Information Systems Architecture Solution

eStudent domain

(CEF eID Building Block)

November 2017
<table>
<thead>
<tr>
<th></th>
<th>Agenda</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Context</td>
</tr>
<tr>
<td>2</td>
<td>Activities</td>
</tr>
<tr>
<td>3</td>
<td>Preliminary findings</td>
</tr>
<tr>
<td>4</td>
<td>Wrap-up</td>
</tr>
</tbody>
</table>
A framework for the exchange of students' personal data in an electronic form through the eIDAS network in order to provide cross-border authenticated access to educational services...

i. simplifying the process of enrolment for the educational services offered by EU HEIs to EU students

ii. improving the quality of online trusted services to EU students in EU HEIs
SPAIN

Context
Components of eStudent

Citizen = Spanish Student

Service Provider = University in Poland

eIDAS Node

Spain issues the National ID (DNIe) to its citizens for cross-border use

Identity Provider = Tax Administration State Agency (AEAT)

Attribute Provider = University in Spain

eIDAS Node

Poland accepts* the DNIe issued by Spain (not only)

* Mandatory for eIDAS compliance
Paco, a student of an University in Spain (USP) wants to enroll in an online Library course* through the web-portal of an University in Poland (UPO). The following steps occur:

1. Paco accesses UPO’s web-portal in order to enroll in the course
2. UPO’s web-portal prompts Paco to select his home country
3. Paco selects ‘Spain’ from the list
4. UPO’s web-portal redirects Paco to the AEAT** through the eIDAS network (including the list of required educational attributes, e.g. student status, student ID, study programme, etc.)
5. The AEAT prompts Paco to authenticate
6. Paco authenticates himself
7. AEAT verifies that Paco is Paco
8. The attributes requested by the UPO’s web-portal are collected from the USP and exchanged via the eIDAS network
9. An account for Paco is created in the online Library system of the UPO including all relevant educational information, and of course Paco is finally enrolled

10. Paco did not fill in any long web form

* The online services considered for the identification of educational attributes are: Accommodation resources, Electronic research environment (online), Enrolment, Institutional account management, Mobility service, Online Library and Wi-Fi
** AEAT = Spanish Tax Administration State Agency
Activities
**Activities**

**Timeline and phases**

**Discovery**
- acquisition of an accurate and complete view on systems and regulations in scope

**Design**
- architecture Vision: provision of a high-level and aspirational view of the solution architecture
- architecture Requirements Specification: compilation, review and analysis of the solution architecture requirements
- architecture Shaping: identification and evaluation of architectural approaches supporting the solution requirements identified
- architecture Definition: description of the solution architecture using Archimate and UML

**Proof of Concept**
- provision of a proof of concept for the given solution architecture

**Imp. Roadmap**
- definition of the implementation plan
Activities
Design phase

Higher Educational Institutions
Interviews

Other European Projects
Analysis

European Commission
Guidance

Educational e-Services
Educational Attributes
eIDAS

ESC
EMREX
STORK
SCHAC
EWP
eduPerson/eduOrg
Activities
Design phase

In order to identify what are the services/solutions that CEF eID could include to facilitate the up-take of eID in the education domain we aim to:

1. **Identify and define the list of educational-specific attributes**

2. **Develop a framework/adaptor to connect HEI applications with the eIDAS network**

3. **Draft recommendations/strategy for changing a HEI’s infrastructure and services for integration with the eIDAS network as a Service Provider.**

4. **Draft recommendations/strategy for changing HEI’s infrastructure and services for integration with the eIDAS network as an Attribute Provider to provide up-to-date educational attributes for the processing of authentication requests.**

5. **Take part in the preparation of recommendations for data enrichment of educational attributes (with the eIDAS technical sub-group of EC).**
Preliminary findings
Requirements Specification

Approach

design

jun-17

jun-17

Design

architecture Requirements Specification: compilation, review and analysis of the solution architecture requirements
Requirements Specification
Educational Attributes

Apart from the eIDAS minimum data set, the solution shall allow the exchange of the following educational specific attributes for **Student and HEI**:

<table>
<thead>
<tr>
<th>STUDENT</th>
<th>HEI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Identifier</td>
<td>HEI Identifier</td>
</tr>
<tr>
<td>Email address</td>
<td>Name of HEI</td>
</tr>
<tr>
<td>Citizenship</td>
<td>Alternative Name of HEI Identifier</td>
</tr>
<tr>
<td>Group affiliation</td>
<td></td>
</tr>
<tr>
<td>Preferred Language</td>
<td></td>
</tr>
<tr>
<td>Mobile Number</td>
<td></td>
</tr>
<tr>
<td>Degree</td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>Expiration date</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>eIDAS minimum data set</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Family Name</td>
<td></td>
</tr>
<tr>
<td>Current First Names</td>
<td></td>
</tr>
<tr>
<td>Date of Birth</td>
<td></td>
</tr>
<tr>
<td>Uniqueness Identifier</td>
<td></td>
</tr>
</tbody>
</table>
## Requirements Specification

### Educational Attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Identifier</td>
<td>String</td>
<td>1234567890G</td>
</tr>
<tr>
<td>Email address</td>
<td>Rfc 822, local-part@domain</td>
<td><a href="mailto:sa.ca22@xx.edu.xx">sa.ca22@xx.edu.xx</a></td>
</tr>
<tr>
<td>Citizenship</td>
<td>Alpha-2 string ISO3166-1 (uppercase)</td>
<td>ES</td>
</tr>
<tr>
<td>Group affiliation</td>
<td>String</td>
<td>nameOfGroup</td>
</tr>
<tr>
<td>Mobile Number</td>
<td>E.164 ITU Telecommunication Standardization Sector recommendation</td>
<td>+12345678901</td>
</tr>
<tr>
<td>Degree</td>
<td>The European Qualification Framework (EQF) (6: bachelor’s degree, 7: master’s degree, 8: doctorate)</td>
<td>6</td>
</tr>
<tr>
<td>Description</td>
<td>String</td>
<td>I’m a student of the Faculty of Computer Science</td>
</tr>
<tr>
<td>Expiration date</td>
<td>ISO 8601</td>
<td>2017-12-31</td>
</tr>
</tbody>
</table>

### HEI

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEI Identifier</td>
<td>Two options: SCHAC ID and ERASMUS PIC (HEI Participation Identification Code)</td>
<td>xx.edu.xx – SCHAC 99948994 – PIC</td>
</tr>
<tr>
<td>Name of HEI</td>
<td>String</td>
<td>University of XXX</td>
</tr>
<tr>
<td>Alternative Name of HEI Identifier</td>
<td>String</td>
<td>Short Name of University of XXX</td>
</tr>
</tbody>
</table>

*Provisional*
Wrap-up
Wrap-up
The benefits of CEF eID for different actors in the educational domain

**Students**
- Use eID
- Cross-border online services
- Ease of use
- Cost saving
- Increased assurance

**Higher Education Institutions**
- Offer services using eID
- Cross-border online services
- Cost saving
- Legal compliance
- Increased security/assurance
- Increase potential user base

*Easy access* to online educational (customised) services

*High quality* provision of online educational (customised) services
Wrap-up
Final message

“We need the involvement of the European Higher Educational Institutions as Attribute and Service Providers”