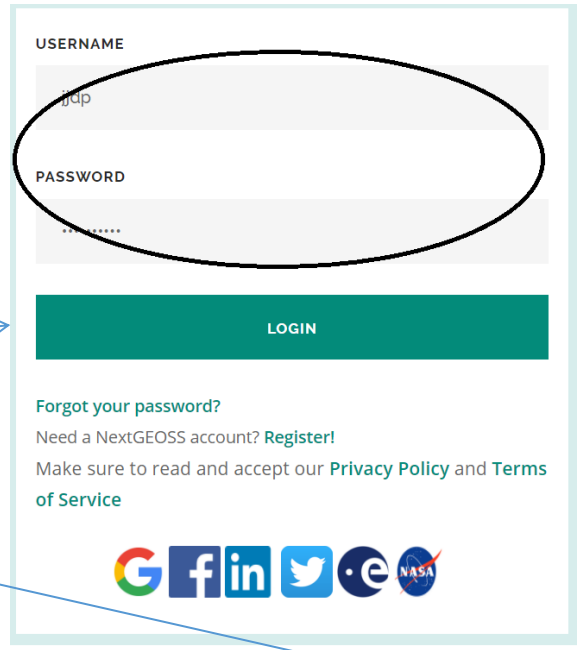
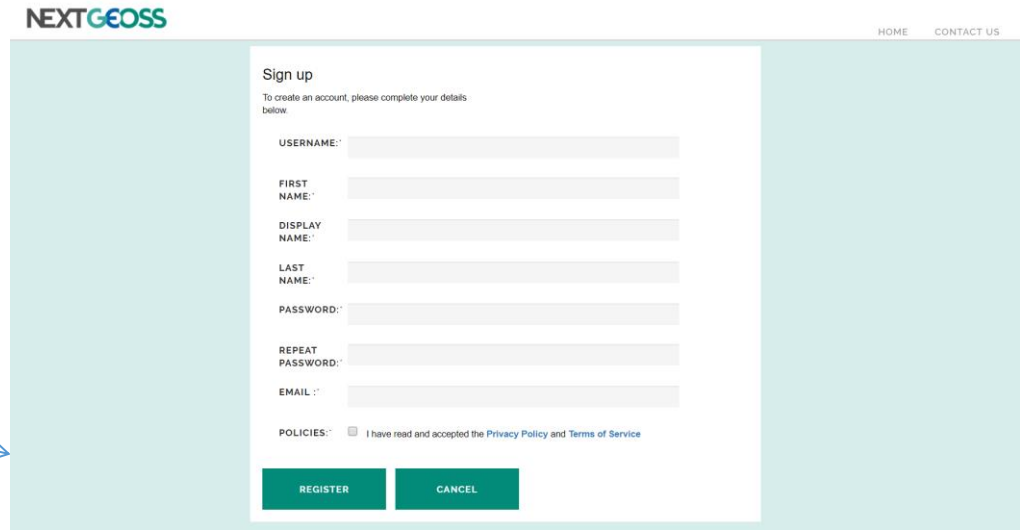
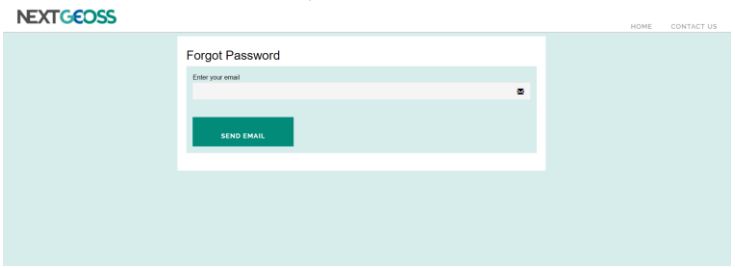
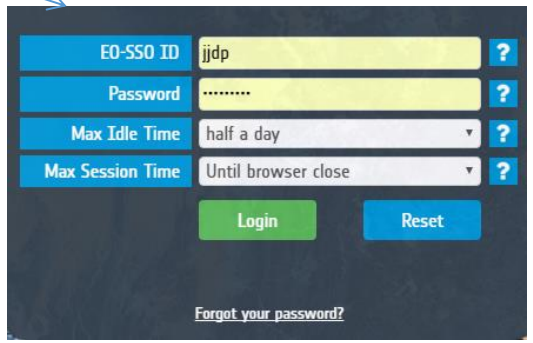
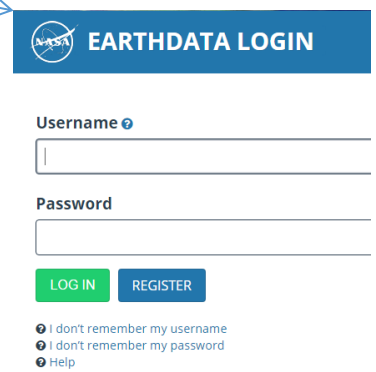








