



www.egi.eu



@EGI_eInfra

AAI services in EGI - Overview and use cases: Check-in - Latest updates and roadmap

Nicolas Liampotis (GRNET)

Valeria Ardizzone (EGI Foundation)



The work of the EGI Foundation
*is partly funded by the European Commission
under H2020 Framework Programme*

- Streamlined user onboarding: Improved UI for signing up using less steps
- Linking identities made easier and faster
- Improved RCauth certificate linking process
- Improved ORCID integration using ORCID API client credentials
- Added support for service 🤖 identities
- Added login, user & group statistics
- Updated VOMS (de)provisioning plugin with support for VOMS Admin SOAP and REST API v3.7.0
- Improved integration with GOCDB:
 - configuration of fallback server in case the main one fails
 - if no GOCDB server is available then inform the user and give the option to abort or continue without GOCDB role entitlements
- New operating environment to improve performance

Check-in User Registration

Step 1

Review user profile information

- name
- email
- affiliation

and agree to Acceptable Use Policy (AUP)

Step 2

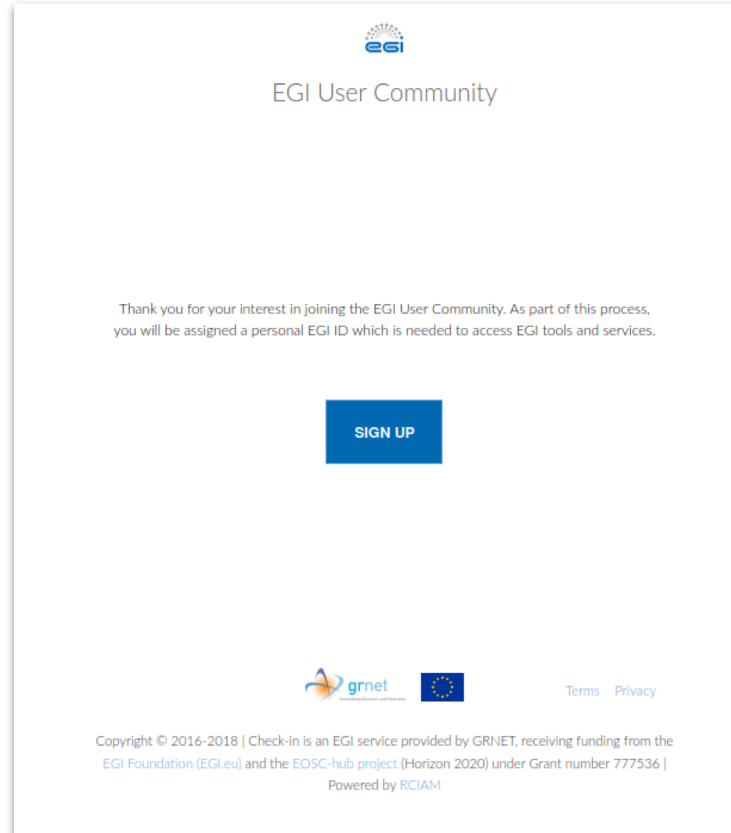
Verify email address - *only if a verified email address is not released by the user's authenticating identity provider*

Step 3

Access resources


Check-in User Registration

To access resources protected by EGI Check-in, you need to sign up for an account using an academic/social identity provider



The screenshot shows the EGI User Community registration page. At the top is the EGI logo and the text "EGI User Community". Below this is a thank-you message: "Thank you for your interest in joining the EGI User Community. As part of this process, you will be assigned a personal EGI ID which is needed to access EGI tools and services." A prominent blue "SIGN UP" button is centered on the page. At the bottom, there are logos for GRNET and the European Union, along with links for "Terms" and "Privacy". The footer contains copyright information: "Copyright © 2016-2018 | Check-in is an EGI service provided by GRNET, receiving funding from the EGI Foundation (EGI.eu) and the EOSC-hub project (Horizon 2020) under Grant number 777536 | Powered by RCIAM".


Check-in User Registration



EGI User Community

EGI ID	Identifier 1c96d5eccf1513b8fd9e08f3a93a8998a4a3c572991b6b29aef1c
Name* <i>Your full name</i>	Given Name* Ioannis Family Name* Igoumenos
Email <i>You current email address</i>	Email* ioigoume@gmail.com

Review your information, agree to the AUP and click on “Submit”.



EGI User Community

EGI ID	Identifier 1c96d5eccf1513b8fd9e08f3a93a8998a4a3c572991b6b29aef1c
Name* <i>Your full name</i>	Given Name* Ioannis Family Name* Igoumenos
Email <i>You current email address</i>	Email* ioigoume@gmail.com
Affiliation	Faculty
Organisation	Organisation*
Agree to Acceptable Use Policy and Conditions of Use (AUP) You must review and agree to the following AUP before continuing.	
<div style="border: 1px solid #ccc; padding: 5px;"> <input checked="" type="checkbox"/> Review Acceptable Use Policy <input checked="" type="checkbox"/> Agree </div>	
After you click Submit, we'll send you an email and you simply click on a link to confirm your email address.	
<div style="border: 1px solid #ccc; padding: 2px 10px;">SUBMIT</div>	

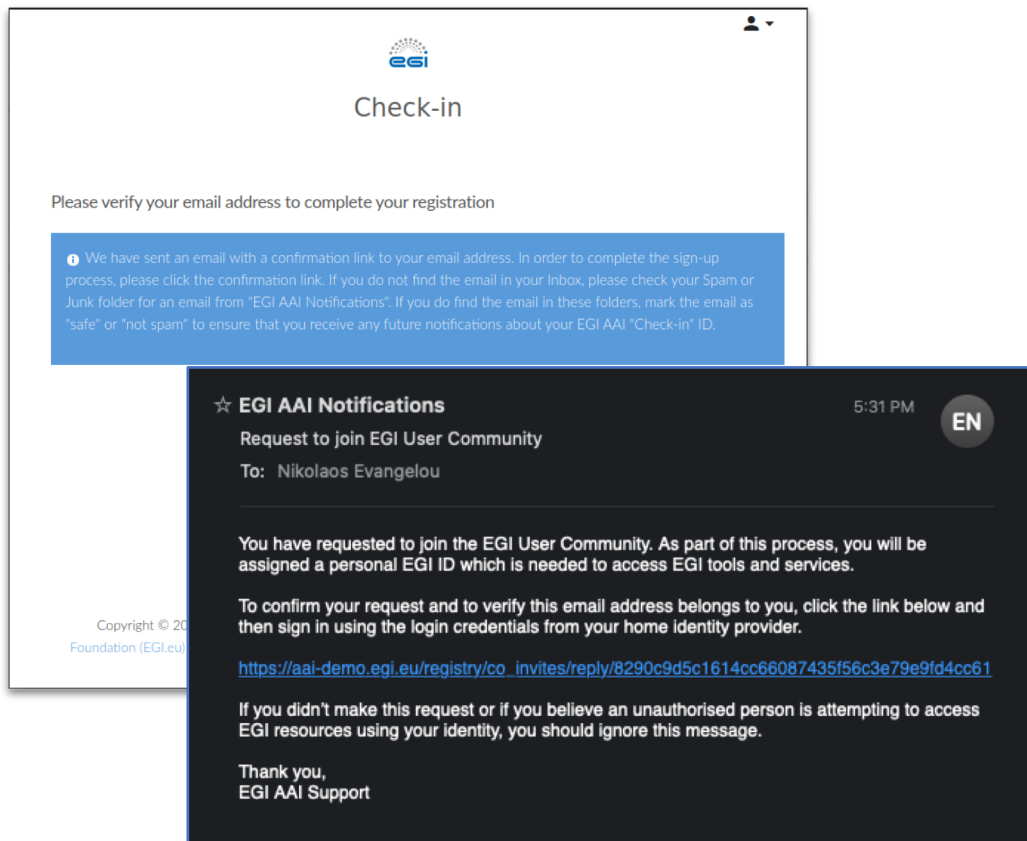
* denotes required field



Check-in User Registration

Next, you will need to confirm your email address. Check your inbox and open the link on your browser.


This step is **SKIPPED** in case of an email known to be **verified** by the Identity Provider



Check-in User Registration

Click on “Accept” to finalize the registration.

This step is **SKIPPED** in case of an email known to be **verified** by the Identity Provider



EGI User Community

Invitation to EGI User Community

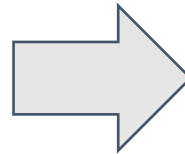
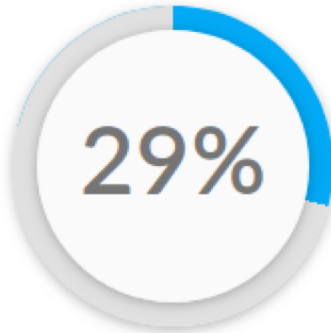
Invitation for IOANNIS IGOUMENOS

Click Accept to complete your registration

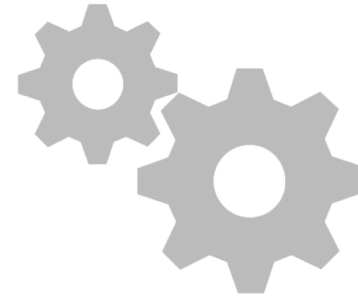
EGI ID	Identifier	653743F52B672A64E126C5A82F126AF6adD35d2F337FbaFF54278 60PbaL3dggl.eu
Name*	Given Name	IOANNIS
Your full name	Family Name	IGOUMENOS
Email	Email	igoumen@gmail.com
You current email address		
Affiliation	Affiliation	Faculty
Organisation	Organisation	

EGI Check-in User Registration

Your enrollment is being processed,
please do not refresh or close and click
back button on this window.



