

Training on the EOSC-hub AAI

The service provider perspective



eosc-hub.eu

Dissemination level: Public



@EOSC_eu





Overview of the different EOSC-hub AAI services

- Service Provider integration flows demos
- EOSC-hub AAI status & interoperability roadmap



♥eduGAIN Social ID ORCID Community Community AAI **Infra Proxy** Generic Community R/e-Infra Proxy R/e-Infra Proxv R/e-Infra Proxv Service Service R/e-Infra R/e-Infra R/e-Infra Service Service

EOSC-hub AAI Architecture

- Implementation of the AARC BPA "Community-first" approach:
 - Researchers register once with with their Community AAI
 - Researchers always sign in via their Community AAI using their academic/social credentials for accessing:
 - Community-specific services
 - Generic services (e.g. RCauth.eu Online CA)
 - General-purpose R/e-Infra services



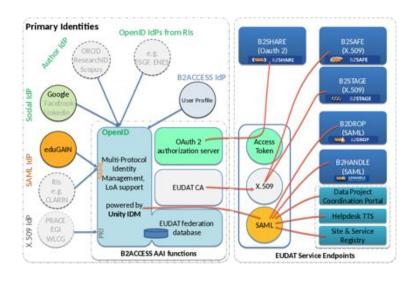
♥eduGAIN Social ID ORCID Community Community AAI **Infra Proxy** Generic Community R/e-Infra Proxy R/e-Infra Proxy R/e-Infra Proxv Service Service R/e-Infra R/e-Infra R/e-Infra Service Service

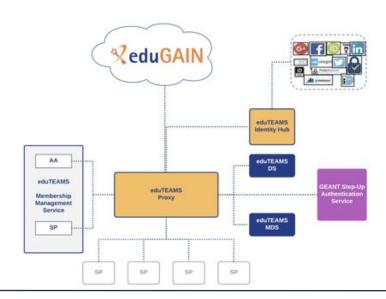
EOSC-hub AAI Architecture

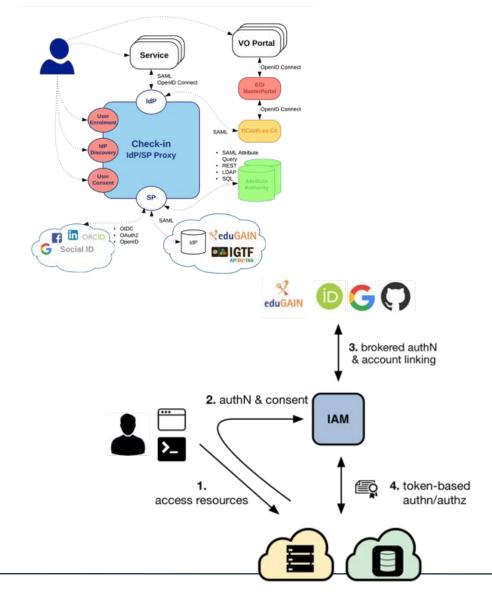
- R/e-Infra proxy serves as a single integration point for services
- No need to run an IdP Discovery
 Service on each service
 - Services get
 consistent/harmonised user
 identifiers and accompanying
 attribute sets from different
 IdPs/AAs that can be interpreted
 in a uniform way for
 authorisation purposes



EOSC-hub AAI services

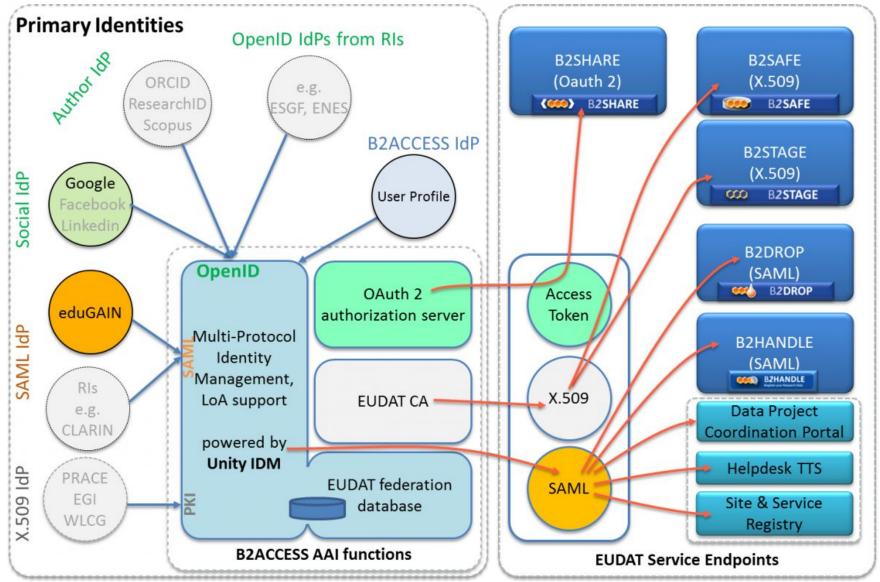








EOSC-hub B2ACCESS - proxy IdP





B2ACCESS - features

- Attribute management and translation
- Hierarchical group management on dedicated interface
 - Delegate subgroups to dedicated managers
- OIDC SP registration in self-service
- User registration
 - Self-service
 - Invitations
- Enquiries for requests to existing users
- Dedicated endpoints to sensitiv services



Check-in in a nutshell

Identity and Access
Management solution that
makes it easy to secure
access to services and
resources

Components:

- IdP/SP Proxy
- User enrolment & group management
- IdP Discovery
- Token Translation



Documentation

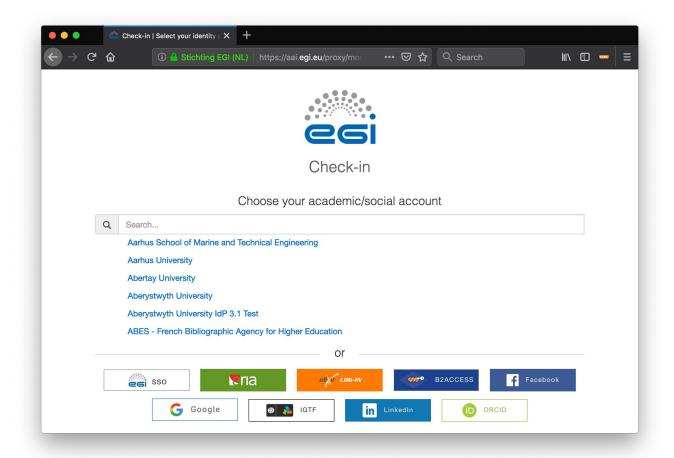
- Usage guide
- Integration guides

https://wiki.egi.eu/wiki/AAI



Check-in features

- Support for SAML/OpenID Connect Identity Providers
 - o eduGAIN
 - Social media
 - ORCID
- Ability to create enrolment flows specific to a community's requirements
- Support for oganising users in hierarchical groups
- Ability to associate certificate and ssh key information to researcher's federated identity
- Ability to enrich researcher's identity with community-specific attributes
- Direct (de)provisioning of information into an LDAP directory or VOMS
- Multipath delegation via OAuth 2.0
 Token Exchange
 - Support for attenuation of rights/scopes

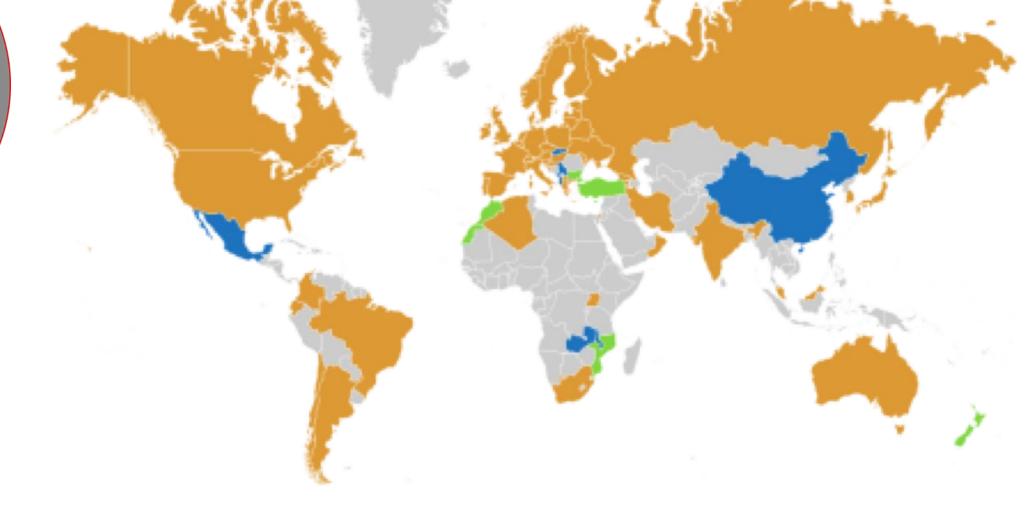




eduTEAMS Virtual Teams Made Easy











Federations in eduGAIN	1 ?
Members	60
Voting-only Members	4
Candidates	11
Entities in eduGAIN	
	3
All entities	5482
All entities	
	5482









A service to enable use of federated identity management in research & academic collaborations

