



Authentication and Authorisation for Research and Collaboration

## **Authentication and Authorisation for Research and Collaboration**

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# AARC – Authentication and Authorisation for Research and Collaboration

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- Started on 1 May, 2015
- Two-year EC-funded project
- 20 partners
  - NRENs, e-Infrastructure providers and Libraries as equal partners
- About 3M euro budget
- <https://aarc-project.eu/>
- Working now on the proposal for AARC2

# And where is this coming from???

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- The growth of demand for federated access
- Many use cases for ID Feds
- Various existing AAls

Nice! BUT...

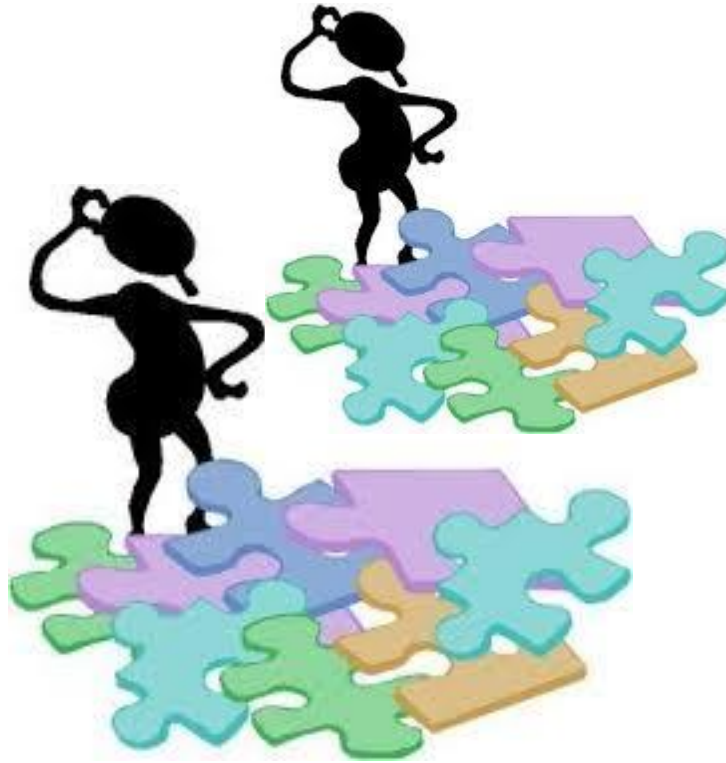


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It would be nicer if there was also  
compatibility & interoperability



# Common challenges



Attribute  
aggregation

User  
friendliness

Credential  
translation

Attribute  
release

Levels of  
Assurance

Homeless  
users

Bridging  
Communiti  
es

Non-web-  
browser

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AARC addresses these challenges of interoperability and functional gaps.



# AARC - Objectives

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Improve adoption of  
federated access

Pilot components to  
integrate existing  
AAIs

Making identities  
'consumable' by different e-  
Infrastructures to access  
different services