Welcome!



Identity linking allows accessing resources with the same Check-in ID using different login credentials

1. Click **Link New Identity** from User's Profile View (<https://aai.egi.eu/registry>)

[Home](#) > [EGI User Community](#) > [Link New Identity](#)

Link New Identity

Identity linking allows you to access EGI resources with an existing EGI ID, using any of the login credentials you have linked to your account. Proceed to link a new identity to your EGI account.

BEGIN ➔

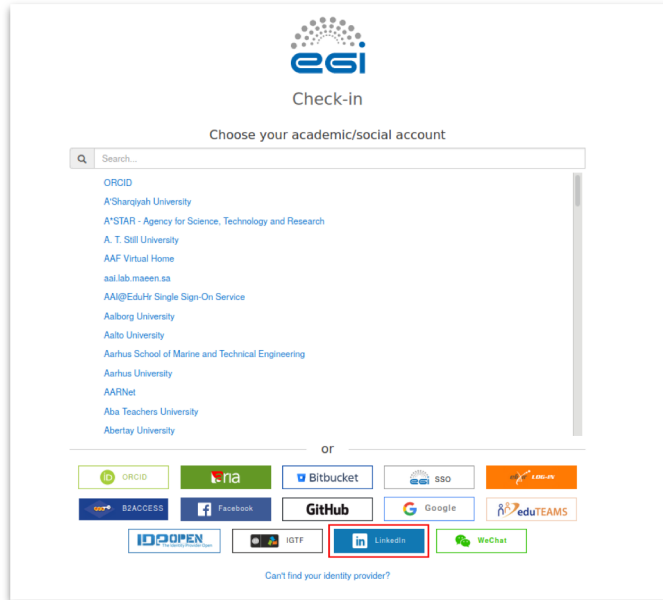
Organizational Identities

Link New Identity

Name	Source	Valid From (Europe/Helsinki)	Valid Through (Europe/Helsinki)	Login Identifiers
Ioannis Igoumenos (11820)	https://aai.egi.eu/orcid/saml2/idp/metadata.php			ea394a6a26d631fb71246fe0062471100577179897abf1e060424cc2ba010 (epuid)

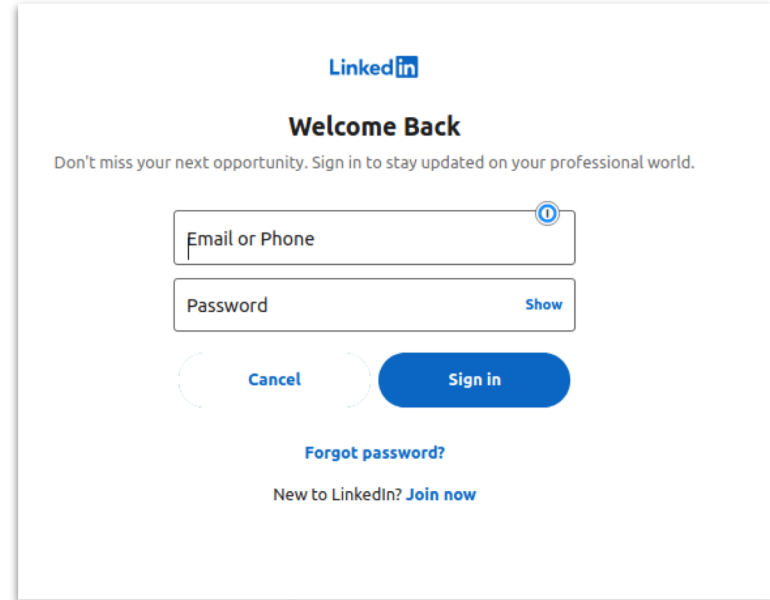
2. Click **Begin**

3. Choose new Identity Provider from the list



The screenshot shows the ESI Check-in page. At the top is the ESI logo and the text "Check-in". Below it is a search bar with the placeholder "Choose your academic/social account". A list of providers is displayed, including ORCID, A'Shadiyah University, A'STAR - Agency for Science, Technology and Research, A. T. Still University, AAF Virtual Home, aal.lab.maaen.sa, AAI@EduHr Single Sign-On Service, Aalborg University, Aalto University, Aarhus School of Marine and Technical Engineering, Aarhus University, AARNet, Aba Teachers University, and Abertay University. Below the list is a grid of icons for various identity providers: ORCID, Ina, Bitbucket, SSO, ERIAS, Facebook, GitHub, Google, eduTEAMS, ID.OPEN, IGTf, LinkedIn (highlighted with a red box), and WeChat. At the bottom, it says "Can't find your identity provider?".

4. Authenticate with the new Identity Provider



The screenshot shows the LinkedIn "Welcome Back" login page. It features the LinkedIn logo at the top. Below the logo is the text "Welcome Back" and a message: "Don't miss your next opportunity. Sign in to stay updated on your professional world." There are two input fields: "Email or Phone" and "Password". The "Password" field has a "Show" link next to it. Below the input fields are two buttons: "Cancel" and "Sign in". There are also links for "Forgot password?" and "New to LinkedIn? Join now".

The new Identity is linked under your profile

SSH Keys

Saved

Add

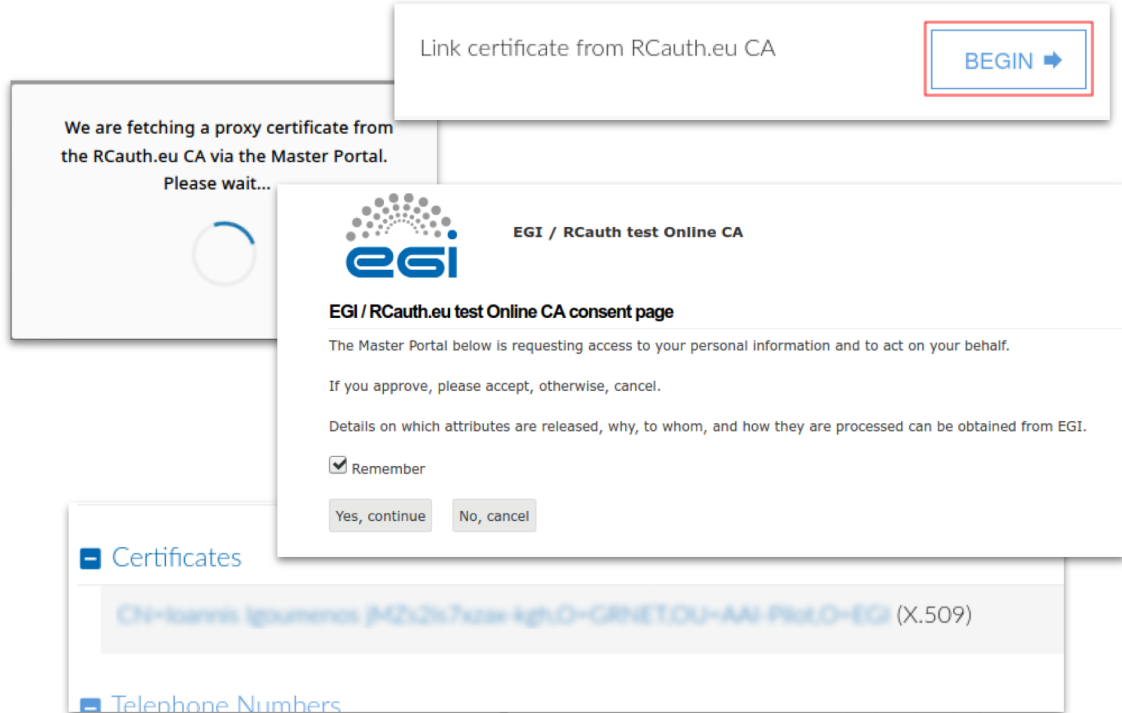
Organizational Identities

Link New Identity

Name	Source	Valid From (Europe/Helsinki)	Valid Through (Europe/Helsinki)	Login Identifiers
Ioannis Igoumenos (11820)	https://aai.egi.eu/orcid/saml2/idp/metadata.php			ea394a6a26d631fb71246fe0062471100577179 (epuid)
IOANNIS IGOUMENOS (11822)	https://aai.egi.eu/linkedin/saml2/idp/metadata.php			b53743953f6f24dd412ec0c82512dc9cbd1031a- (epuid)

Request and link an RAuth Certificate under User's Profile takes up to **50% less** time

Click **Link certificate from RAuth.eu CA**



Link certificate from RAuth.eu CA

BEGIN ➔

We are fetching a proxy certificate from the RAuth.eu CA via the Master Portal. Please wait...

EGSI / RAuth test Online CA

EGSI / RAuth.eu test Online CA consent page

The Master Portal below is requesting access to your personal information and to act on your behalf.

If you approve, please accept, otherwise, cancel.

Details on which attributes are released, why, to whom, and how they are processed can be obtained from EGI.

