HEXAA

e-Science gateways with external attribute authority

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Outline

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

- HEXAA = Higher Education eXternal Attribute Authority
- HEXAA is a GEANT3plus Open Call project
- Participants:
  - SZTAKI (Institute for Computer Science and Control)
  - NIIFII/Hungarnet (Hungarian Academic and Research Network Organization)

- SZTAKI and NIIFII/Hungarnet have a long successful history of cooperation
- This included:
  - identity management
  - federated identity service (eduID)
  - day-to-day working relationship
HEXAA motivation

- 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

- Authentication by federation (eduGAIN...)
- Authorization and profile attributes by HEXAA
- Standard based (SAML2) interworking using SAML Attribute Request

Community specific user environments

Community specific software deployments

- European Grid
- Federated Cloud
HEXAA as VO manager

Virtual organizations

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
magyaizo@sztaki.hu
tetenyi@sztaki.hu
bajnokk@niif.hu
sitya@niif.hu
nemecsek@sztaki.hu
249591@vho.aai.niif.hu
kotcauer@sztaki.hu
karoczka@sztaki.hu
u.milan@sztaki.hu
karoczka@sztaki.hu
ghermann@sztaki.hu
zfarkas@sztaki.hu
kristof@bajnok.hu

Profilo
tetenyi@sztaki.hu
My entitlements
Logout

My Organizations
HEXAA Demo VO
Quick demo: HEXAA + WS-PGRADE

Federated login
Quick demo: HEXAA + WS-PGRADE

Login at home organization
Quick demo: HEXAA + WS-PGRADE

Logged in WS-PGRADE with entitlements from VO + AAI federation
Quick demo: HEXAA + WS-PGRADE

<table>
<thead>
<tr>
<th>Workflow name</th>
<th>Running</th>
<th>Finished</th>
<th>Error</th>
<th>Suspended</th>
<th>Config</th>
<th>Info</th>
<th>Details</th>
<th>Submit</th>
<th>Delete</th>
<th>Export</th>
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<tbody>
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## HEXAA in application area context

<table>
<thead>
<tr>
<th>Scope – hierarchy related</th>
<th>Target community</th>
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<tbody>
<tr>
<td>Local</td>
<td>University / research institute</td>
</tr>
<tr>
<td>NREN federation</td>
<td>eduID /HU/</td>
</tr>
<tr>
<td>Con-federation</td>
<td>eduGAIN*</td>
</tr>
<tr>
<td>Scientific federations</td>
<td>EGI science gateways</td>
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## Scope – platform related

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<tr>
<th>Target application area</th>
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<tbody>
<tr>
<td>Content management</td>
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<tr>
<td>Cloud</td>
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<tr>
<td>Other</td>
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</tbody>
</table>

*planned*
HEXAA plans

- Planned for near future:
  - OpenStack integration
  - NREN applications (e.g. NIIF1 / high-performance computing portal)
  - Complete requirement survey: [http://survey.hexaa.eu](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 😊
Conclusions

- HEXAA as a project is progressing well
- Please, spread the word of the survey: [http://survey.hexaa.eu](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