- Full implementation AARC BPA
- Single- and multi-tenant options
- Sustainability and strategic partnerships

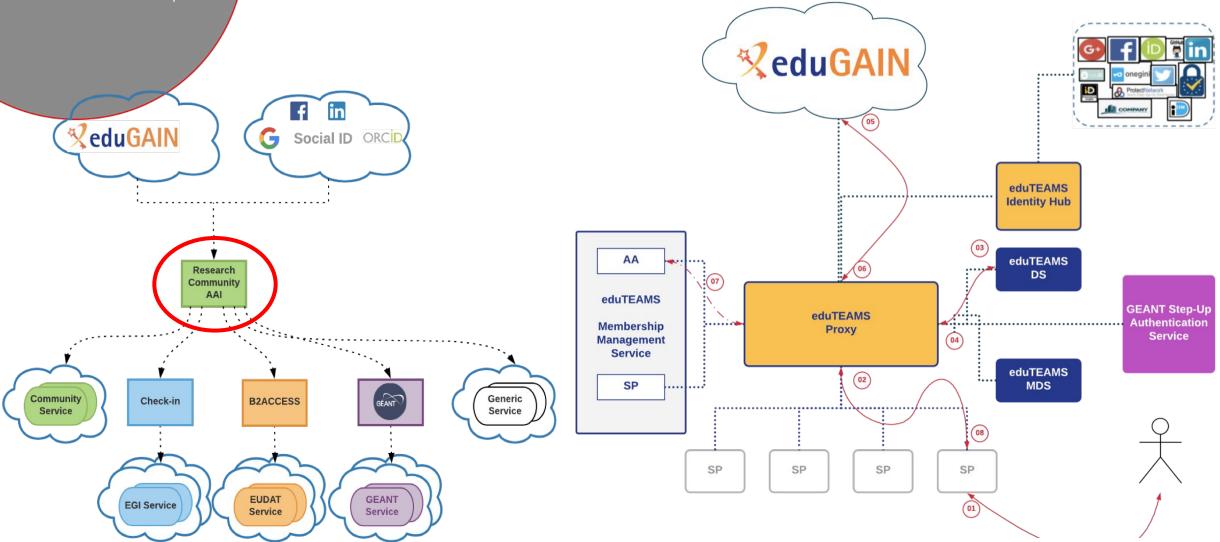
Components

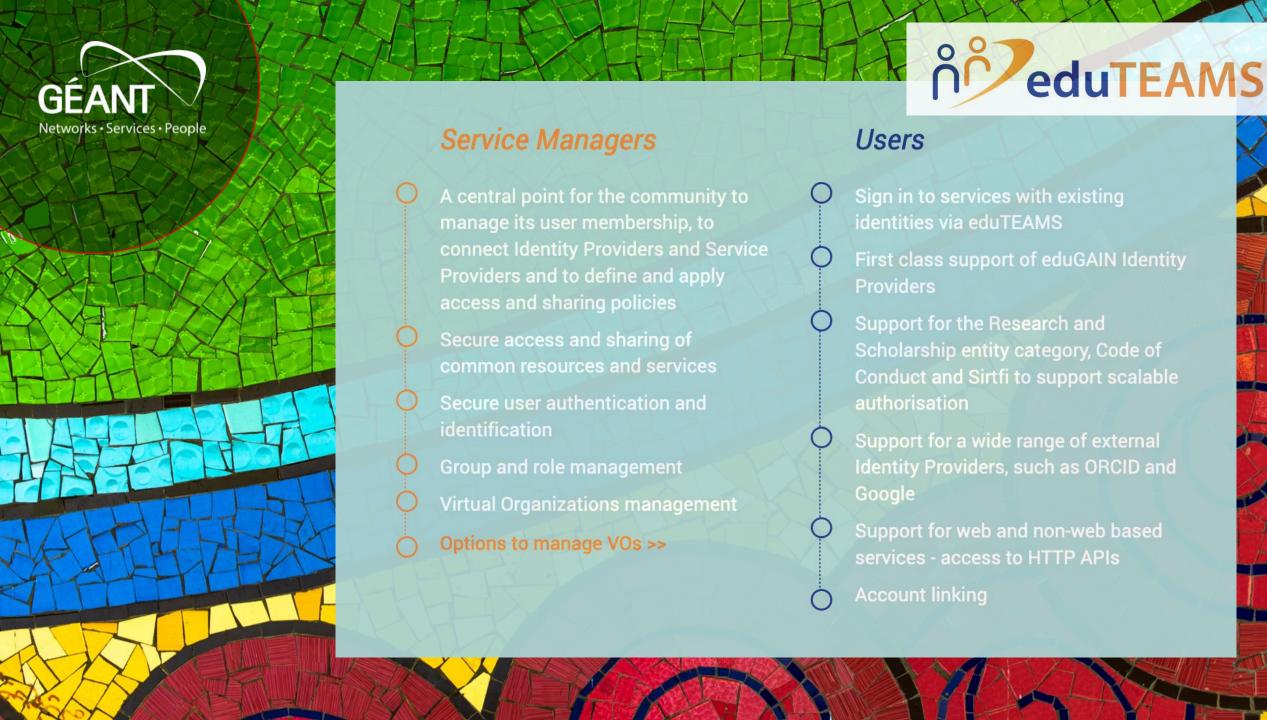
- Proxy & Identity Hub
- Membership Management service
- Discovery Service
- Metadata Service
- Token Translation Service
- Second Factor Authentication (Pilot!)

- SAML & OIDC Support for SPs and IdPs
- Flexible management of group, roles and access rights
- User enrollment flows
- Account Linking









CREATE VIRTUAL ORGANISATIONS

The eduTEAMS Membership Management Services (MMS) provide you with the ability to create VOs, manage these VOs, invite users to collaborate, manage registration flows, organise user to groups and assign them roles and resource entitlements as needed within the collaborations. The eduTEAMS Platform has first class support of three of the most popular membership and group management systems. Choose the one that best fits your needs and start using eduTEAMS.





Fully customizable user flows

Complex organizational structures (support for hierarchical groups, roles, etc.)

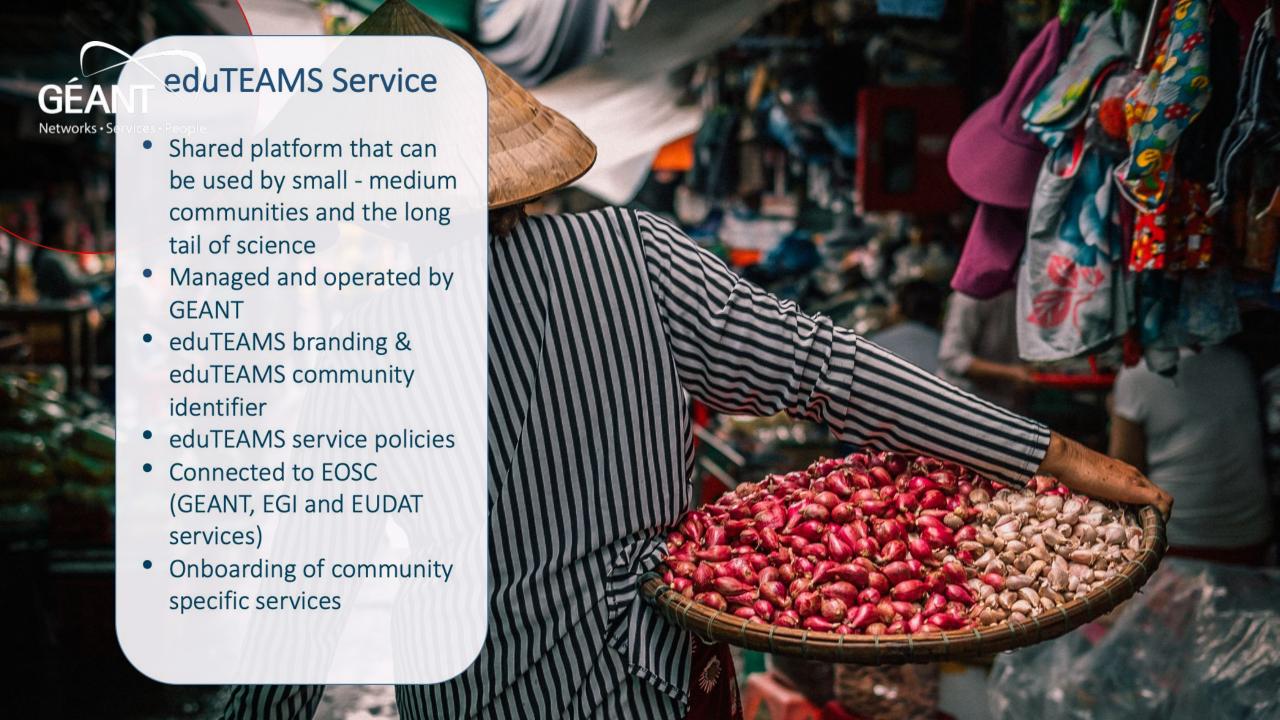
Rich support for a range of data sources and targets