☒ Remember

Yes, continue No, cancel

Certificates

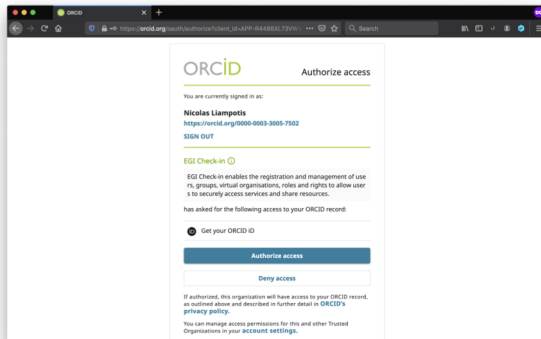
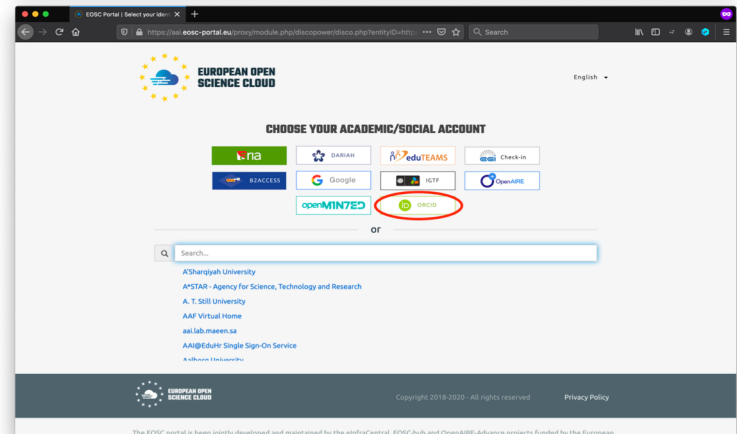
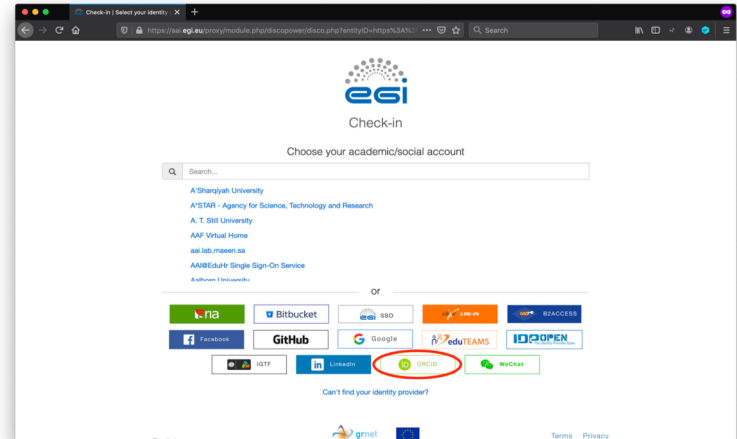
CH-Isarnis Igumens J42J2u7xze kghO-QRNETOU-AAI PkxO-EGSI (X.509)

Telephone Numbers

Improved ORCID integration

Member ORCID API

Member API credentials enable requesting permission from users to **read limited-access data** on their ORCID records (e.g. email) through 3-legged OAuth authorization

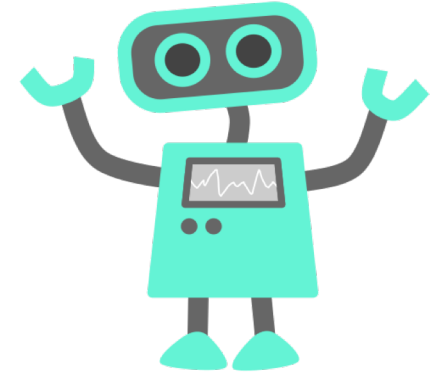


Service identities

What are they?

- A special kind of identity used by a service/application/resource, not a person
- Example: *“A portal needs to submit jobs/create VMs”*
- Associated with one or more persons → Service ID owners
- Comprises all the standard attributes of personal identities, incl. (group) email address, plus
 - **isServiceUser** attribute set to **1** (will be standardised in upcoming AARC-G056)
- Can be given permissions (VO/group membership & roles) to access the resources it needs
- Analogous to X.509 robot certificates

Service ID



Service ID Owners

Service identities

Roles & responsibilities



Service ID Owner

- Manages Service ID credentials:
 - login & password
 - X509 certificate
- Registers Service ID in one or more VOs

Service ID Owner **MUST** be registered as a *regular member* of the **services.aai.egi.eu VO** (Perun)



Service ID Manager

- Creates Service ID (under the services.aai.egi.eu VO) upon request
- Assigns Service ID owners
- Removes Service ID

Service ID Manager **MUST** be registered as a *manager* of the **services.aai.egi.eu VO** (Perun)

Service identities

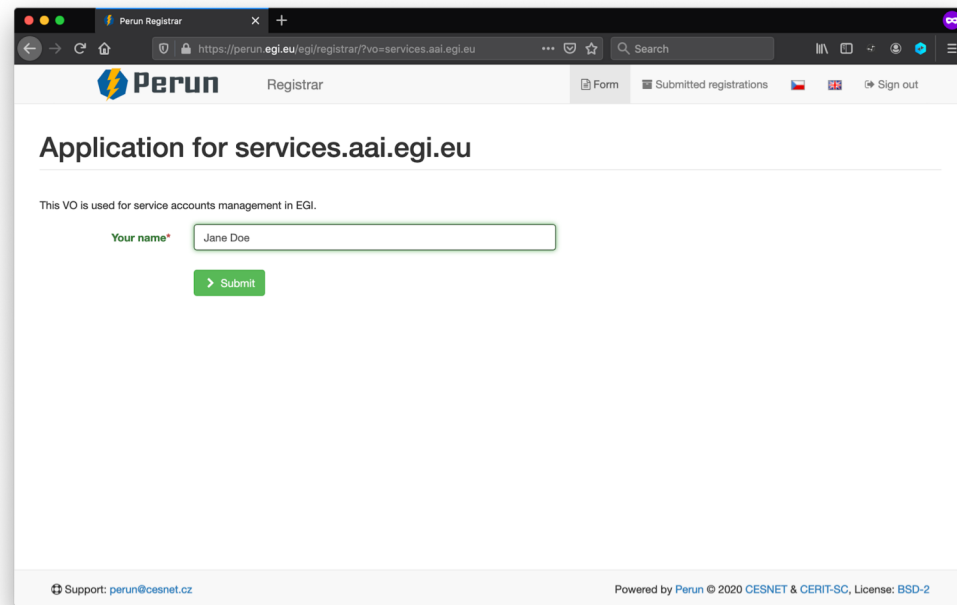
Registration procedure



<https://perun.egi.eu/egi/registrar/?vo=services.aai.egi.eu>

1

Service ID Owner registers in
services.aai.egi.eu VO



The screenshot shows a web browser window with the URL <https://perun.egi.eu/egi/registrar/?vo=services.aai.egi.eu>. The page title is "Application for services.aai.egi.eu". Below the title, it states "This VO is used for service accounts management in EGI." There is a form field labeled "Your name*" with the text "Jane Doe" entered. Below the form field is a green button labeled "> Submit". The footer of the page includes "Support: perun@cesnet.cz" and "Powered by Perun © 2020 CESNET & CERIT-SC, License: BSD-2".

Service identities

Registration procedure

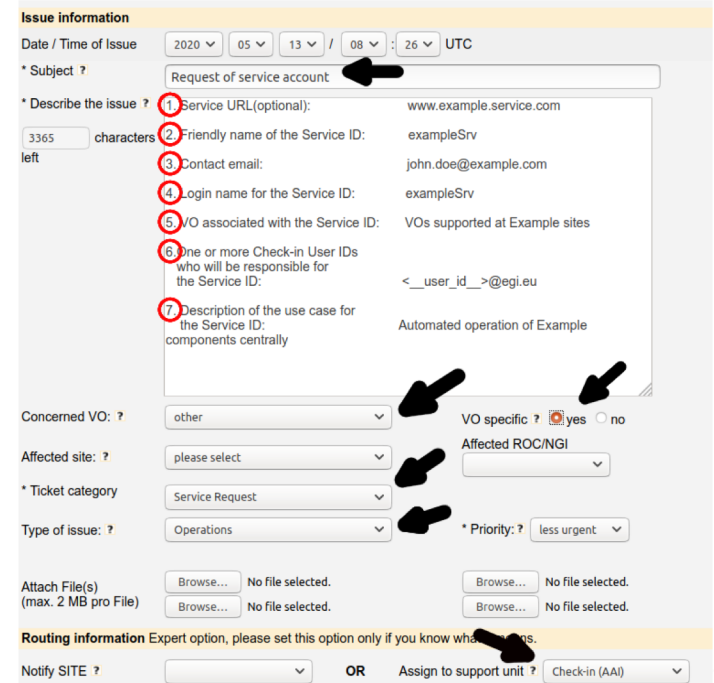


https://ggus.eu/index.php?mode=ticket_submit

Service ID Owner submits GGUs ticket:

- Service URL (optional)
- Friendly name of the Service ID
- Contact email; it is recommended to supply a group email address if the Service ID is owned by multiple persons
- Login name for the Service ID
- One or more VOs associated with the Service ID
- One or more Check-in User IDs who will be responsible for the Service ID
- Use case description

2



The screenshot shows the 'Issue information' form for submitting a ticket. Annotations include red circles and arrows pointing to specific fields:

- 1** (red circle) points to the 'Service URL (optional):' field.
- 2** (red circle) points to the 'Friendly name of the Service ID:' field.
- 3** (red circle) points to the 'Contact email:' field.
- 4** (red circle) points to the 'Login name for the Service ID:' field.
- 5** (red circle) points to the 'VO associated with the Service ID:' field.
- 6** (red circle) points to the 'One or more Check-in User IDs who will be responsible for the Service ID:' field.
- 7** (red circle) points to the 'Description of the use case for the Service ID:' field.

