Information Systems Architecture Solution
eStudent domain

(CEF eID Building Block)

November 2017

Agenda

1	Context

2	Activities

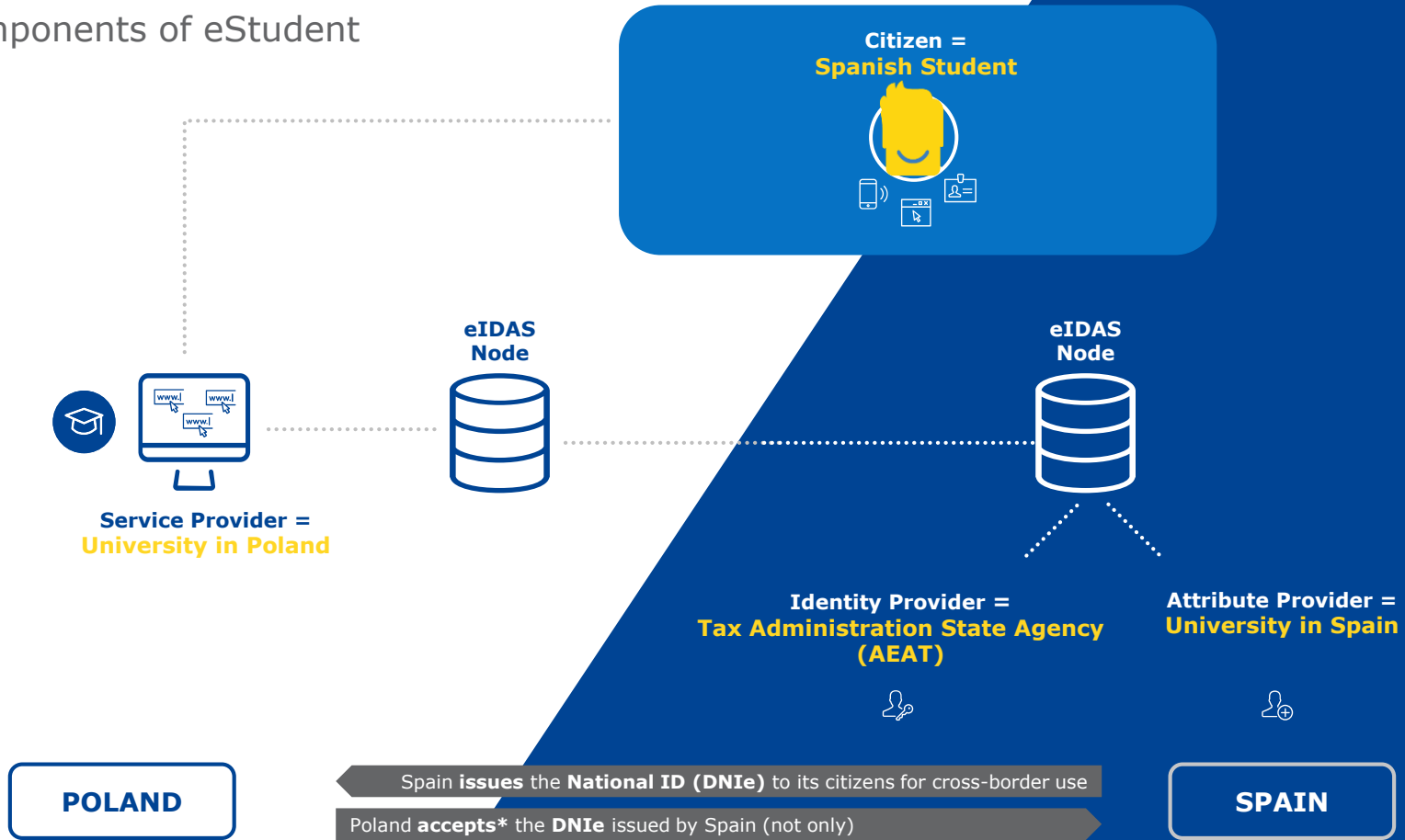| 3	Preliminary findings

4	Wrap-up

Context

Context
Objectives

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*

Context
Components of eStudent

Citizen =
Spanish Student

eIDAS Node

eIDAS Node

Service Provider =
University in Poland

Identity Provider =
Tax Administration State Agency (AEAT)