support for service entitlements

Hook functionality, announcement functionality

Sophisticated provisioning / deprovisioning







eduTEAMS Service

- Shared platform that can be used by small - medium communities and the long tail of science
- Managed and operated by **GEANT**
- eduTEAMS branding & eduTEAMS community identifier
- eduTEAMS service policies
- Connected to EOSC (GEANT, EGI and EUDAT services)
- Onboarding of community specific services

eduTEAMS Dedicated

- Dedicated, white-label service offering, specific to a community
- Managed by the community, operated by **GEANT**
- Community branding & community specific identifier
- Community managed policies
- Can be connected to EOSC (GEANT, EGI and EUDAT services)
- Onboarding of community specific services





eduTEAMS Service

Networks • Services • People

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eduTEAMS Bespoke

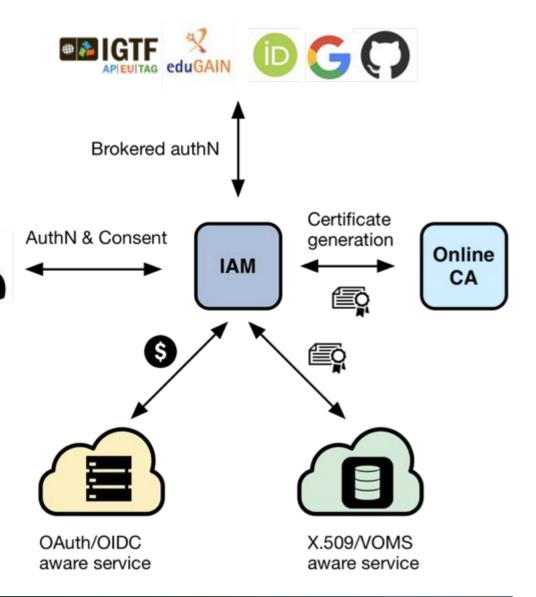
- Bespoke solution with tailor-made functionality
- Ownership model depended on the solution, operated by GEANT
- Consultancy, development and hosting of the service.



INDIGO Identity and Access Management service

Features

- Flexible authentication support
 - SAML, X.509, OpenID Connect, username/password,
- Account linking
- Registration service for moderated and automatic user enrollment
- Enforcement of AUP acceptance
- Easy integration in off-the-shelf components thanks to OpenID Connect/OAuth
- VOMS support, to integrate existing VOMS-aware services
- **Self-contained**, comprehensive AuthN/AuthZ solution





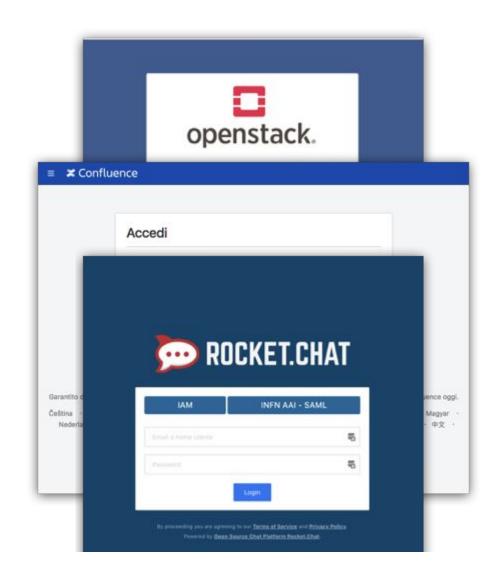
EOSC-hub INDIGO Identity and Access Management service

Easy integration with services

Standard OAuth/OpenID Connect enable **easy integration** with off-the-shelf services and libraries.

We have successfully integrated IAM with minimal effort with:

- Openstack
- Atlassian JIRA & Confluence
- Kubernetes
- Moodle
- Rocketchat
- Grafana
- JupyterHub





INDIGO Identity and Access Management service

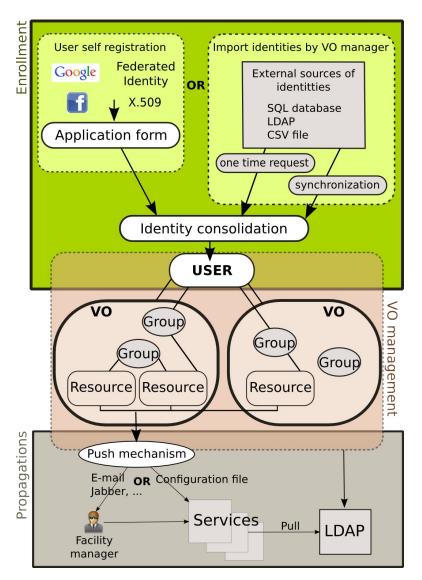
Useful references

- IAM @ GitHub: https://github.com/indigo-iam/iam
- IAM documentation: https://indigo-iam.github.io/docs
- WLCG AuthZ WG Demos: <u>https://indico.cern.ch/event/791175/attachments/1806605/2948665/demos.mp4</u>
 (IAM starts at minute 46)
- IAM in action video: https://www.youtube.com/watch?v=1rZlvJADOnY
- Contacts:
 - andrea.ceccanti@cnaf.infn.it
 - enrico.vianello@cnaf.infn.it
 - indigo-aai.slack.com





- Feature rich identity and access management
- Manages
 - Users, identities and attributes
 - VOs, groups and registrations
 - Access control for services
 - Provisioning / deprovisioning
- Strong support for rights delegation
- Designed to fit in existing infrastructure
- Doesn't do
 - Authentication, proxy
 - Credential storage







- Deployments
 - ELIXIR AAI
 - BBMRI AAI
 - Life-science AAI pilot
 - Czech national e-infrastructure
- In EOSC-hub
 - Part of eduTEAMS service
 - Part of EGI Check-in service
- OpenSource
 - https://github.com/CESNET/perun
- https://perun-aai.org/

Service Provider integration flows - demos





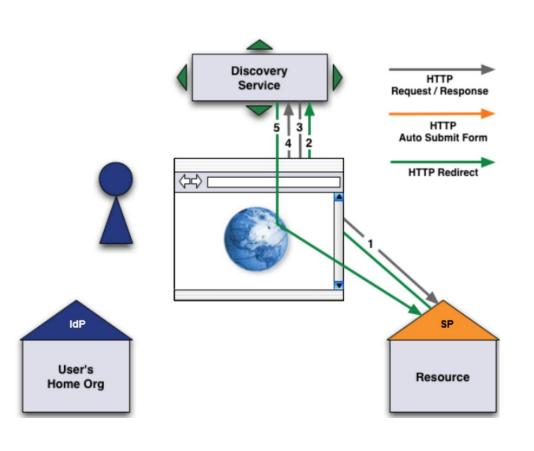
Use case: "Web-based single sign-on (SSO)"

- SAML 2.0
- OpenID Connect
- General recipe: SPs need to provide the following information to their IdP:
 - name of the service
 - short description
 - list of required user attributes
 - privacy statement
 - technical contact
 - security contact
 - protocol-specific endpoints



Web-based SSO - SAML2 Flow

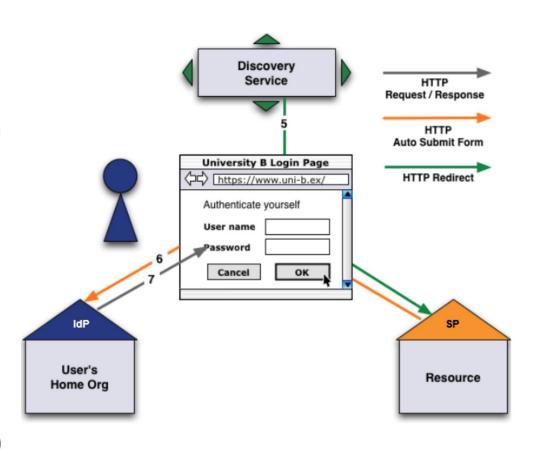
- 1. The user opens a web browser and accesses the Service Provider
- 2. The user is redirected to the Discovery Service by the Service Provider. Consequently, the web browser sends a new request to the Discovery Service
- 3. The Discovery Service responds with the web page that allows the user to select an Identity Provider
- 4. On the Discovery Service page, the user submits the Identity Provider selection
- 5. The Discovery Service sends a redirect to the SP return destination, including the IdP selection





Web-based SSO - SAML2 Flow

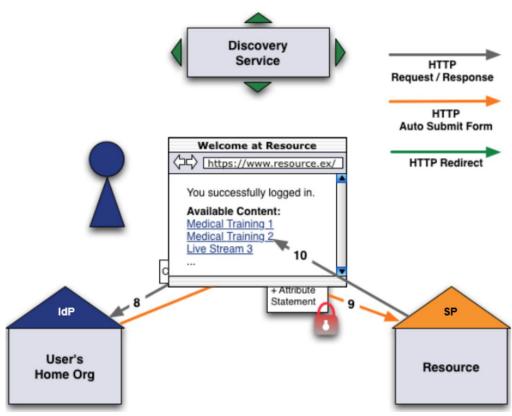
- 5. The browser is redirected to the Service Provider by the Discovery Service
- 6. The session initiator of the Service Provider creates an authentication request and returns it within an auto-submit-post-form to the browser. The browser posts the SAML AuthN Request automatically to the Identity Provider
- 7. The Identity Provider checks the authentication request. Because the user hasn't been authenticated, the Identity Provider sends a redirect to the appropriate login page (usually: Username/Password)