Other annotations include black arrows pointing to the 'Concerned VO:' dropdown, the 'VO specific?' radio button (set to 'yes'), the 'Affected ROC/NGI' dropdown, the 'Ticket category' dropdown (set to 'Service Request'), the 'Type of issue:' dropdown (set to 'Operations'), and the 'Priority:' dropdown (set to 'less urgent').

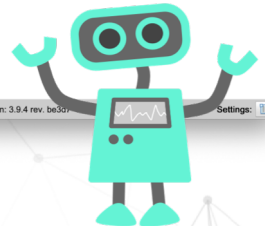
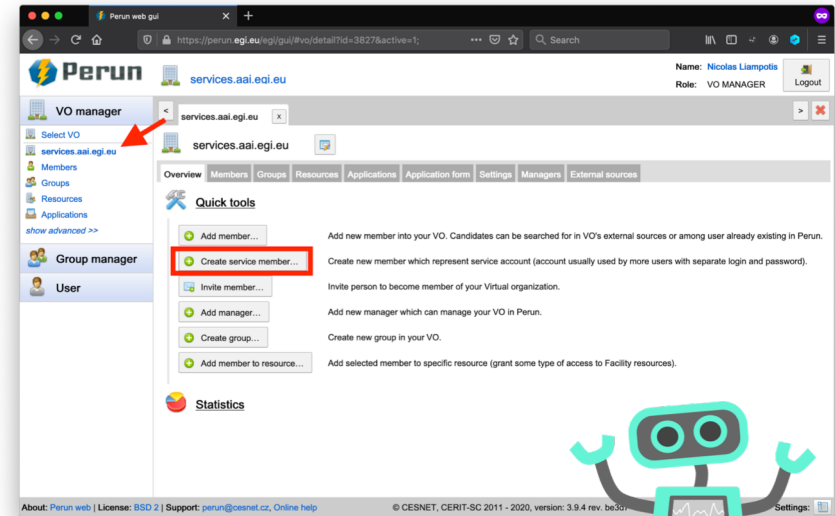
<https://perun.egi.eu/egi/gui>



Service ID Manager:

3

- Creates the new Service ID under the **services.aai.egi.eu VO**
- Assigns Service ID Owners



Service identities

Registration procedure

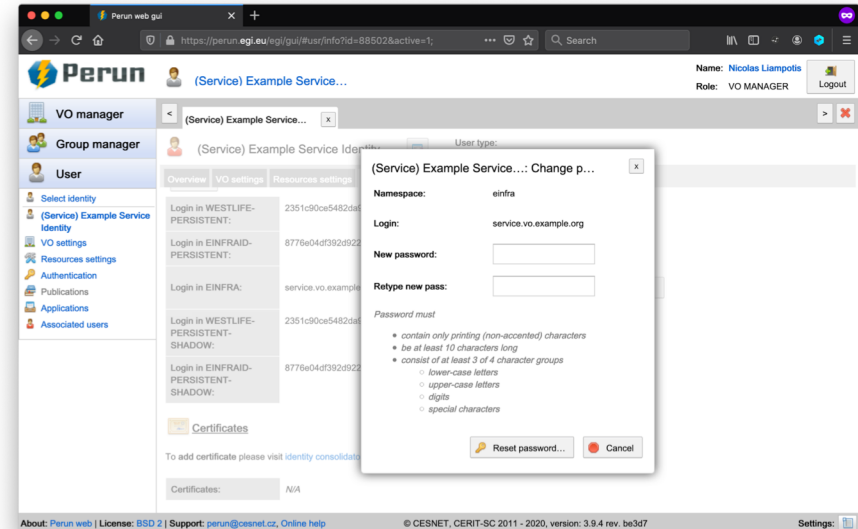


4

Service ID Owner creates Service ID credentials

- Username & password or
- X509 certificate

<https://perun.egi.eu/egi/gui>



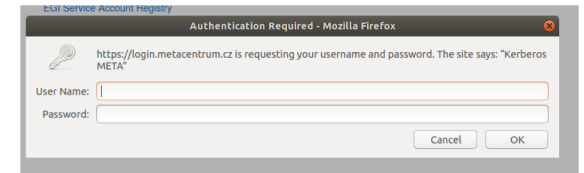


5

Service ID Owner registers the Service ID in Check-in

- Selects **EGI Service Account Registry** IdP
- Authenticates using Service ID credentials

<https://aai.egi.eu/signup>

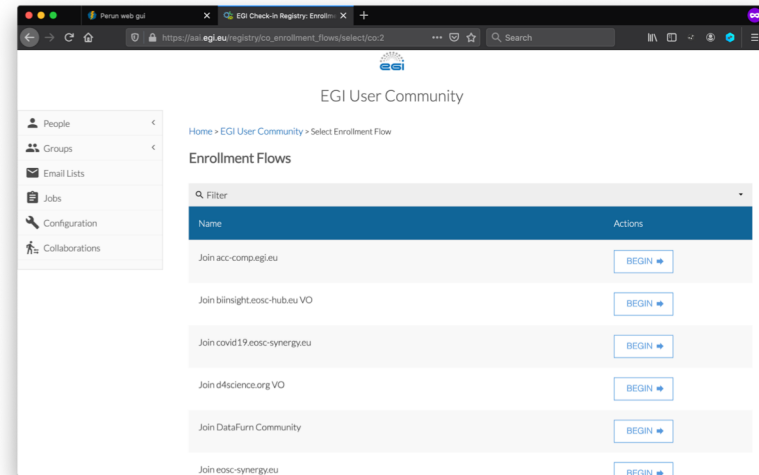
Service identities

Registration procedure



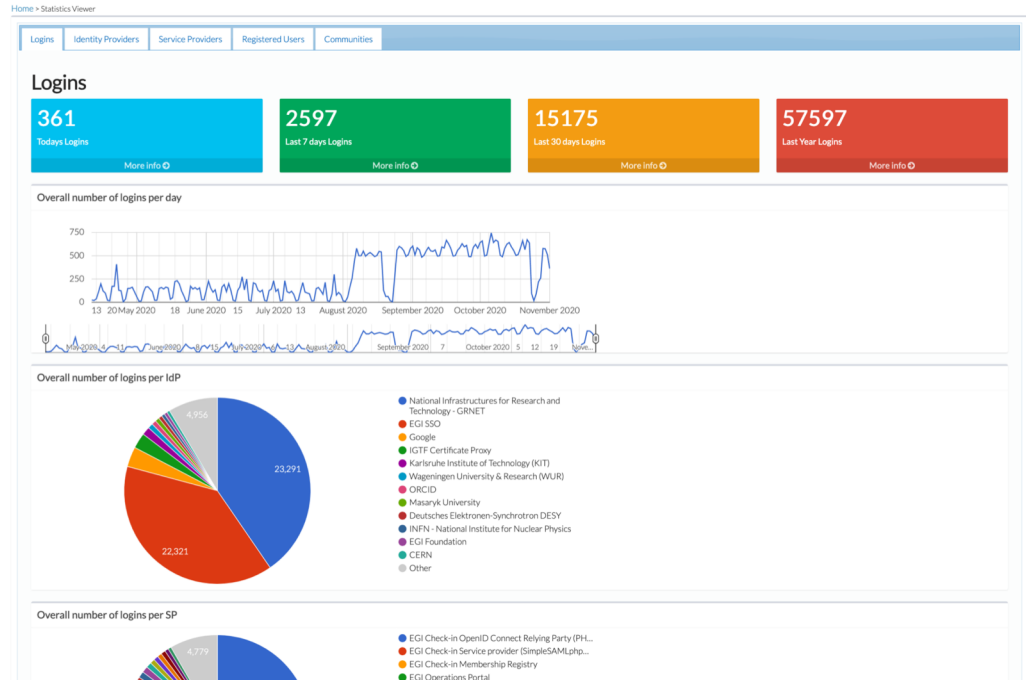
6

Service ID Owner registers the Service ID in one or more VOs



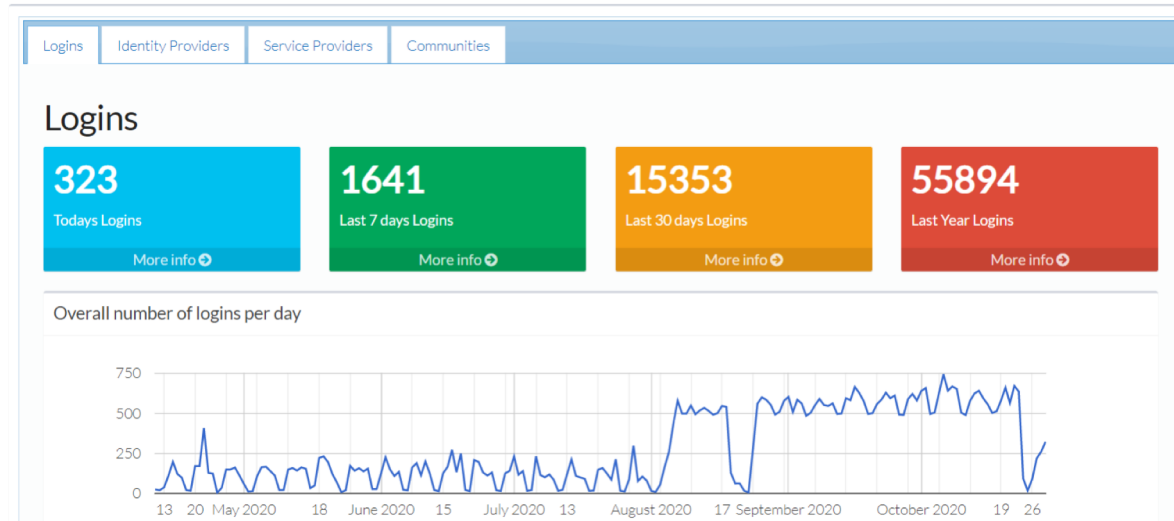
Statistics Plugin is used for presenting statistics information regarding

