

## HEXAA

# e-Science gateways with external attribute authority



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- Introduction
- Overview of HEXAA project
- HEXAA for e-Science gateways
- Conclusions



- HEXAA = Higher Education eXternal Attribute Authority
- HEXAA is a GEANT3plus Open Call project
- Participants:
  - SZTAKI (Institute for Computer Science and Control)
  - NIIFI/Hungarnet (Hungarian Academic and Research Network Organization)
- SZTAKI and NIIFI/Hungarnet have a long successful history of cooperation
- This included:
  - identity management
  - federated identity service (eduID)
  - day-to-day working relationship



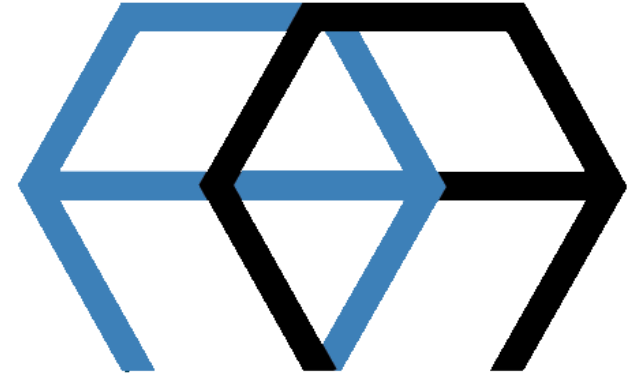
- HEXAA is the outcome of a successful integration of OpenNebula and federated identity management in 2012
- HEXAA answers two critical questions:
  - where could we store attribute information that does not suit well with institutional identity management procedures?
  - how could we provide external attributes in a standard way for web applications?
- Our answers:
  - External Attribute Authority
  - SAML 2 (attribute request)



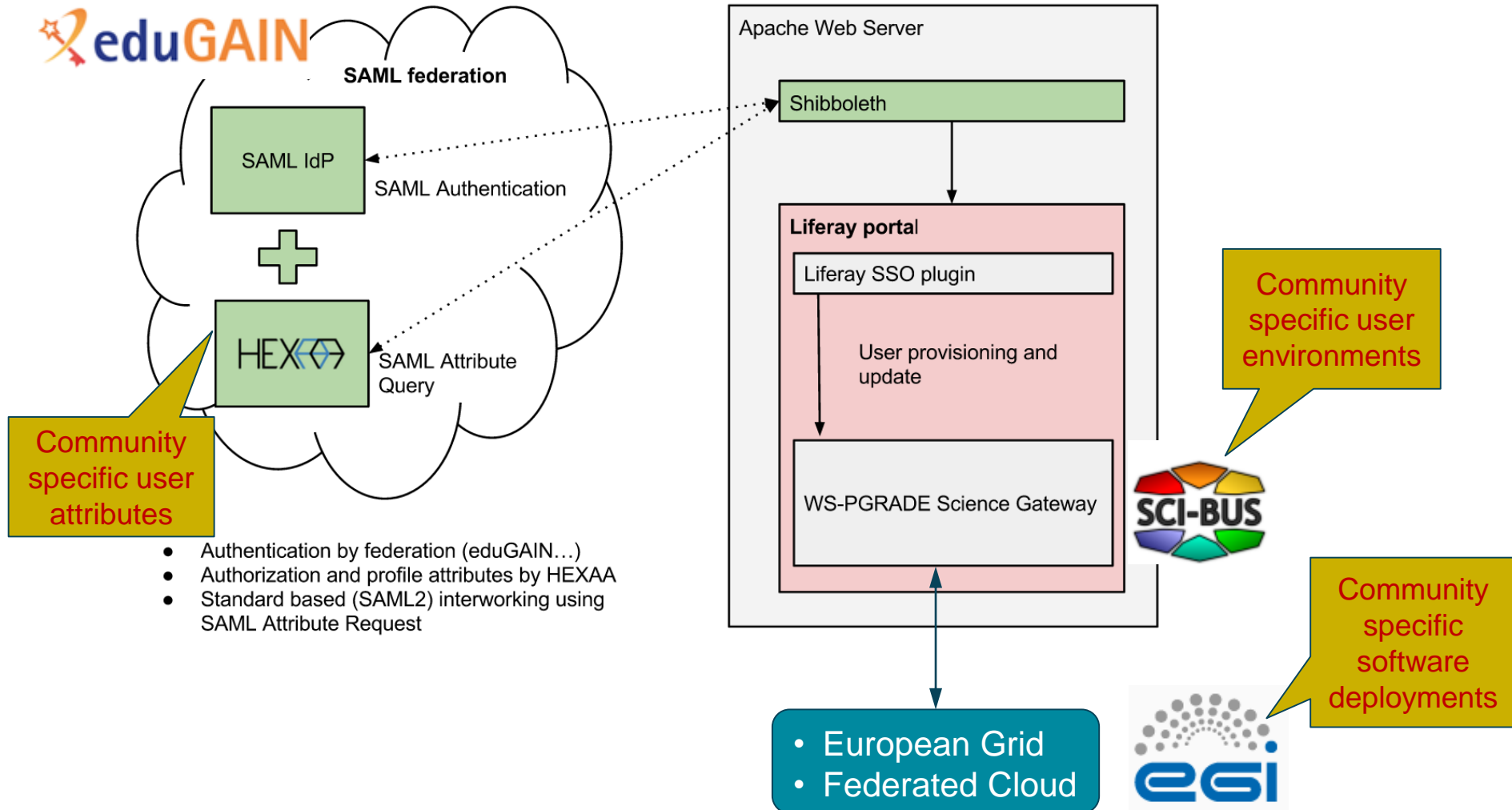
- Already in the field:
  - VO management software for managing groups
  - Attribute Authorities to provide group information
  - federated applications to use group information
- HEXAA aims to:
  - ship a VO and profile management interface that is capable to register any attribute
  - handle consent of attribute release if & when required
  - tie it to a SAML2 Attribute Authority
  - offer custom hooks that are invoked on changes (provisioning, etc.)
  - API for legacy applications
  - interworking with other AA-s
  - Apache licence