Web-based SSO - SAML2 Flow

- 8. The user types their username and password credentials and submits them to the Identity Provider
- 9. The Identity Provider verifies the credentials. If authentication succeeds, the IdP issues an assertion for the SP and returns it within an autosubmit-post-form to the browser. The web browser automatically posts the SAML Assertion to the Service Provider with the use of JavaScript. The Service Provider processes the SAML assertion including the authentication and attribute statements
- 10. Finally, the Service Provider starts a new session for the user and redirects the user to the previously requested resource. Now, the user is authenticated





Web-based SSO - SAML2 Metadata

SAML authentication relies on the use of metadata

- You as a SP and the R/e-Infra proxy (IdP) need to exchange metadata in order to know and trust each other
- Metadata include information such as the location of the service endpoints that need to be invoked, as well as the certificates that will be used to sign SAML messages.
- Format based on the XML-based SAML 2.0 specification.
- Can be automatically generated by all major SAML 2.0
 SP software solutions (e.g. Shibboleth, SimpleSAMLphp, and mod_auth_mellon)
- Important: You need to make your metadata available over HTTPS using a browser-friendly SSL certificate

```
<?xml version="1.0"?>
<md:EntityDescriptor xmlns:md="urn:oasis:na
 <md:SPSSODescriptor protocolSupportEnumer
   <md:Extensions>
      <mdui:UIInfo xmlns:mdui="urn:oasis:na
        <mdui:DisplayName xml:lang="en">RCI
        <mdui:Description xml:lang="en">RCI
      </mdui:UIInfo>
   </md:Extensions>
   <md:KeyDescriptor use="signing">
      <ds:KeyInfo xmlns:ds="http://www.w3.c
        <ds:X509Data>
          <ds:X509Certificate>MIIDPzCCAiegA
        </ds:X509Data>
      </ds:KevInfo>
   </md:KeyDescriptor>
   <md:KeyDescriptor use="encryption">
      <ds:KeyInfo xmlns:ds="http://www.w3.c
        <ds:X509Data>
          <ds:X509Certificate>MIIDPzCCAiegA
        </ds:X509Data>
      </ds:KeyInfo>
   </md:KeyDescriptor>
   <md:SingleLogoutService Binding="urn:oa
   <md:AssertionConsumerService Binding="u
   <md:AssertionConsumerService Binding="u
   <md:AssertionConsumerService Binding="u
   <md:AssertionConsumerService Binding="u
 </md:SPSSODescriptor>
 <md:ContactPerson contactType="technical"
```



Web-based SSO - SAML2 software

- Shibboleth-SP
 - Implements the SP component in a SAML communication:
 - i.e. protects a web application behind it and deals with SAML communication
 - There are two parts:
 - A background service or "daemon" process (shibd)
 Keeps states, evaluates protocol messages
 - A Webserver module (mod_shib)
 Protects Locations/Directories, defines Access Rules
 - Available through:
 - Linux Debian/RPM packages, Binaries for Windows, OSX
- SimpleSAMLphp
- mod_auth_mellon



Web-based SSO - SAML2 Attributes

eduPersonUniqueId	urn:oid:1.3.6.1.4.1.5923.1.1.1.13	uniqueld@scope
givenName	urn:oid:2.5.4.42	John
sn	urn:oid:2.5.4.4	Doe
displayName	urn:oid:2.16.840.1.113730.3.1.241	John Doe
mail	urn:oid:0.9.2342.19200300.100.1.3	john.doe@example.org
eduPersonEntitlement	urn:oid:1.3.6.1.4.1.5923.1.1.1.7	<namespace>:group:<group>[:<subg ROUP>][:role=<role>]#<group-auth ORITY> <namespace>:res:<resource>[:<chil D-RESOURCE>][:act:<action>[,<actio N>]]#<authority></authority></actio </action></chil </resource></namespace></group-auth </role></subg </group></namespace>
eduPersonScopedAffiliation	urn:oid:1.3.6.1.4.1.5923.1.1.1.9	faculty@example.org



OpenID Connect / OAuth2

- Introduction to OpenID Connect/OAuth2
- Web-based SSO OpenID Connect Authorization code flow
- OAuth2 Device code flow
- Supporting multiple OPs ESACO



OAuth2 - Token Exchange

Token exchange allows to request and obtain access/refresh tokens from a client B using the token of client A

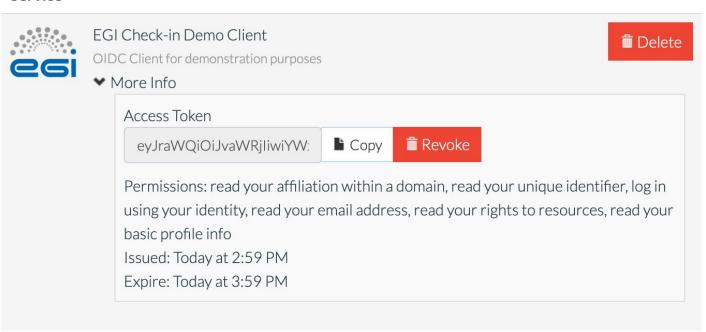
- Multipath delegation
- Attenuation of rights/scopes

https://tools.ietf.org/html/draft-ietf-oauth-token-exchange-16



OAuth2 - Token Exchange Example

Service

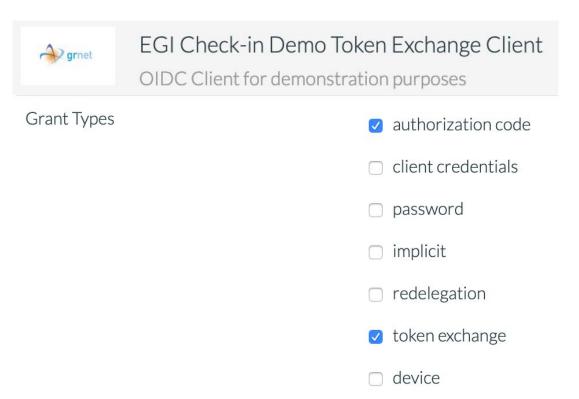


An access token has been issued for client "EGI Check-in Demo Client" with the following scopes:

- openid
- profile
- email
- eduperson_entitlement
- eduperson_scoped_affiliation
- eduperson_unique_id



OAuth2 Token Exchange Example



Using the access token from client "EGI Check-in Demo Client" as subject token, the user is going to exchange it to claim a new access token from client "EGI Check-in Demo Token Exchange Client", which has the token exchange grant type enabled. The scope set of the new token can be the same or less that the subject token.

Note: Exchanged tokens have the same type (an access token for an access token and a refresh token for a refresh token).



OAuth2 Token Exchange Request

```
$ export client B id=...
$ export client_B_secret=...
$ export access token A=...
$ curl -u "${client_B_id}":"${client_B_secret}"
-X POST "https://aai-dev.egi.eu/oidc/token"
-d "grant_type=urn:ietf:params:oauth:grant-type:token-exchange&
subject_token=${access_token_A}&
subject_token_type=urn:ietf:params:oauth:token-type:access_token&
scope=openid%20profile%20email"
```



OAuth2 Token Exchange Response

```
"access_token": "eyJraWQiOiJvaWRjIiwiYWxnIjoiUlMyNTYifQ.eyJzdWIiOiIxM2M0YzZkOTcwMwY3MzQyODBhMTAzO
hlZWY3MDU5NzI3NDE0OWVmZGU2MmFlYzFiZGVkM2UzMjg0MjE1NmE3QGVnaS5ldSIsImF6cCI6IjhhMzM2YjU0LTVhYWYtNDNjMS
4NDRhLTNjMTVhMjRhNzRiNCIsImlzcyI6Imh0dHBzOlwvXC9hYWktZGV2LmVnaS5ldVwvb2lkY1wvIiwiZXhwIjoxNTU0OTg1NjY
LCJpYXQiOjE1NTQ50DIwNjIsImp0aSI6ImQxMwMxYTgxLTMwZTctNDA1Yi05Y2R1LTRjZDY4YTNhNDA3NyJ9.QTUV1_AUD-zqBUC
EiPQP0THQL65FBk-A1tpZJltUrOgoJTLPxH0rUdsLB6t2UWGabB55zNZdxhQcwlxBFDGr16pUHmFrftEG16Bkog_YfSYd2TI0E7X
 ek85PmycPqRYzOlxjJj9t78U9snsVhJC7X8z1cWfixCiQ9LmFca1krWtJ78cAT3O5-wuGh9X0g78UDK0PDKd1WORmvlSqnoPhGX
wIesl6LPr3N1UhcZ2BCHonxIcdueP_fR--ZsbQVvmCJB1w7xKJAtLM8lBJsqfcx9l8VN87TuHCzH1XbbXG_KKszEpmV3tGkSDgUV
 Fm9wflbQkySPI9QoQMPug",
   "expires_in": 3599,
   "id_token": "eyJraWQiOiJvaWRjIiwiYWxnIjoiUlMyNTYifQ.eyJzdWIiOiIxM2M0YzZkOTcwMwY3MzQyODBhMTAzOThlZ
VY3MDU5NzI3NDE0OWVmZGU2MmFlYzFiZGVkM2UzMjg0MjE1NmE3QGVnaS5ldSIsImF1ZCI6IjhhMzM2YjU0LTVhYWYtNDNjMS04ND
hLTNjMTVhMjRhNzRiNCIsImtpZCI6Im9pZGMiLCJpc3MiOiJodHRwczpcL1wvYWFpLWRldi5lZ2kuZXVcL29pZGNcLyIsImV4cCI
MTU1NDk4MjY2MiwiaWF0IjoxNTU0OTgyMDYyLCJqdGkiOiIwZTExNGZjMS0wZmFhLTRkZmItODQ3My1iOGM0Zjk3MGY5YjkifQ.k
OMnGwLx4YC9RwUcvNc4MGlBhTurSYEKQbb8j2lBofjtwhYH3t96pnzAyhCpsuDyGltzos4lu_HfuJB6GSHBL90nW1ELj_Gtrljom
H2yeJXnfugXqmnXn2Bjb0ucTZ8FuZWfUTircNs-KJbpMGhoBajQ3QYjMpQd5lr5T91LAuFfAh_zUCklt6uT9HX701tdPGmfgfaJe
Pzy-X8679Hvb_7kGas5HIidLgEx0MsjqoWS5_wtry2tTX_x9iXTnH7mPenZWyJf0KpJbi5_T1EXfwqwFLE70Ig0hMpQmaxuF1Cz_
XTAVAeR71k Um_pAksCJew0xubq8Q0TT1UYAA",
   "scope": "email openid profile",
   "token_type": "Bearer"
```