- Logins
 - total
 - per Identity Provider
 - per Service Provider
- Registered users
- Communities/Virtual Organisations



<https://aai.egi.eu/registry>

General login information

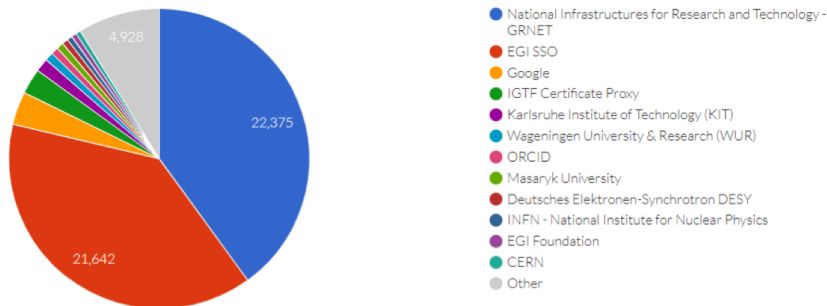


Check-in Statistics

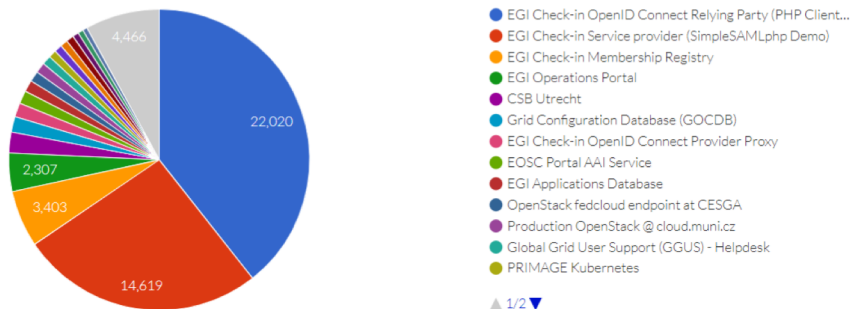
Logins

Per Identity
Provider/Service
Provider login
information

Overall number of logins per IdP



Overall number of logins per SP



1/2 ▼

Check-in Statistics

Logins

Login information for specific date range

Number of Logins

From: To: Filter ▾

Export Search:

Date	Number of Logins
2020-06	338
2020-05	352
2020-04	369
2020-03	398
2020-02	145

Showing 1 to 5 of 5 entries

Previous 1 Next

Filter ▾

- Daily Basis
- Weekly Basis
- Monthly Basis
- Yearly Basis

Export

- Copy
- Excel
- CSV
- PDF
- Print

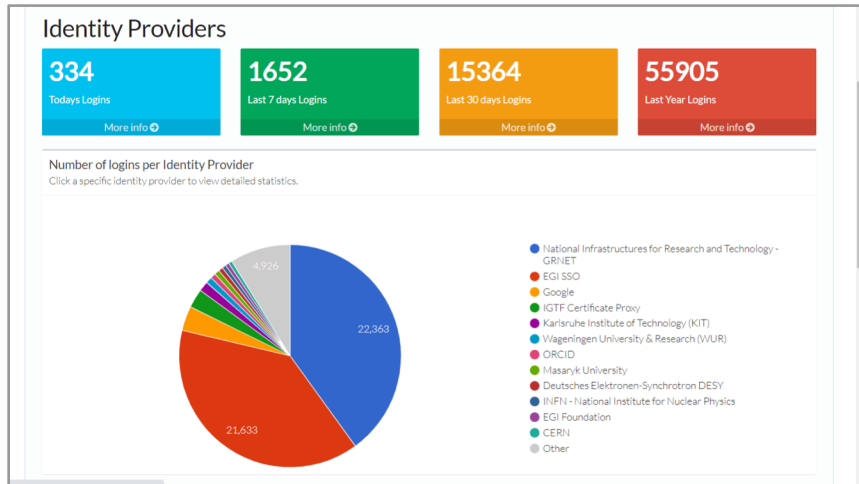
2020-02

Showing 1 to 5 of 5 entries

Check-in Statistics

Identity Providers

Detailed information about logins per **Identity Provider** in different views (tiles, pie charts and datatable)



Identity Providers

Show **10** entries

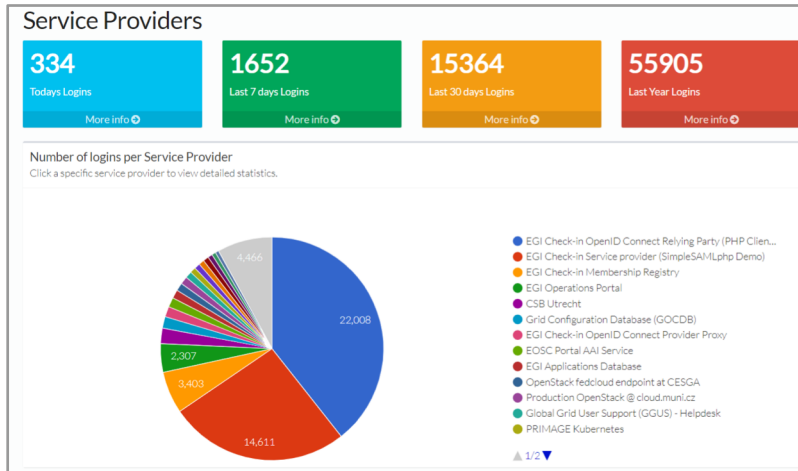
Search:

Identity Provider Name	Identity Provider Identifier	Number of Logins
Yale University	https://auth.yale.edu/idp/shibboleth	5
XSEDE	https://idp.xsede.org/idp/shibboleth	10
Wigner Research Centre for Physics	https://papi.kfki.hu/idp/shibboleth	24
Weill Cornell Medical College	https://shib.med.cornell.edu/idp/shibboleth	2
WeChat	https://aai.egi.eu/wechat/saml2/idp/metadata.php	23
Washington State University	https://shibidp.wsu.edu/idp/shibboleth	3
Wake Forest University	https://vebauth.wfu.edu/saml/saml2/idp/metadata.php	3
Wageningen University & Research (WUR)	http://login.wur.nl/adfs/services/trust	516
VUB - IDP (Vrije Universiteit Brussel)	https://idp.vub.ac.be/idp/shibboleth	6
VITO	https://sso.vito.be	19

Check-in Statistics

Service Providers

Detailed information about logins per **Service Provider** in different views (tiles, pie charts and datatable)



Service Providers

Show **10** entries Search:

Service Provider Name	Service Provider Identifier	Number of Logins
webdav-synergy.data.kit.edu	webdav-synergy.data.kit.edu	24
UPV-GRYCAP IIM	grycapim	467
UNIV-LILLE-FED-CLOUD	2a298ed5-38f1-43bc-9c46-fbaa1722978f	27
TR-FC1-ULAKBIM OpenID	ae7b1880-9622-49a2-9182-a5c0f1f868d2	40
Terrascope	0bf6be1b-415e-42de-ba0a-7ac1da374ef2	6
SentinelHub Development	6d83cc31-b396-4301-b743-3eccd797a1da2	66
Rocky	c25d3bdf-14f5-4b6e-bacb-c736dd3e7708	1
RCauth Pilot Online CA	https://wayf.rcauth.eu/wayf/	24
PY-ENI-MR	f944146a-1533-424b-ad4c-39f137034ee6	7
PSNC OpenStack - Labitaas	1e227ea3-dcde-4fbc-a98a-857bb5670486	26

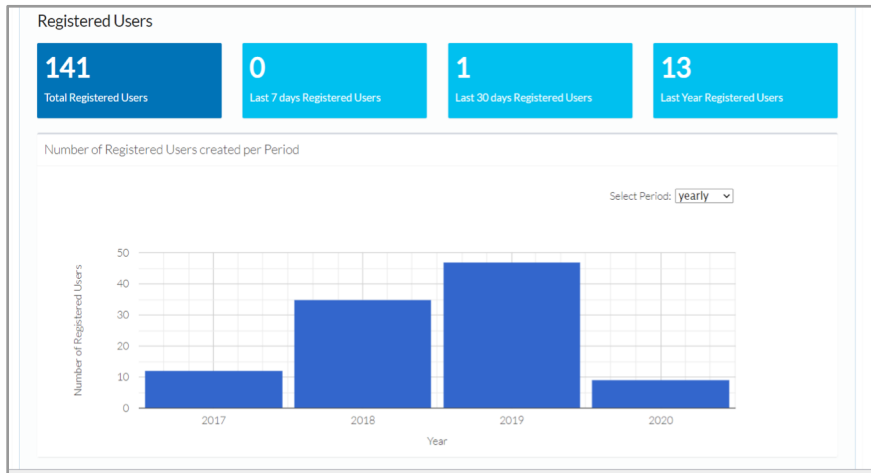
Showing 1 to 10 of 118 entries

Previous **1** 2 3 4 5 ... 12 Next

Check-in Statistics

Registered Users

Information about registered users



Registered Users

From: To: Filter

Export Search:

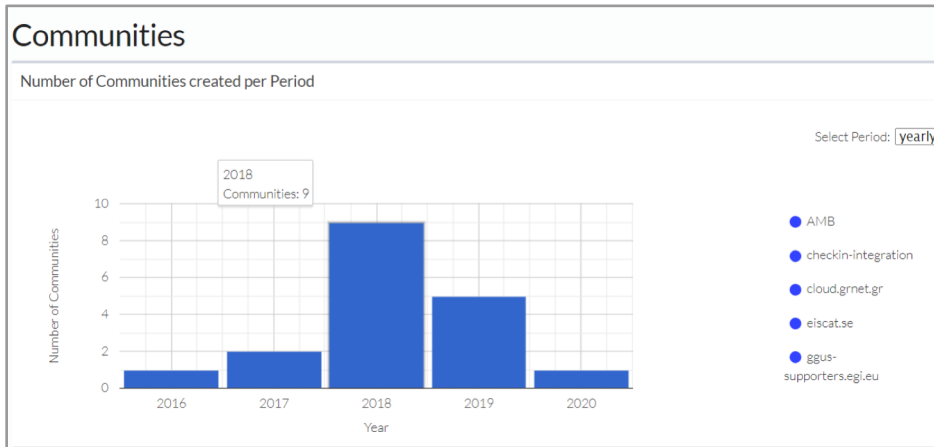
Date	Number of Registered Users
2020	9
2019	47
2018	35
2017	12

Showing 1 to 4 of 4 entries Previous 1 Next

Check-in Statistics

Communities

Information about communities (Virtual Organisations) managed in Check-in CManage Registry



Communities

From: To: Filter

Search:

Date	Number of Communities	Names
2020	4	<ul style="list-style-type: none"> synergysc.eu TestCOU tobedeleted24 vo.operas-eu.org
2019	5	<ul style="list-style-type: none"> cloud.gnet.gr eliscat.se ggus-supporters.egi.eu goc.egi.eu vo.example.eu
2018	9	<ul style="list-style-type: none"> AMB checkin-integration service-integration.aal.egi.eu test-sso-confluence test-sso-mailman vo.dariah.eu

Statistics per community

Statistics Per Community

Select Community:

vo.example.eu

Created: 2019-06-20 12:43:57

Example VO for testing purposes

Active Users: 12

Grace Period Users: 0

Suspended Users: 0



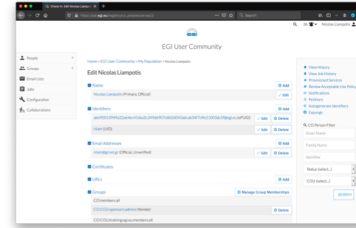
What's
Next?

- Improved end-user experience
 - Identity lifecycle management
 - VO group management operations
 - Identity linking (new implicit mode)
 - IdP discovery (hinting)
- Easier integration for SAML & OIDC services and identity providers via the Federation Registry tool
- New technology options: Keycloak
- Improved statistics
 - Geo distribution of user logins
 - Per VO service statistics

Check-in: Identity Lifecycle Management



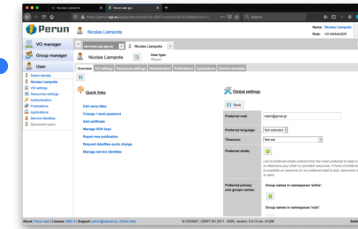
VOMS



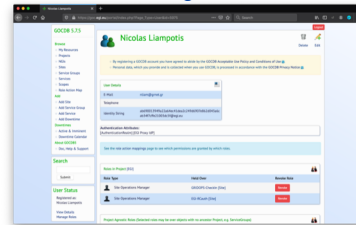
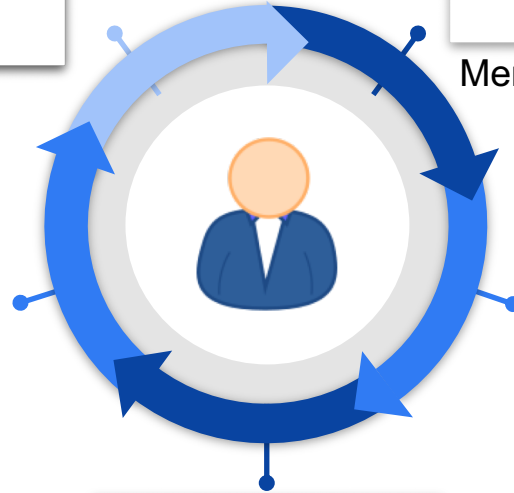
Membership Registry
(COMange)



MasterPortal
SSH Keys



Perun



GOCDB Roles

Triggered automatically when one attribute (e.g. email) -or a combination of attributes- of one identity correlate to one or more attributes of another identity that is already associated with a registered user

- Can prevent an individual from accidentally registering distinct identities


Home > EGI User Community > Select User

Available Users

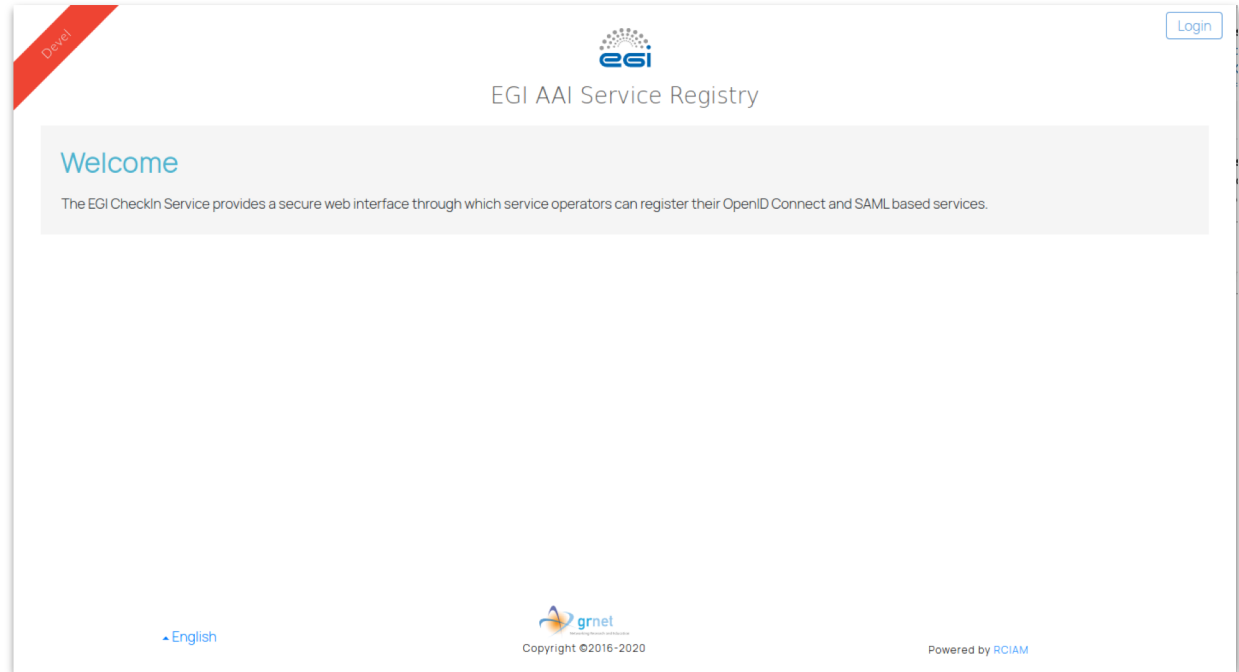
ⓘ This plugin will assist the user in having a better experience during linking new Organizational Identities to a new or an existing profile. It is experimental. If you do not want to proceed click the X icon.

Select User	Action
Full Name	io****s lg*****os
Email	io*****e@gmail.com
CO	EG*****ity
IdP	https://idp.admin.gmet.gr/idp/hhbbboeth

LINK



- Enables the secure **registration**, **reconfiguration**, and **deregistration** of federated service and identity providers
- Provides **uniform interface** regardless of the underlying protocol (SAML vs OIDC)
- Supports **different AAI proxy technologies** (SimpleSAMLphp, MITREid Connect, SATOSA, Keycloak)