1. Interviews with several research projects ✓
  - do they need VOs?
  - do they need custom profile attributes?
  - special requirements (expiration, targeting)?
2. Requirements survey – *has been issued*
3. Legal analysis and guideline document for AAs - *progressing*
  - with respect to inter-federation (eduGAIN)
4. Software development – *progressing well*
  - Streamlined profile and group management
  - Implement back-channel attribute queries and an attribute server for SimpleSAMLphp
  - Integration for the most important e-Science applications/platforms
  - Feedback byproducts to open communities
    - *Attribute Aggregator for SSP*
    - *Liferay integration plugin*



# Empowering scientific communities: HEXAA – SCI-BUS – EGI integration



# HEXAA as VO manager



## Virtual organizations

Unite!

Organization: **HEXAA Demo VO**

· About the organization ·

HEXAA Demo VO

### The leaders

- bajnokk@niif.hu
- gyufi@niif.hu
- merlin@sztaki.hu
- u.milan@sztaki.hu

### The participants

- merlin@sztaki.hu
- gyufi@niif.hu
- magyarzs@sztaki.hu
- tetenyi@sztaki.hu
- bajnokk@niif.hu
- sitya@niif.hu
- nemecsek@sztaki.hu
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- kotcauer@sztaki.hu
- karoczka@sztaki.hu
- u.milan@sztaki.hu
- karoczka@sztaki.hu
- ghermann@sztaki.hu
- zfarkas@sztaki.hu
- kristof@bajnok.hu

### Profile

tetenyi@sztaki.hu

[My entitlements](#)

[Logout](#)

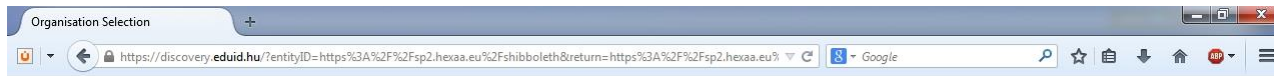
### My Organizations


HEXAA Demo VO





# Quick demo: HEXAA + WS-PGRADE



**eduID** 

**Select your organisation**

In order to access a service on host **Liferay demo** please select or search the organisation you are affiliated with.

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Remember selection for this web browser session.  
 Remember selection permanently and bypass this step from now on.

**Federated login**



# Quick demo: HEXAA + WS-PGRADE



**Login at home organization**



# Quick demo: HEXAA + WS-PGRADE



Welcome - Liferay

https://sp2.hexaa.eu/liferay-portal-6.1.0/

Add Manage Edit Controls

Go to István Tétényi (Sign Out)

**LIFERAY**  
Enterprise. Open Source. For Life.

Welcome Workflow Storage Settings Security Statistics CloudBroker Billing Information Data Avenue Publications Help End User

Liferay Welcome

## Welcome to WS-PGRADE Portal!

WEB CONTENT DISPLAY

The WS-PGRADE Portal, developed by [Laboratory of Parallel and Distributed Systems](#) at MTA-SZTAKI, Hungary is a web portal of the gUSE, grid User Support Environment. It supports development and submission of distributed applications executed on the computational resources of various distributed computing infrastructures (DCIs) including clusters, service grids (ARC, gLite, Globus, UNICORE), BOINC desktop grids and Google App Engine cloud.