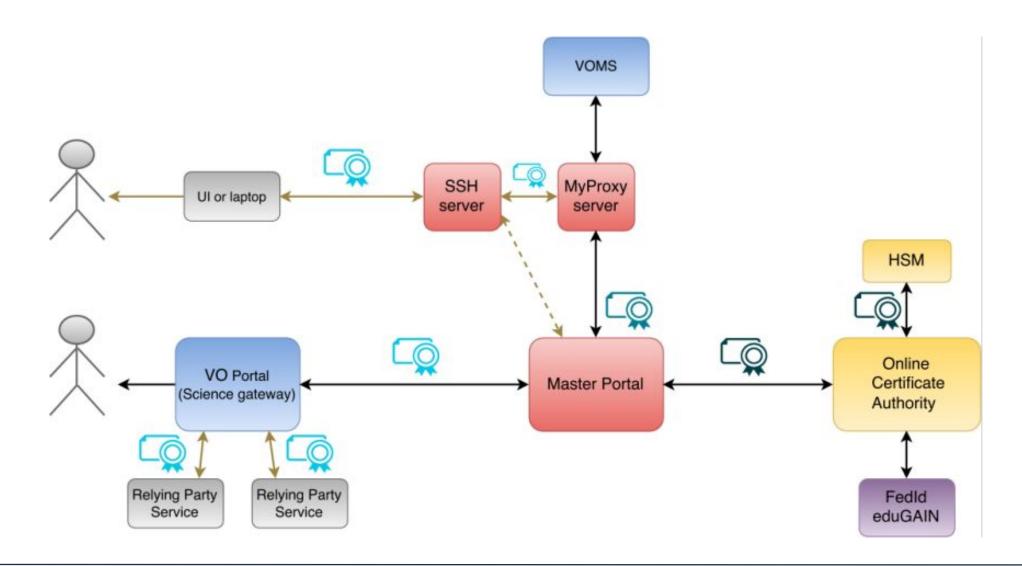


Use case: "Implementing a VO portal (Science Gateway) to support access to services relying on X509 authentication using proxy certificates from the RCauth.eu online CA"

- VO portals do not directly contact the RCauth CA, but use an intermediate service, a so-called Master Portal, which handles most of the complexity
- Master Portal is an OpenID Connect Provider, with an integrated protected endpoint for obtaining proxy certificates

2/14/2018







Register a new client at a Master Portal at the /register endpoint:

- E.g. for the EGI development instance
 - https://masterportal-pilot.aai.egi.eu/mp-o a2-server/register
- or the EGI production instance
 - https://aai.egi.eu/mp-oa2-server/register

This page allows yo	the Master Portal Client Registration Page ou to register your client with the Master Portal that supports the	
be evaluated for app	get your client approved, please fill out the form below. Your request we proval. For more information, please make sure you read the Registering Auth 2 server document.	
Client Name: Contact email: Home URL:		
Refresh Token lifetime:	(in seconds - leave blank for no refresh tokens.)	
Callback URLs:	Put your callbacks here, one per line.	
submit	e e e e e e e e e e e e e e e e e e e	



 NOTE: Make sure to store the client_id and client_secret in a secure place.

 In order to get the client approved, send an email to the administrator of the Master Portal to request client approval. For EGI use <u>EGI</u> <u>CheckIn Support</u>

Registration Successful!

Here is your client identifier:

myproxy:oa4mp,2012:/client_id/807cb841d200a6f097e64d87d45a7ff

Here is your client secret:

UCqOa-sdSBIHRKOaM_h_huU2O6Vl2gTpoOphYBIciG3I5PmFEc93erH_EQ70ZAlUX0IeBv2uU0fbFwBmV5Ya-9ZDMfidLiDbA1SfH9in_QoI9tfa48HmOW18ubcOLTPHgMtrJ5G8PnNuq0hQB3E6daRXwSqe9V6O14C7jRwI7Kl UR2_-XyzStn-XvilKKm5E1Tvx7HRb7VSB9mp9tQ1VULgG3uMX7l88v5c3sxNxVVJ_dVMNgIKfBfkm-VqjKkFzYr27hFf5L3Ak-jlc9jatETzkmKOq56r7r7UTA4Rwt-

IMPORTANT NOTE: It is the client's responsibility to store the identifier and secret. Your client will need to use it as needed to identify itself. Please keep these in a safe location. If you lose the secret, you will have to re-regisiter. Be sure you copy the secret without line breaks (which some browsers will insert) or you will get an invalid secret.

An administrator will contact you once your registration request is approved. You cannot use this identifier code until you have been approved by the administrator.



Obtaining a proxy certificate from the RCauth.eu CA via the Master Portal follows the standard OIDC Authorization Flow:

- 1. VO portal initiates the flow by sending the user (browser redirect) to the /authorize endpoint on the Master Portal. Parameters (see Client Requests Authorization)
 - a. Optionally the VO portal can redirect the user to a specific IdP by also sending an idphint parameter. This is a RCauth / MasterPortal extension (see also Master Portal Internals#The IdP Hint).
- 2. When the authorization flow succeeds, an authorization grant is sent via the browser as code parameter to the redirect_uri (see Authorization Response).
- 3. The VO portal uses the authorization grant to obtain an access_token, an id_token and optionally a refresh_token from the /token endpoint (back-channel to the OIDC provider). Parameters (see Access Token Request)



- 4. When successful, the response is a JSON including the access_token, id_token (and the refresh_token when configured). (see Access Token Response)
- 5. The VO portal can optionally access the /userinfo endpoint using the access_token (back-channel to the OIDC provider). Note that it can get the same information directly from the id_token.

 Parameters (see UserInfo Request)
- 6. The VO portal can now obtain a proxy certificate from the /getproxy endpoint using the access_token, and authenticating using its client_id and client_secret (back-channel). Parameters (see OAuth for MyProxy GetProxy Endpoint):
- 7. The response will consist of the proxy certificate chain in a single PEM.



Getting proxy certificates from the command line using SSH key authentication:

- User uploads SSH public key to MasterPortal or to COmanage:
 - https://aai.egi.eu/sshkeys/
 - requires login via RCauth.eu to obtain username

User makes sure MyProxy has a long-lived proxy, can use 'vo-portal'

- https://aai.egi.eu/vo-portal/
- Needs to do this ± once a week
- User obtains proxy certificate via dedicate SSH host:
 - ssh proxy@ssh.aai.egi.eu > /tmp/x509up u\$(id -u)



Demo:

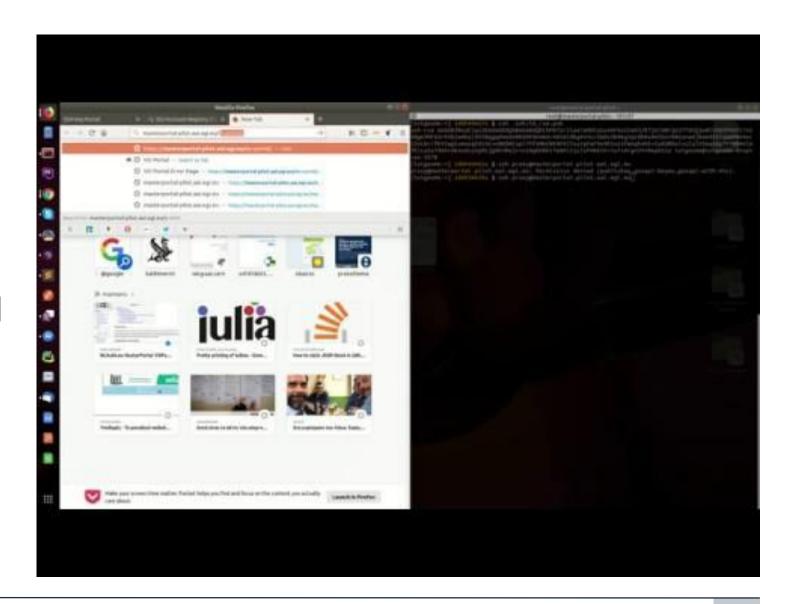
 Obtaining proxy certificates through VO Portal (Science Gateway)





Demo:

 Obtaining proxy certificates from command line using SSH key authentication



Demo References

https://rcdemo.nikhef.nl/

https://rcdemo.nikhef.nl/demogsiftp/

https://rcdemo.nikhef.nl/demobasic/oidc_getproxy_demo_source.ph_p

https://drive.google.com/open?id=1T_b4U3RgUI8lzijCq9gE1asqtHN6B

efK (Full list of Demo videos)



Use case: "Provision or de-provision user account to services base on his/hers roles or group membership without any direct user interaction."