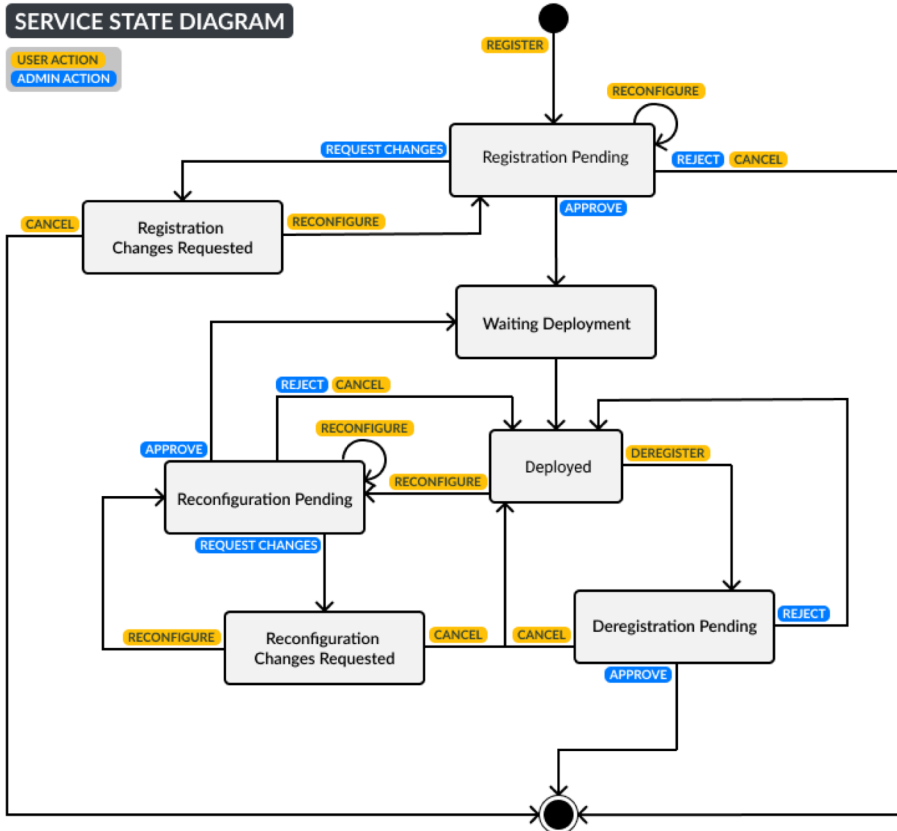


Federation Registry

Service Lifecycle

SERVICE STATE DIAGRAM

USER ACTION
ADMIN ACTION

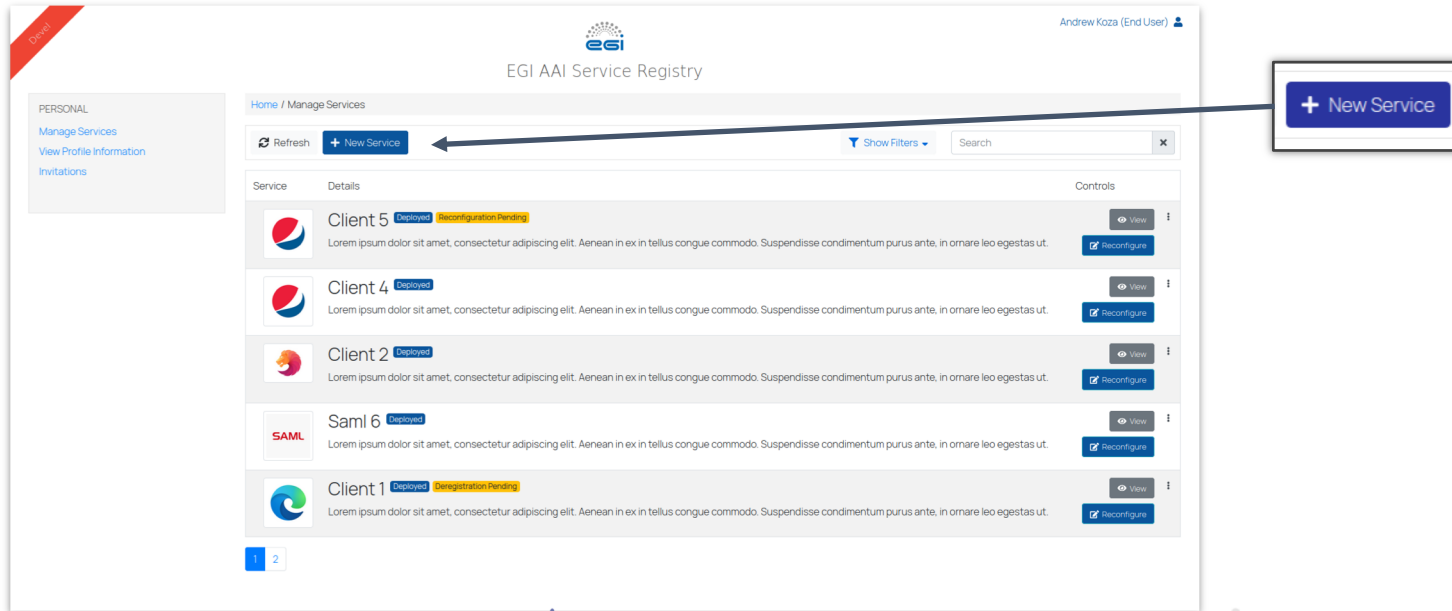


- A user interacts with a service by creating petitions
- A petition is a request to register reconfigure or deregister a service
- Petitions can be reviewed by users that have reviewing rights
- A Reviewer can either **approve**, **reject**, or **request changes**
- Once a petition has been approved the deployment procedure is initiated
- When the deployment finishes new petitions can be created once again for that service

Federation Registry

Register a service: Create petition

Service view



The screenshot displays the EGI AAI Service Registry interface. At the top, the EGI logo and the text 'EGI AAI Service Registry' are visible. The user 'Andrew Koza (End User)' is logged in. A sidebar on the left contains links for 'PERSONAL', 'Manage Services', 'View Profile Information', and 'Invitations'. The main content area shows a table of services with columns for 'Service', 'Details', and 'Controls'. The services listed are Client 5, Client 4, Client 2, Saml 6, and Client 1. Each service entry includes a status (e.g., 'Deployed', 'Reconfiguration Pending') and a 'Reconfigure' button. A callout box with a '+ New Service' button is positioned to the right of the interface, with an arrow pointing to the '+ New Service' button in the top navigation bar.

Federation Registry

Register service: Create petition

Home / Manage Services / New Service

General Protocol Specific

Service name
Human-readable application name

Integration Environment

Logo
URL that points to a logo image, will be displayed on approval page

Description
Human-readable text description

Policy Statement
URL for the Policy Statement of this service, will be displayed to the user

Contacts Admin
1 set of contacts for administrators of this service

Home / Manage Services / New Service

General Protocol Specific

Select Protocol

Client ID
Unique identifier. If you leave this blank it will be automatically generated.

Redirect URI(s)
URLs that the client can be redirected to after the authorization page

Scope

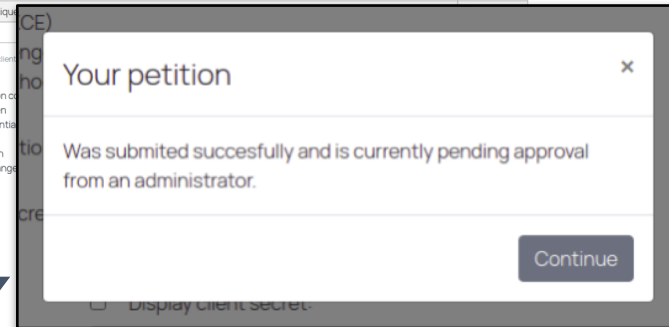
Type something	
openid	<input checked="" type="checkbox"/>
email	<input checked="" type="checkbox"/>
profile	<input checked="" type="checkbox"/>
offline_access	<input type="checkbox"/>
eduperson_entitlement	<input checked="" type="checkbox"/>
eduperson_scoped_affiliation	<input checked="" type="checkbox"/>
eduperson_unique	<input type="checkbox"/>
refeds_edu	<input checked="" type="checkbox"/>

Grant Types ☐ implicit ☒ authorization code ☐ refresh token ☐ client credentials ☐ password ☐ redelegation ☐ token exchange

1. Fill General information and then Protocol specific in the second tab

2. Submit Form

3. Submission confirmed



Federation Registry

Register service: Review petition


Once a petition is submitted users with reviewing rights are notified via email to login to the platform and review it.

Home / Manage Services

Refresh + New Service

Hide Filters Search

Show Pending ☒ Show Owned By Me ☐ All Environments

Service	Details	Controls
	Oidc Service Registration Pending https://openid.net/images/logo/openid-icon-1000x1000.png	View Reconfigure Review

1

Service Status

Registration Pending

Review Button


Review

Filters

Hide Filters Search

Show Pending ☒ Show Owned By Me ☐ All Environments

- Users can also view the History of a service since it's registration
- Each time a petition is reviewed a new snapshot of the service configuration is added to History



Oidc Service New

Service Description

Deployed

View

View Owners

View History

Date	Type of Request	Review Status	
2020/11/01	Registration Request	approved	View
2020/11/01	Reconfiguration Request	approved_with_changes	View
2020/11/01	Reconfiguration Request	approved	View

Access Configuration Snapshot

Users according the default configuration can take one of three roles “End User”, “Site-ops Manager” and “Admin”. These user roles grant users a set of actions. Role are flexible and can be modified accordingly.

End Users

- View own services
- Create Petitions to
 - Register a service
 - Reconfigure a service
 - Deregister a service

Site-ops Manager

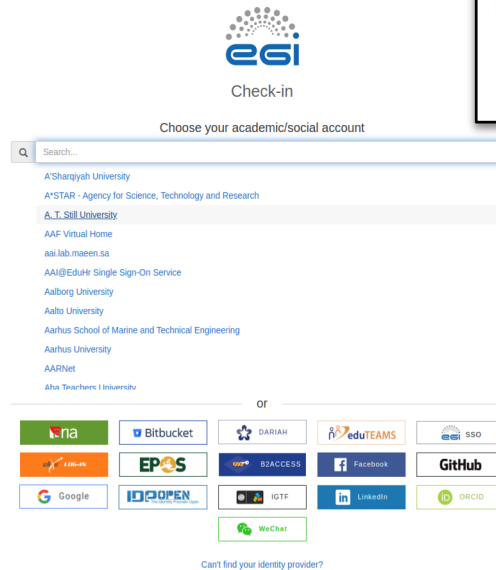
- View own services
- Create Petitions to
 - Register a service
 - Reconfigure a service
 - Deregister a service
- Review petitions for services they own

Admin

- View all services
- Create Petitions
 - Register a service
 - Reconfigure a service
 - Deregister a service
- Review petitions

*A user can create petitions only for services they own

- Users are authenticated using an OAuth2.0 authentication proxy
- User roles are assigned based on entitlements included in user's claims
- Relation between entitlement and roles is configurable



ESI Check-in

Choose your academic/social account

Search...