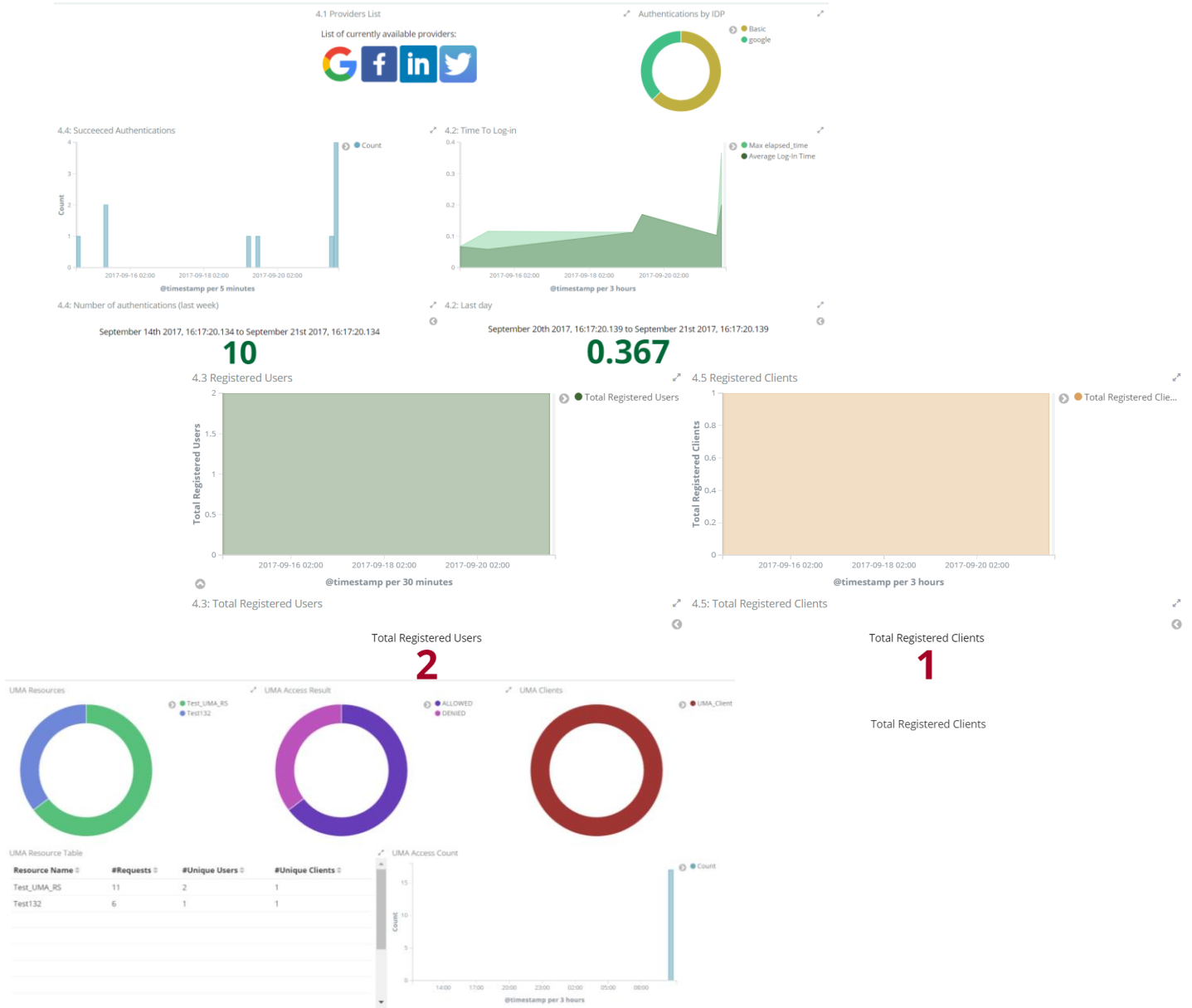




KPI Analytics

NextGEOSS SSO allows tracking User Management usage.