Registered users and application developers can access WS-PGRADE via ordinary web browsers (recommended Firefox, Opera, Chrome). Application developers can access to all the advanced workflow features (graph, abstract workflow, template, application and project) to develop new workflow applications and upload them to the gUSE repository. For scientific end-users WS-PGRADE gives full access to the parameterization and execution of applications downloaded from the gUSE repository.

More information: <http://www.guse.hu/>  
<http://en.wikipedia.org/wiki/GUSE>  
<http://www.lpds.sztaki.hu/>

Download gUSE: <http://sourceforge.net/projects/guse/>  
Manuals: <http://guse.hu/?m=documents&s=0>  
Discussion forum: <http://sourceforge.net/projects/guse/forums/forum/1672628>

Please notify our user support team about any new successfully installed instances at [portalsupport@lpds.sztaki.hu](mailto:portalsupport@lpds.sztaki.hu).

Feedbacks are also welcome.

For questions on installation, usage and feature requests please use the [Sourceforge forum](#).

If you use our  
P. Kacsuk: P-  
Experience jou

**Graphical User Interface: WS-PGRADE**

**Presentation tier**

Workflow Storage File Storage Workflow Interpreter

**Middle tier gUSE services**

Application Repository gUSE Information System

**NEW**

**Job Submission Service: DCI-BRIDGE**

gLite resource, ARC resources, Unicore resources, Globus resources (v2 and v4), LSF and PBS clusters, BOINC, GBAC, web services, Gemika services, Local resource, Google App Engine

**Architectural tier Available middlewares**

**Logged in WS-PGRADE with entitlements from VO + AAI federation**

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14:05 2014.05.14.

# Quick demo: HEXAA + WS-PGRADE



The screenshot shows a web browser window displaying the LIFERAY portal. The page title is 'Concrete - Liferay' and the URL is 'https://sp2.hexaa.eu/liferay-portal-6.1.0/web/guest/concrete?\_auth=m5vRoQd&p\_id=wfconfig\_WAR\_wspgrade&p\_p\_lif'. The user is logged in as 'István Tétényi'. The main content area shows a 'Concrete' workflow summary with a 'Refresh' button and a table of workflow instances.

Workflow name	Running	Finished	Error	Suspended	Actions
UserDemoRobotSafe_2014-05-14-071951 2014-5-14	1	0	0	0	Configure Info Details Submit Delete Export
UserDemoRobotSafe_2014-05-14-073527 2014-5-14	1	0	0	0	Configure Info Details Submit Delete Export
UserDemoRobotSafe_2014-05-14-121531 2014-5-14	1	0	0	0	Configure Info Details Submit Delete Export

Below the table, there is a 'Powered By' section with a logo of a black top hat with pink and white bunny ears. A yellow-tipped wand is positioned as if performing a magic trick on the workflow data.

# HEXAA in application area context

Scope – hierarchy related	Target community
Local	University / research institute
NREN federation	eduID /HU/
Con-federation	<i>eduGAIN*</i>
Scientific federations	EGI science gateways
+	
Scope – platform related	Target application area
Content management	Liferay, <i>MediaWiki</i> , Drupal
Cloud	Open Nebula, <i>Open Stack</i> , <i>Cloud Stack</i>
Other	Icinga, AjaxPlover

\* *planned*



- Planned for near future:
  - OpenStack integration
  - NREN applications (e.g. NIIFI / high-performance computing portal)
  - Complete requirement survey: <http://survey.hexaa.eu>
  - software development / system integration
- Known open questions:
  - handling of Level of Assurance
  - scoped attributes / responses - e.g. affiliation
  - attribute release policy issues and user consent handling
  - Inter-federation opportunities /PERUN, OpenConext, HEXAA, etc./
  - discovery service for HEXAA and other AA-s
- Partnering in H2020 projects to support more e-Science gateways 😊



- HEXAA as a project is progressing well
- Please, spread the word of the survey: <http://survey.hexaa.eu>
- The HEXAA concept is proved; e-Science gateways are reachable from eduGAIN using a SAML2 AA
- Solutions of inter-federation interworking issues are to be consolidated
- H2020 opens room for this activities



Please, fill in the survey:

<http://survey.hexaa.eu>

Thank you!

[http://www.geant.net/MediaCentreEvents/news/Pages/GEANT\\_Open\\_Call\\_awards\\_EC\\_funding.aspx](http://www.geant.net/MediaCentreEvents/news/Pages/GEANT_Open_Call_awards_EC_funding.aspx)



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