- A'Sharqiyah University
- A*STAR - Agency for Science, Technology and Research
- A.T. Still University
- AAF Virtual Home
- aai.lab.maaen.sa
- AAI@EduUk Single Sign-On Service
- Aalborg University
- Aalto University
- Aarhus School of Marine and Technical Engineering
- Aarhus University
- AARNet
- Aha Teachers' University

OR

ria Bitbucket DARIAN eduTEAMS SSO

EPoS B2ACCESS Facebook GitHub

Google ID OPEN IGTF LinkedIn ORCID

WeChat

Can't find your identity provider?

User Entitlements

Entitlement regarding the service urn:mace:egi.eu:group:service-integration.aai.egi.eu:role=member#aai.egi.eu

urn:mace:egi.eu:group:service-integration.aai.egi.eu:role=vm_operator#aai.egi.eu

ESI Check-in

EGI AAI OpenID Connect Provider Proxy (DEV) requires that the information below is transferred.

Surname	Kozadinos
Given name	Andreas
Display name	Andreas Kozadinos
Mail	andreas.k@grnet.gr
Affiliation at home organization	member@net.hq.admin.grnet.gr
Entitlement regarding the service	urn:mace:egi.eu:group:service-integration.aai.egi.eu:role=member#aai.egi.eu urn:mace:egi.eu:group:service-integration.aai.egi.eu:role=vm_operator#aai.egi.eu
Identity assurance profile	https://aai.egi.eu/LoA/Substantial
Unique, non-reassignable, persistent, pseudonymous user ID	7af6e5617ea76389401a3c3839127852a01957206640c5d0176bd242651934@egi.eu
Username	akozadinos

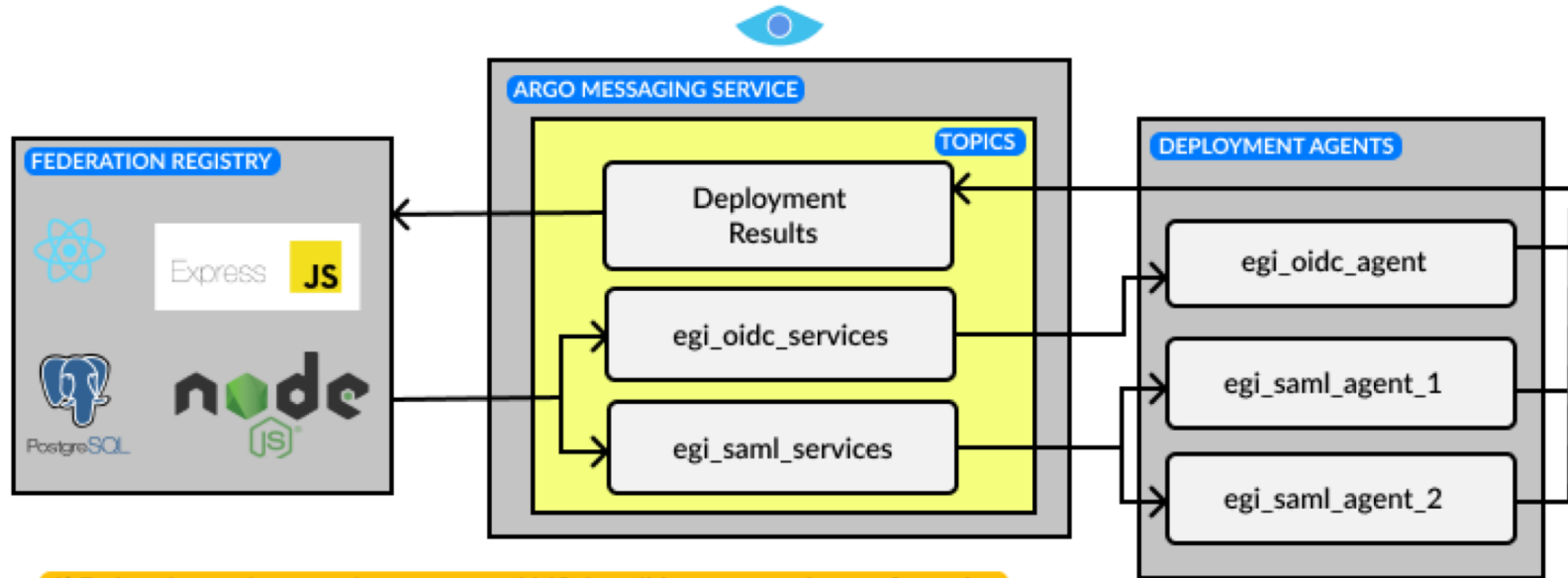
Federation Registry

Service Ownership

- A service is owned by a group of users called **owners group**
- Members of the group can view and create petitions for that service.
- Users in an owners group can take one of two roles (Member, Manager)
- Managers have control over group members, they can invite or remove members

Federation Registry

Deployment Process



- 1) Federation registry sends message to AMS describing new service configuration
- 2) Deployment Agents pulls message and updates configuration
- 3) Deployment Agents sends deployment result to AMS
- 4) AMS sends deployment result to Federation Registry

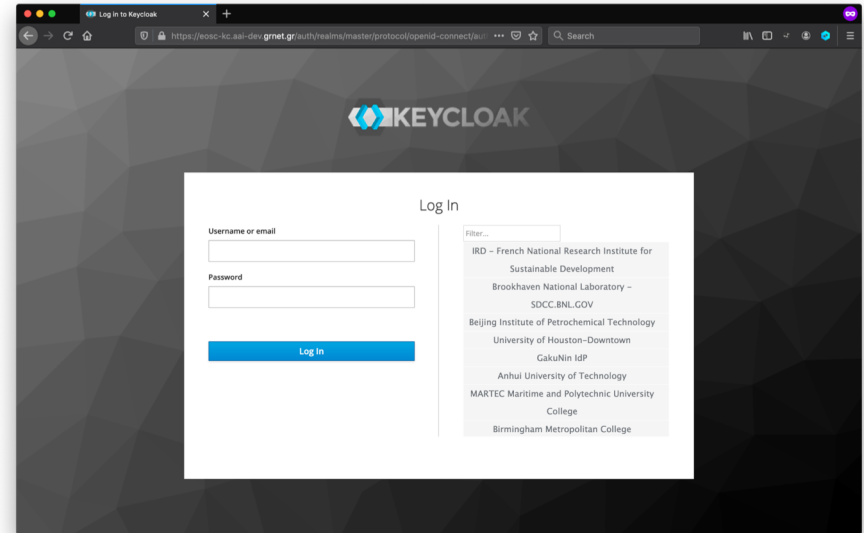
- [Review & approve service registration petition](#)
- [Review & approve service reconfiguration petition](#)
- [Review service reconfiguration & request changes](#)
- [Invite user to service owner group](#)

Check-in: New technology options

Keycloak

Extend SAML support to properly integrate with identity federations:

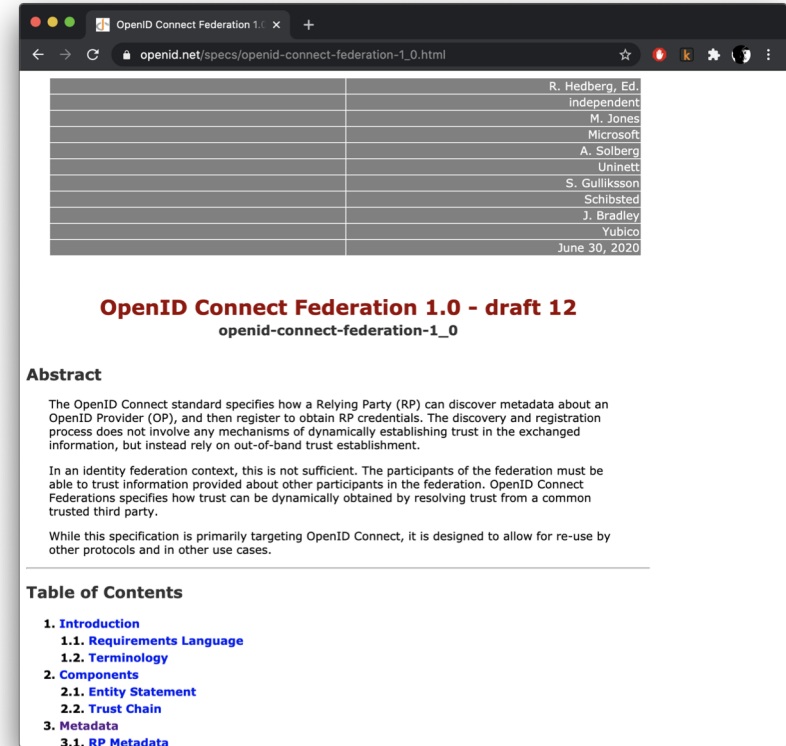
- Support federation metadata import, validation and timely refresh
- Enhance IdP discovery UI:
 - searching
 - multi-language support



Check-in: New technology options

Keycloak

- Extend Keycloak to support the OpenID connect federation standard
- Demonstrate interoperability with other components/libraries currently in development in the context of the OpenID foundation



- [Usage guide](#)
- [Integration guide for service providers](#)
- [Integration guide for identity providers](#)
- [Frequently Asked Questions](#)



www.egi.eu



@EGI_eInfra

Thank you
for your attention.

Questions?



This work by the EGI Foundation
is licensed under a *Creative Commons*
Attribution 4.0 International License.



The work of the EGI Foundation
is partly funded by the European Commission
under H2020 Framework Programme