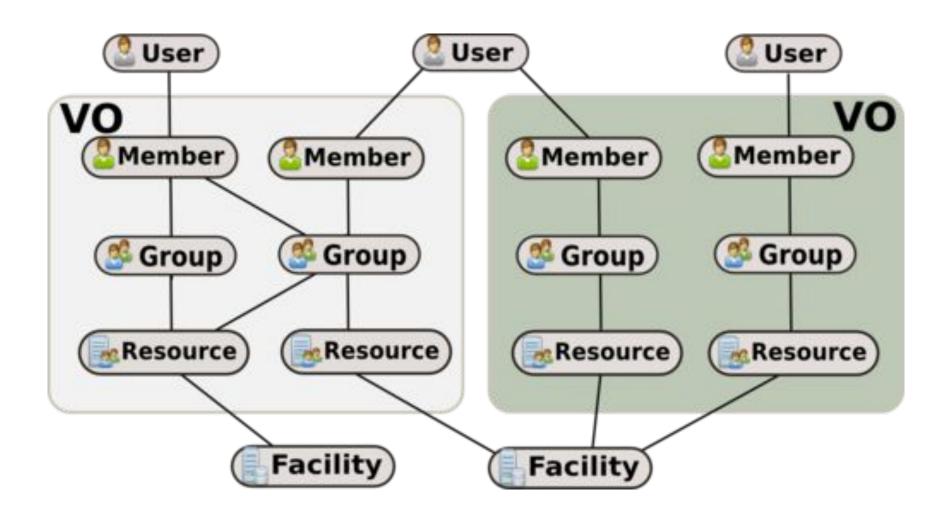
Example services: mailing lists, cloud management systems (OpenStack), unix account & ssh keys distribution, VOMS

- This demo will show (de-)provisioning in Perun system
- Using simple custom service connectors