Attribute Provider =
University in Spain

POLAND

SPAIN

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

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

* Mandatory for eIDAS compliance

Context
Our business scenario

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
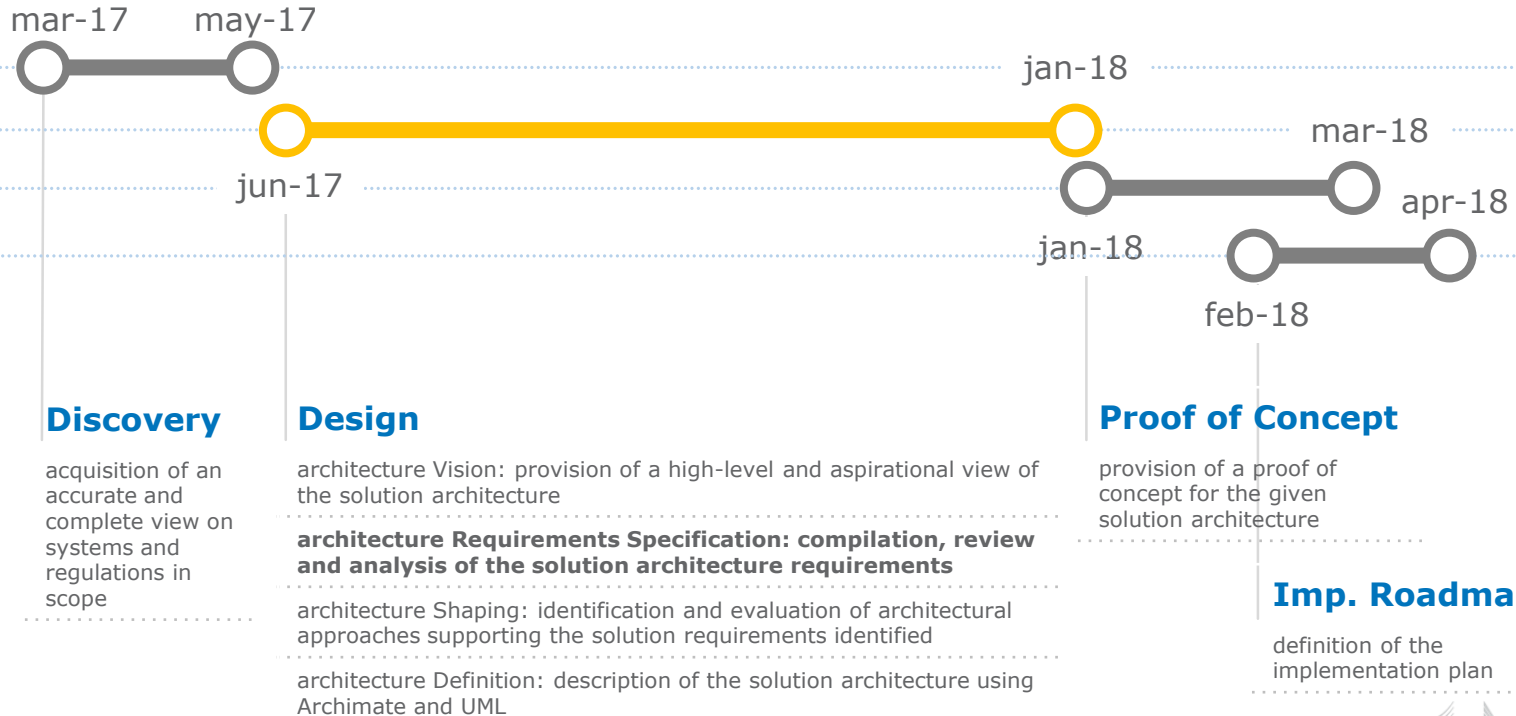
** AEAT = Spanish Tax Administration State Agency
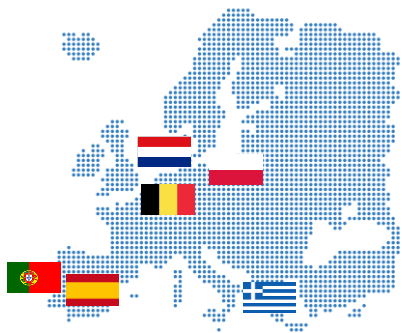
User interaction