- Number of authentications
- Authentication delay
- Registered users and clients
- Filters by IDP, client…
- User Accesses to Resources!



Federation Objectives

- Use Cases
- Proposed Approach

Use Cases

- As a **user**, I want to be able to **authenticate** myself in GEOSS using my credentials from NASA/ESA SSO service for supporting single sign-on (SSO).
- As a **user** with an active session started in NASA/ESA SSO service, I want to be able to **automatically access** GEOSS when selecting NASA/ESA login method.
- As a **user**, I want to be able to **authenticate** myself in NASA/ESA using my credentials from GEOSS SSO service for supporting single sign-on (SSO).

Proposed Approach (I)

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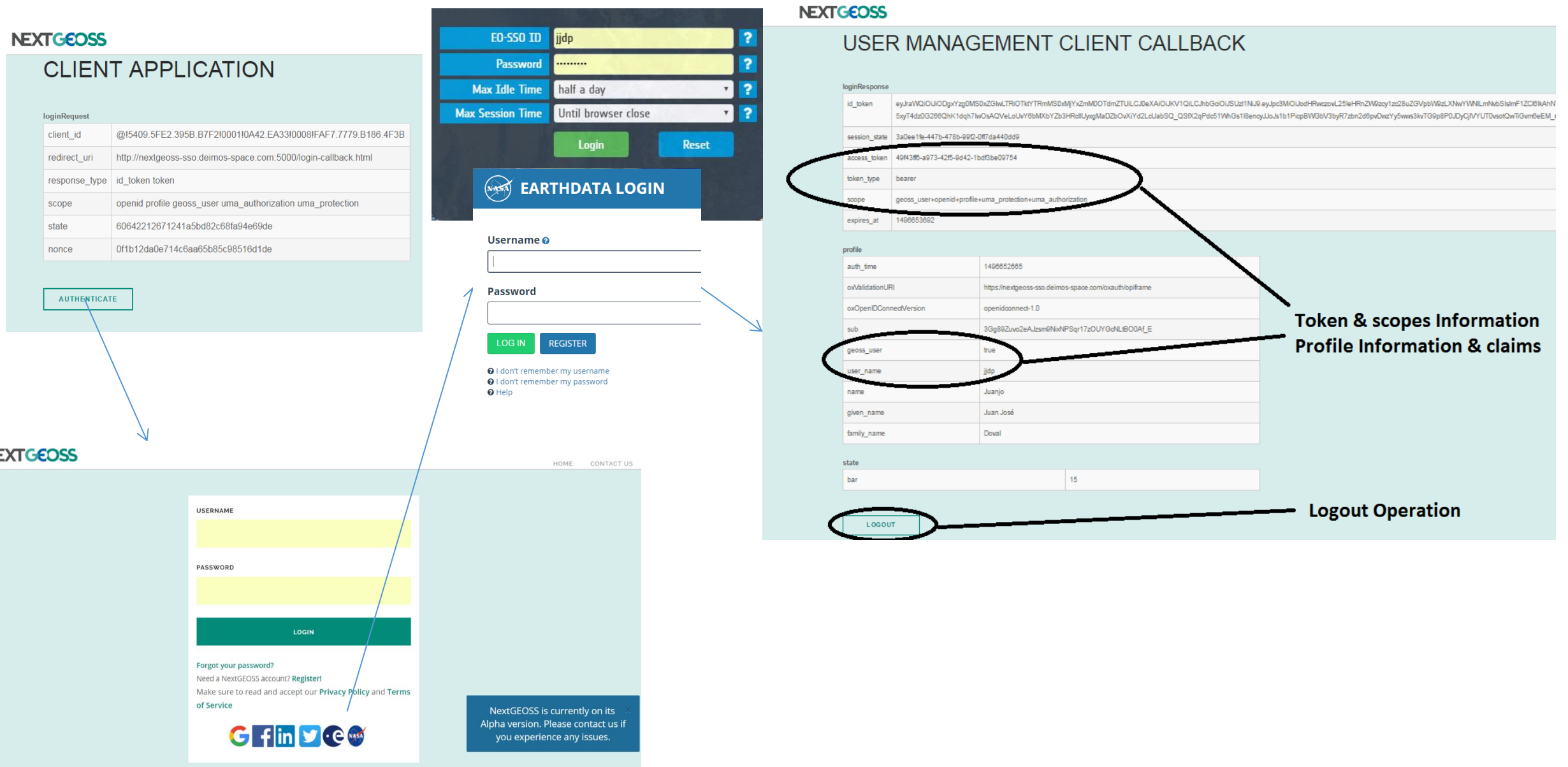
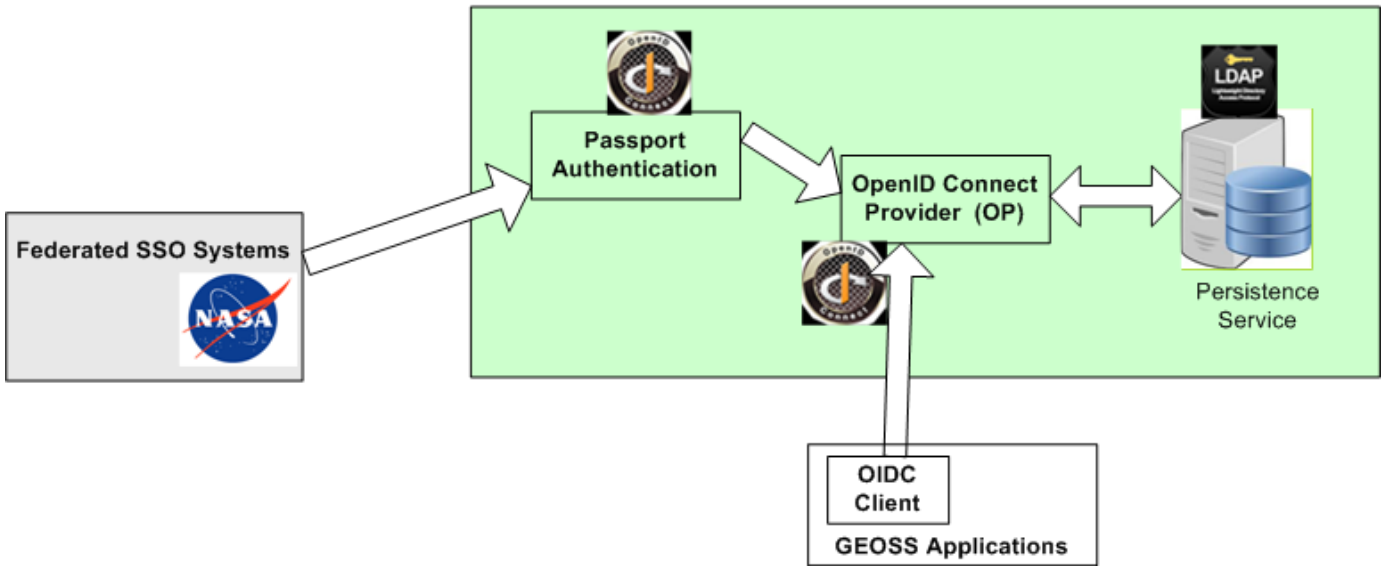


Proposed Approach (II)



NASA/ESA user profile information will be used for dynamic registration in our UM system (LDAP) and for internal usage in NextGEOSS.

Required user attributes:

- Username
- First Name
- Last Name
- E-mail

Proposed Approach (III)

Required information from ESA/NASA IDP:

- Client ID
- Client secret
- Authorization endpoint
- Token endpoint

Required matching parameter:

- Callback URL: https://nextgeoss-sso.elecnor-deimos.com/auth/nasa/callback

Thanks!

- Questions ?