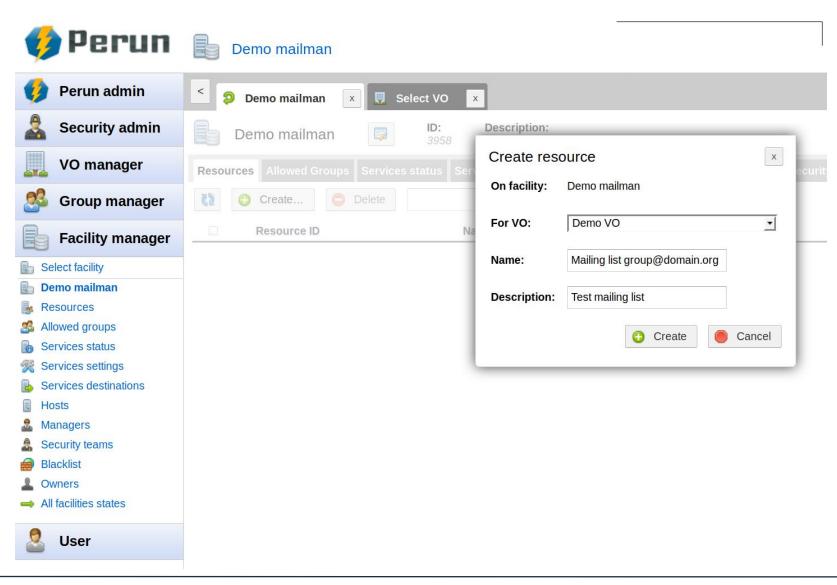


Configuration within Perun

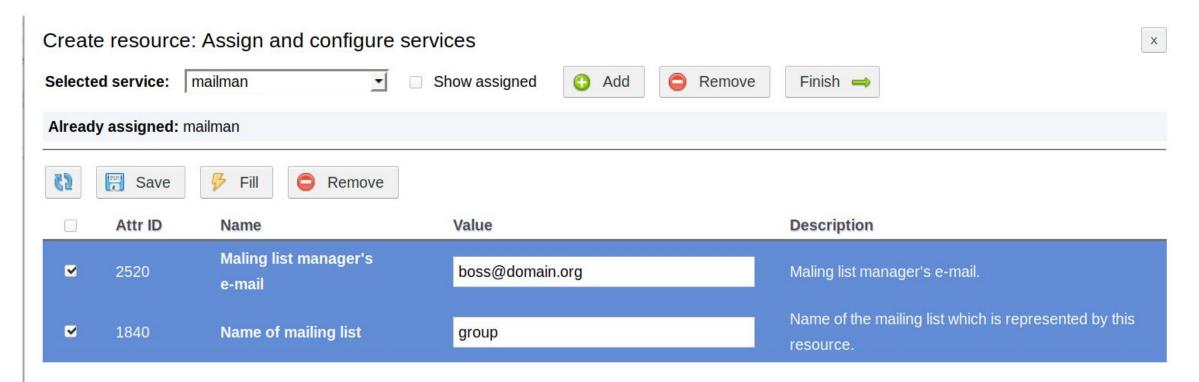




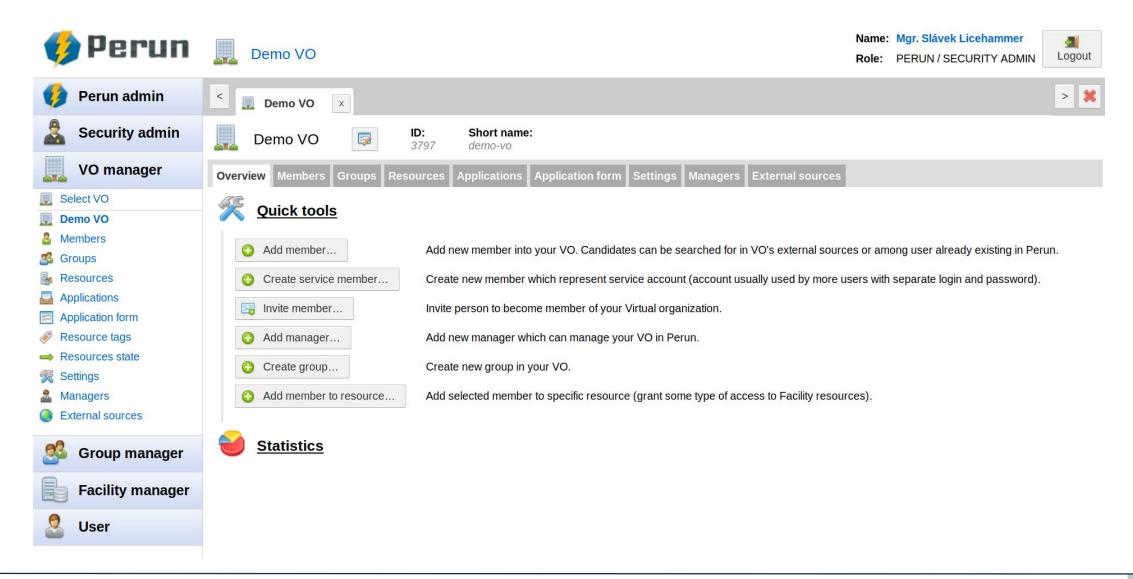




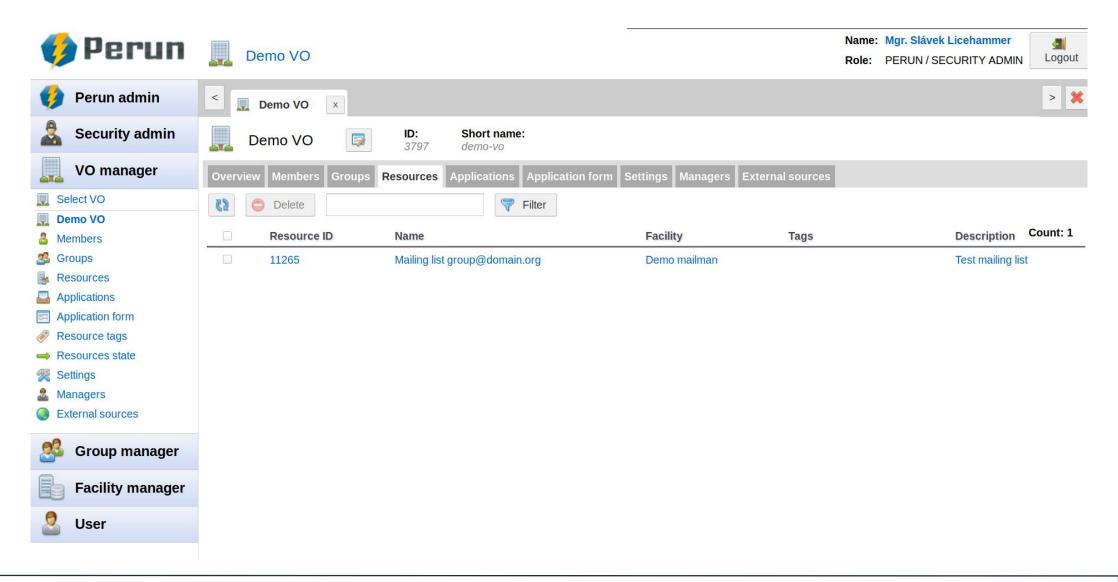




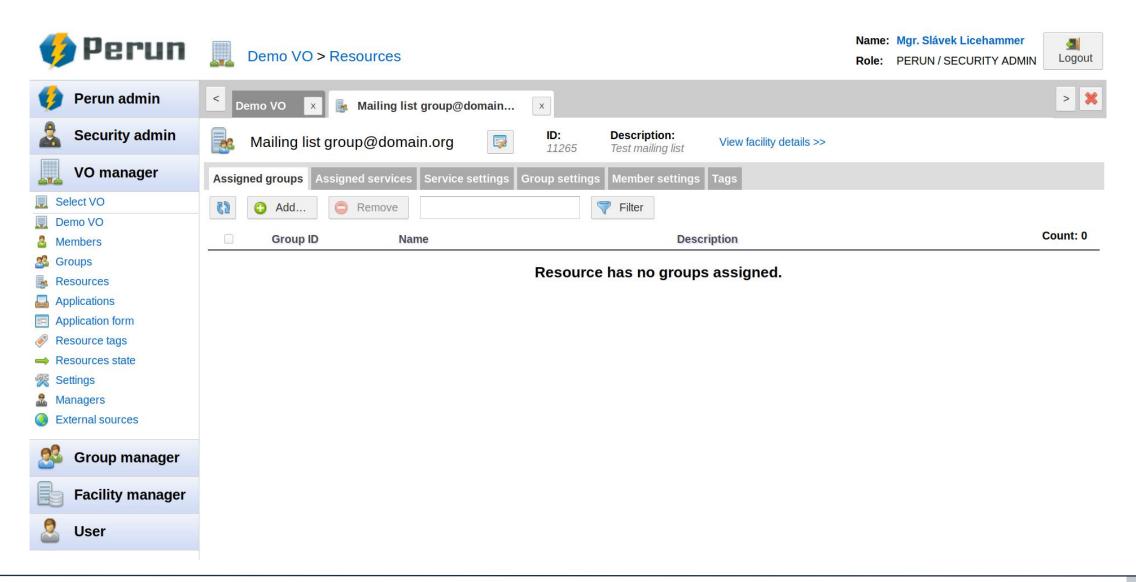




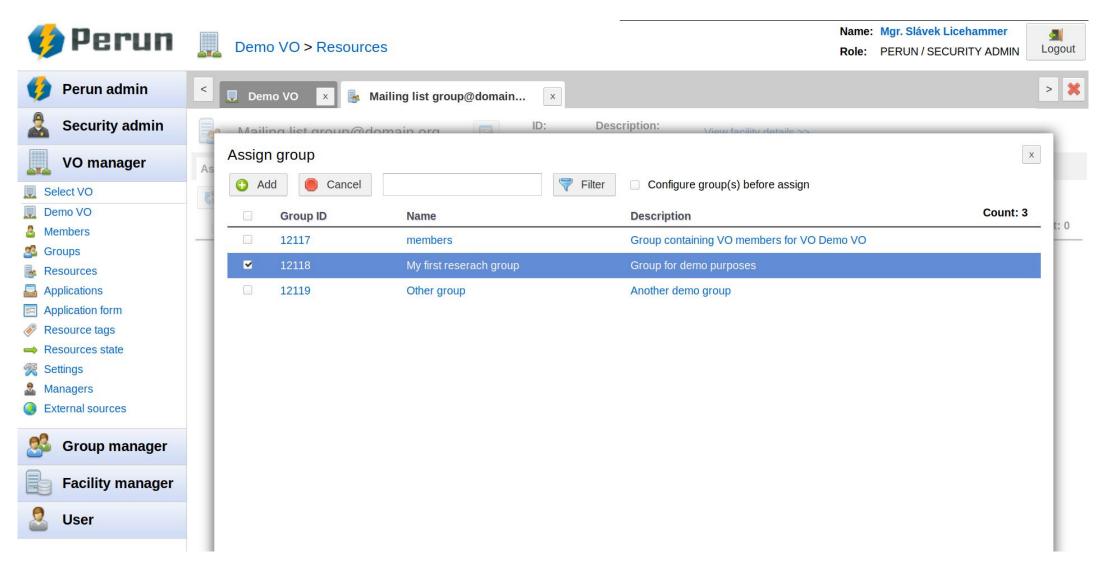




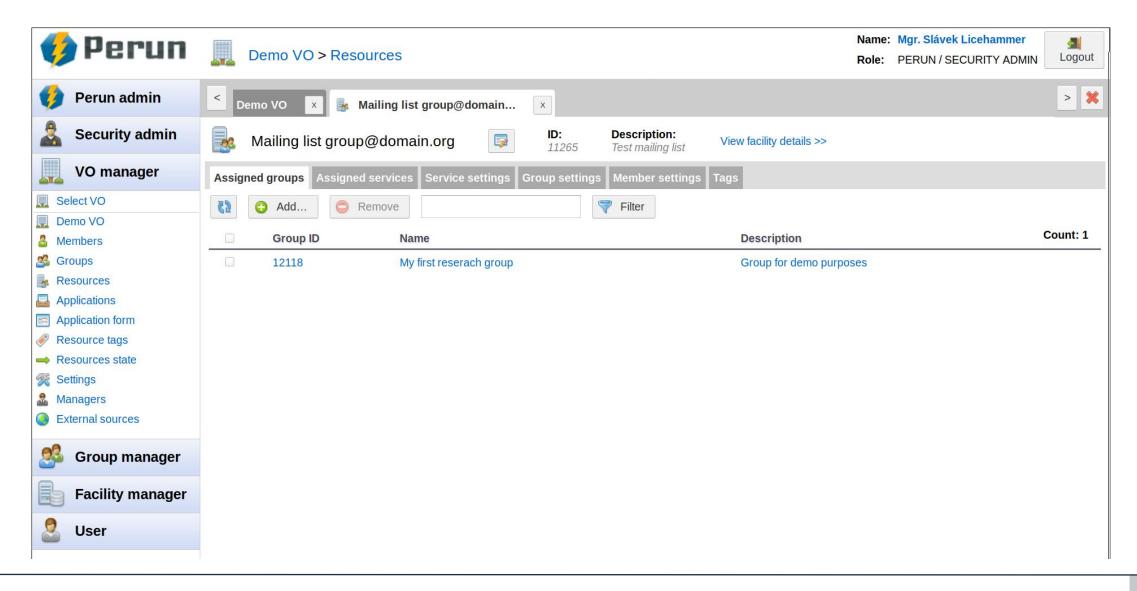










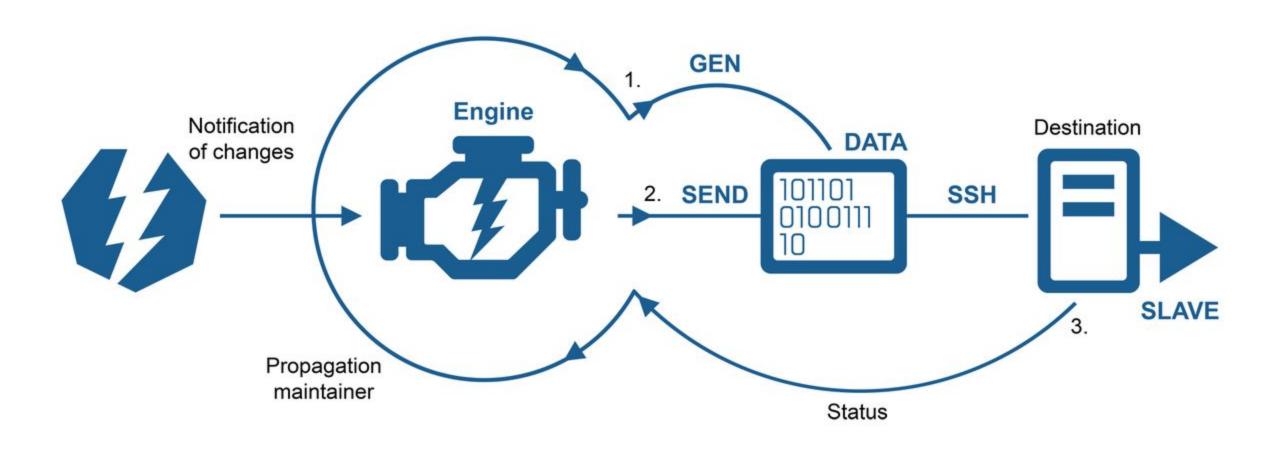






Configuration on a service

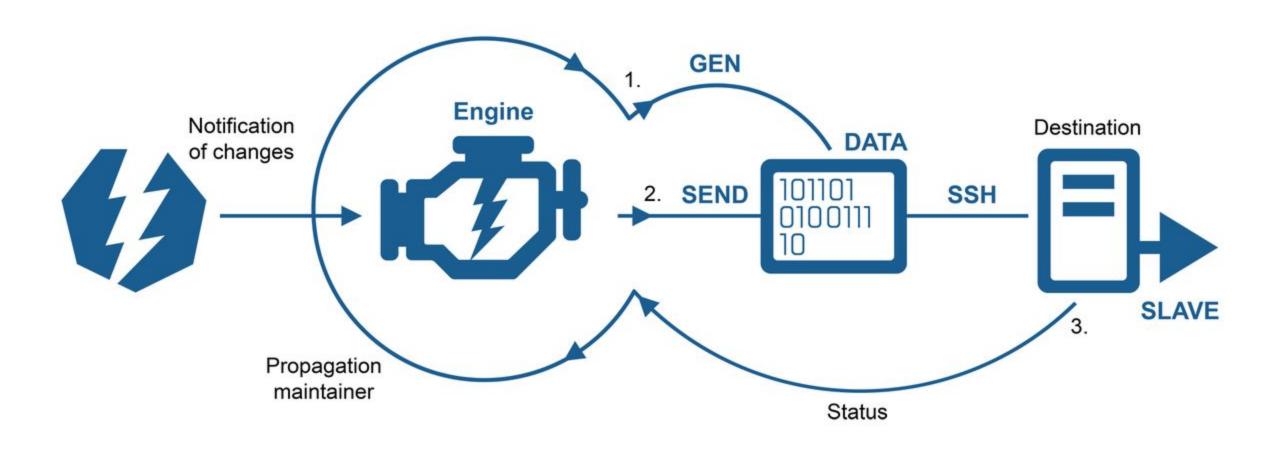






- Install Perun slave package for managing mailman
 - # apt get install perun-slave-process-mailiman
- Allow Perun to configure the servivce
 - # echo 'from="perun.cesnet.cz", command="/opt/perun/bin/perun" ssh-rsa
 AAAAB3NzaC... perun@cesnet.cz' >> ~/.authorized_keys





EOSC-hub AAI status & next steps

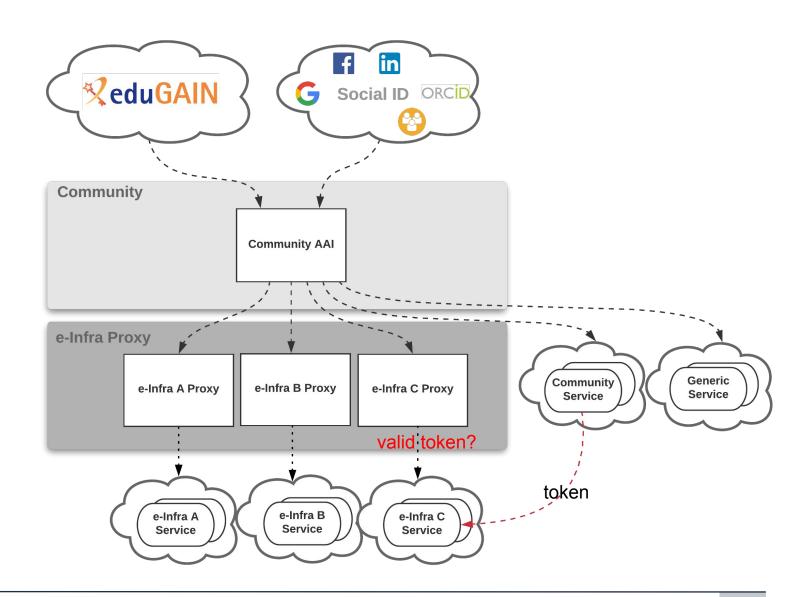


- Multiple user registrations: Users need to register with multiple AAI services due to differences in their Acceptable Use Policies (AUP).
- Multiple IdP discovery steps: As users access services protected by different AAIs, they may need to select their identity provider (IdP)
 - **But** they don't need to enter their credentials again due to the Single Sign-On session in effect

2/14/2018

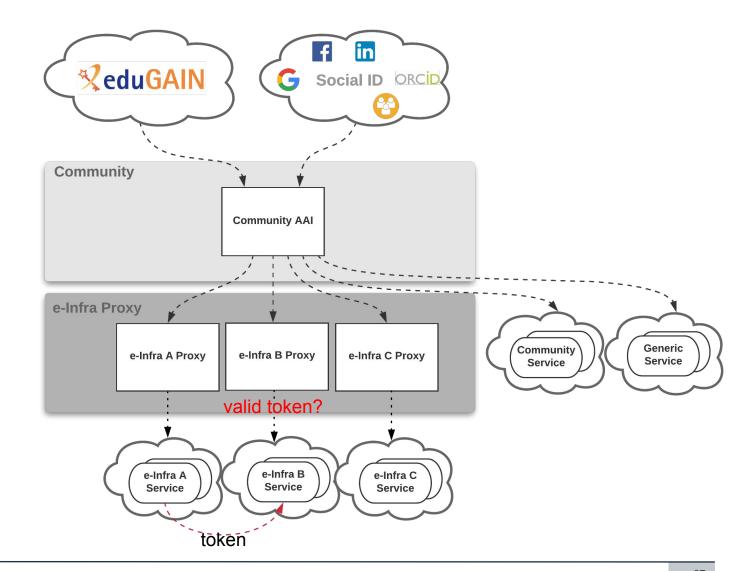


- OAuth2 token validation:
 Existing implementations of OAuth2-based
 Authorisation Servers do not support the validation of tokens issued by a different Authorisation server.
- E.g. community service accessing e-Infra service on behalf of user



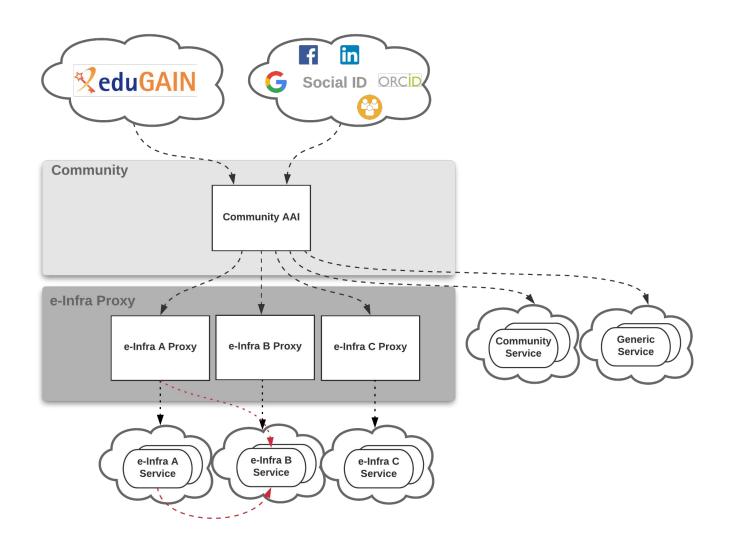