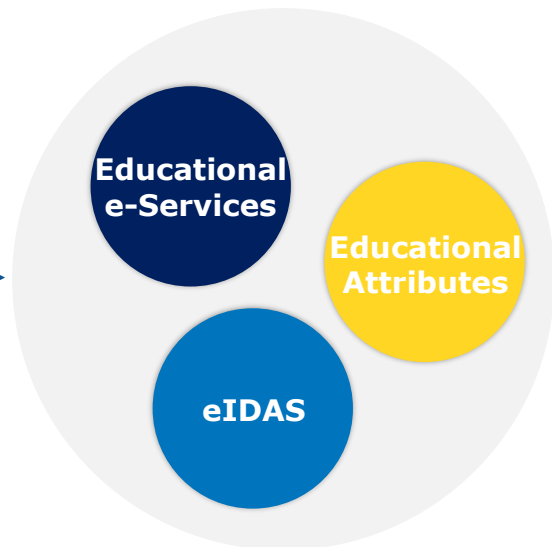# Activities

Activities
Timeline and phases

mar-17   may-17

jan-18

mar-18

jun-17

apr-18

jan-18

feb-18

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

European
Commission

Activities
Design phase

Higher Educational Institutions
Interviews

Other European Projects
Analysis

Educational e-Services

Educational Attributes

eIDAS

STORK

ESC

EMREX

SCHAC

EWP

eduPerson/eduOrg
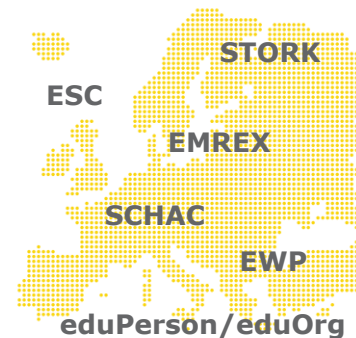
European Commission
Guidance

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).*
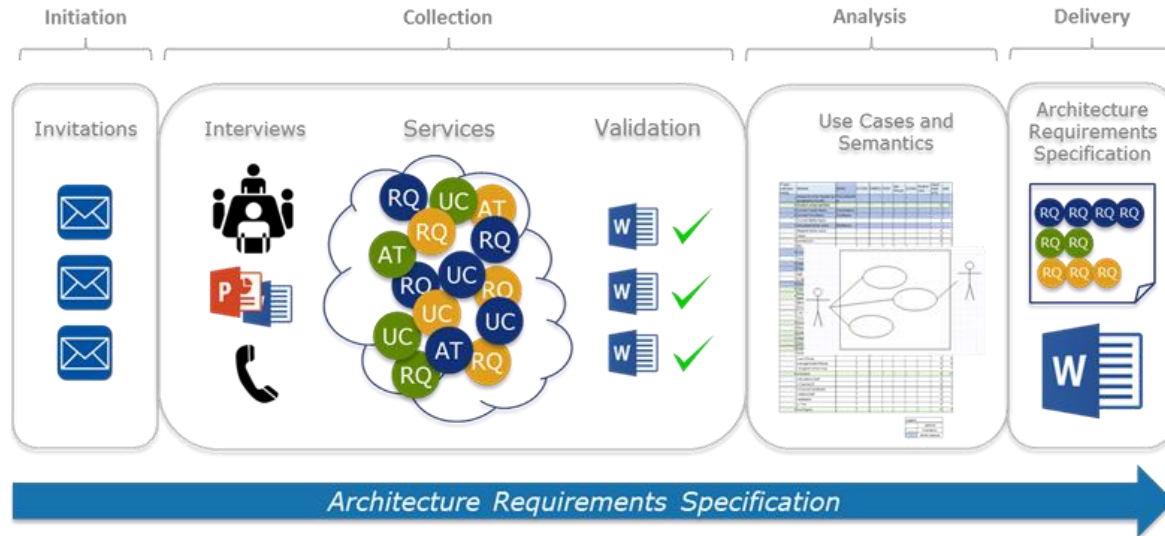
Educational e-Services

Educational Attributes

eIDAS

European Commission
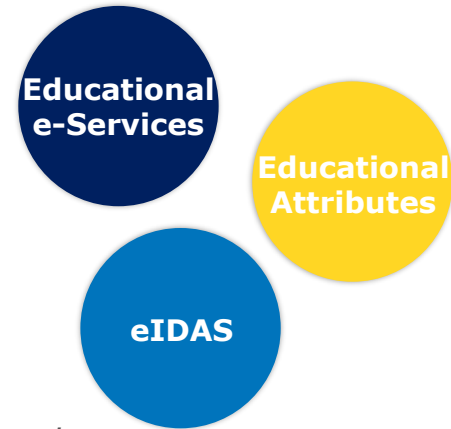
Preliminary findings

Requirements Specification
Approach

jan-18

jun-17 **Design**

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

Initiation — Collection — Analysis — Delivery

Invitations | Interviews | Services | Validation | Use Cases and Semantics | Architecture Requirements Specification

Architecture Requirements Specification

European Commission

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**:

eIDAS minimum data set

- Current Family Name
- Current First Names
- Date of Birth
- Uniqueness Identifier

+

STUDENT

- Student Identifier
- Email address
- Citizenship
- Group affiliation
- Preferred Language
- Mobile Number
- Degree
- Description
- Expiration date

HEI

- HEI Identifier
- Name of HEI
- Alternative Name of HEI Identifier

Provisional

European Commission

Requirements Specification
Educational Attributes

STUDENT	**Student Identifier**	String	*1234567890G*
	Email address	Rfc 822, local-part@domain	*sa.ca22@xx.edu.xx*
	Citizenship	Alpha-2 string ISO3166-1 (uppercase)	*ES*
	Group affiliation	String	*nameOfGroup*
	Preferred Language	Alpha-2 string ISO 639-1 Code (or alpha-3/ISO 639-2 Code)	*EN*
	Mobile Number	E.164 ITU Telecommunication Standardization Sector recommendation	*+12345678901*
	Degree	The European Qualification Framework (EQF) (*6: bachelor's degree, 7: master's degree, 8: doctorate*)	*6*
	Description	String	*I'm a student of the Faculty of Computer Science*
	Expiration date	ISO 8601	*2017-12-31*

HEI	**HEI Identifier**	Two options: SCHAC ID and ERASMUS PIC (HEI Participation Identification Code)	*xx.edu.xx – SCHAC 99948994 – PIC*
	Name of HEI	String	*University of XXX*
	Alternative Name of HEI Identifier	String	*Short Name of University of XXX*

Provisional

European Commission

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

Easy access to online educational (customised) services

Higher Education Institutions

Offer services using eID

✓ Cost saving
✓ Legal compliance
✓ Increased security/assurance
✓ Increase potential user base

High quality provision of online educational (customised) services

European Commission

Wrap-up
Final message

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

eID

Find out more on CEF Digital

DIGIT
Directorate-General for Informatics

DG CONNECT
Directorate-General for Communications
Networks, Content and Technology

Contact us

 CEF-BUILDING-BLOCKS@ec.europa.eu

ec.europa.eu/cefdigital