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- OAuth2 token validation
 workaround: Services need to
 connect to different
 Authorisation Servers instead
 of relying on a single SP Proxy
 ... but
 - Requires additional integration effort from services
 - Cannot scale





Interoperability roadmap

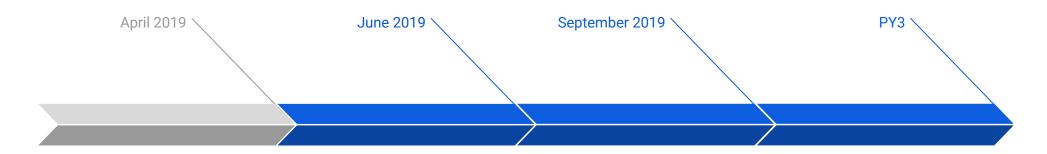
	EOSC-hub AAI
Alignment of user attribute names	
Alignment of VO/group membership and role information	
Alignment of resource capabilities information	M18
Alignment of affiliation information	M21
OAuth 2 token validation across multiple domains (PoC impl)	M21
Alignment of assurance information (incl affiliation freshness)	PY3

	EOSC-hub AAI
Alignment of privacy statements	M18
Alignment of operational security and incident response policies	
Alignment of Acceptable Use Policies (AUPs)	M18

2/14/2018



Interoperability roadmap



- Alignment of user attribute names
- □ Alignment of VO/group membership and role information
- Alignment of operational security and incident response policies

- Alignment of resource capabilities information
- Alignment of privacy statements
- Alignment of
 Acceptable Use
 Policies (AUPs)

- Alignment of affiliation information
- OAuth 2 token
 validation across
 multiple
 domains (PoC
 impl)
- Alignment of assurance information (incl affiliation freshness)





Please, take a few moments to provide us feedback about the training event:

https://bit.ly/2leajPq

Thank you for your attention!

Questions?

Contact



🍫 eosc-hub.eu 🄰 @EOSC_eu