Define policy  
frameworks and pilot  
them

Develop Training  
packages

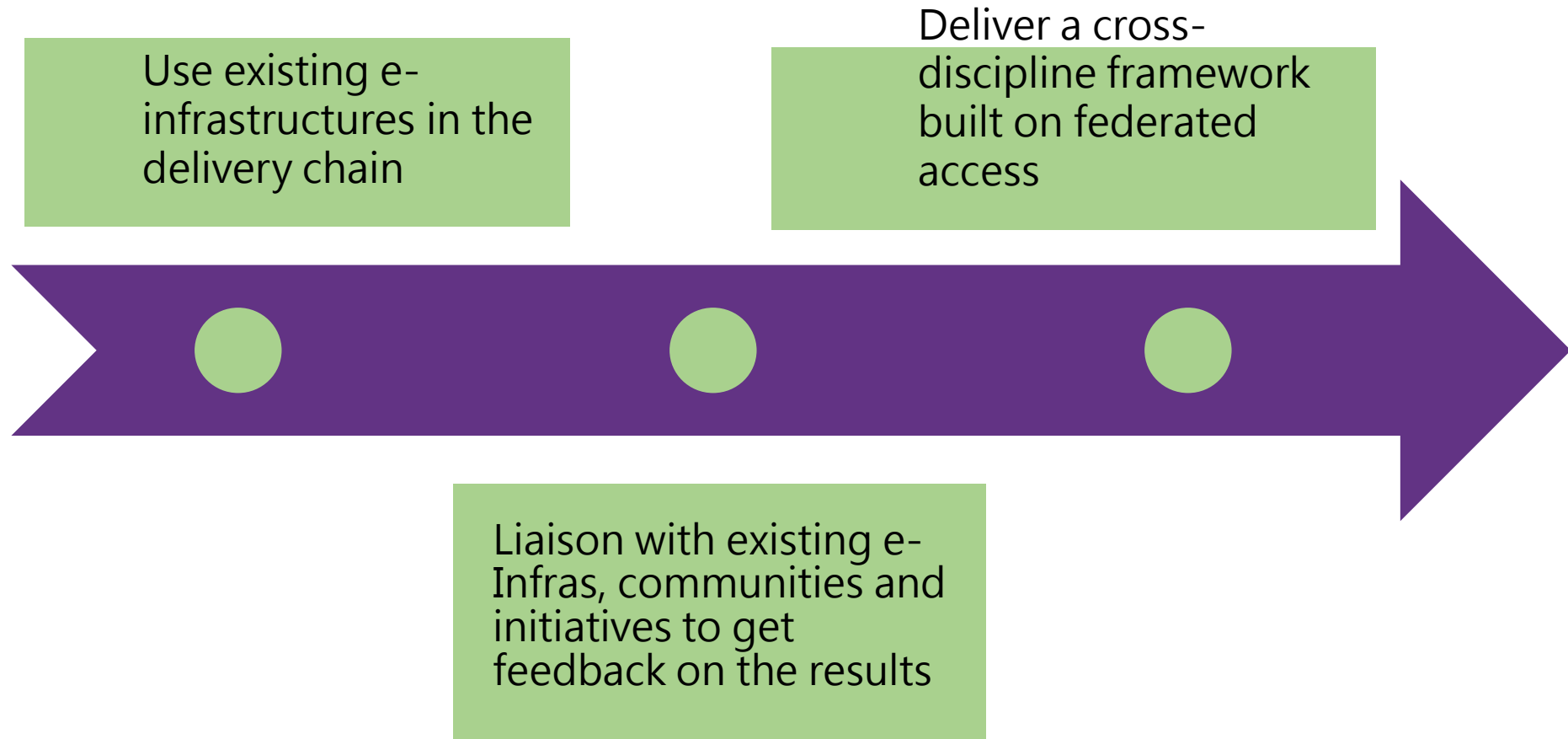
## • OUTREACH and TRAINING

- To lower entry barriers for organisations to join national federations
- To improve penetration of federated access

## • TECHNICAL and POLICY Work

- To develop an integrated AAI built on production services (i.e. eduGAIN)
- To define an incident response framework to work in a federated context
- To agree on a LoA baseline for the R&E community
- To pilot new components and best practices guidelines in existing production services





# Almost a year has passed...

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...and here is where we stand now.

# Training and Outreach



# Training and Outreach

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- Document describing the approach to the training - MNA2.1 Guideline document for AARC training materials
  - <https://aarc-project.eu/documents/milestones/>
- Report on the identified target groups for training and their requirements
  - <https://aarc-project.eu/wp-content/uploads/2015/04/AARC-DNA2.1.pdf>
- First two online modules: Federation101 and SP training material
  - <https://aarc-project.eu/documents/training-modules/>
- First two trainings based on the modules about to be delivered

# Architectures for an integrated and interoperable AAI

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- Finalising the first draft of the Blueprint Architecture for interoperable AAI for Research Infrastructures and e-Infrastructures.
- This draft presents a high level architectural pattern that includes all the necessary functional components in order to build integrated and interoperable AAI solutions on top of the eduGAIN.
- It is in its final stages and will be made available to the AARC stakeholders any day now.

Furthermore working:

- on the problem of Guest Identities and how it can be addressed. Looking to Identity Providers of "last resort", but also at the integration of social network and e-Gov IDs as a mean to cover the users in the long tail of science, who in many cases do not have institutional IDs.
- on the topics of Attribute Management, Release and Aggregation and how these can be addressed from the point of view of the Attribute Authorities, the RIs and the e-Infrastructures
- on the topics of non-web access and credential delegation. Although these topics often go together, this is not always the case. At the moment the WP is analysing existing solutions and architectural pattern for both topics.

## Requirements User Community

**Deliverable DJRA1.1:**  
**Analysis of user community and service provider requirements**

05-10-2015

Contractual Date: 31-03-2015  
Actual Date: 05-10-2015  
Grant Agreement No.: 603665  
Work Package: JRA1  
Task Item: JRA1.1  
Lead Partner: EGI.eu  
Document Code: DJRA1.1  
Editors: Christos Kanellopoulos, Nicolas Lampiris, Nels van Dijk, Peter Solagna

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The research leading to these results has received funding from the European Community's Horizon2020 Programme under Grant Agreement No. 603665 (AARC).

**Abstract**  
This document, produced by JRA1 Task 1 "Analysis of user community requirements", identifies the requirements of user communities and service providers building upon the outcomes of previous activities such as the TIRISMA AAA Study and the FRIDA workshop series. The requirements identified for these activities have been updated and enriched with new requirements that the team collected through a survey of user communities as well as a set of targeted interviews. These requirements are analysed here and will be provided as input for upcoming activities in AARC.

## Overview Available AAI Components

**Milestone MJRA1.1:** Existing AAI and available technologies for federated access.

31-12-2015

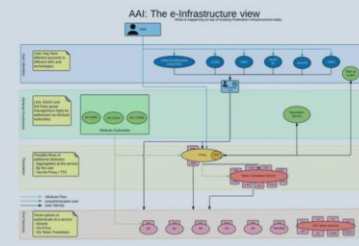
Contractual Date: 31-01-2016  
Actual Date: 31-12-2015  
Grant Agreement No.: 603665  
Work Package: JRA1  
Task Item: 1  
Lead Partner: EGI.eu  
Document Code: MJRA1.1  
Authors: P. Solagna (EGI.eu), Christos Kanellopoulos (GRNET), N. Lampiris (GRNET), M. Harth (KIT), M. Sella (RWTH), S. Pastore (JRC), M. Matarozzi (CERN), K. Van Dijk (SURFnet), J. Jansen (DFK), I. Labadie (GRNET), M. Jankowski (DFK), S. Nemes (Johannes), P. Prochaska (DFK), B. Opat (SURFnet), B. Mavroun (CERN), H. Shiri (CERN), U. Bielewicz (KIT)

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**Abstract**  
This document summarises the technologies and solutions available to implement AAI, focusing on the software most common in the research and education (R&E) environment, which features are more likely to fulfil the use cases of the R&E communities.

## Draft Blue-Print Architecture

**AAI: The e-Infrastructure view**



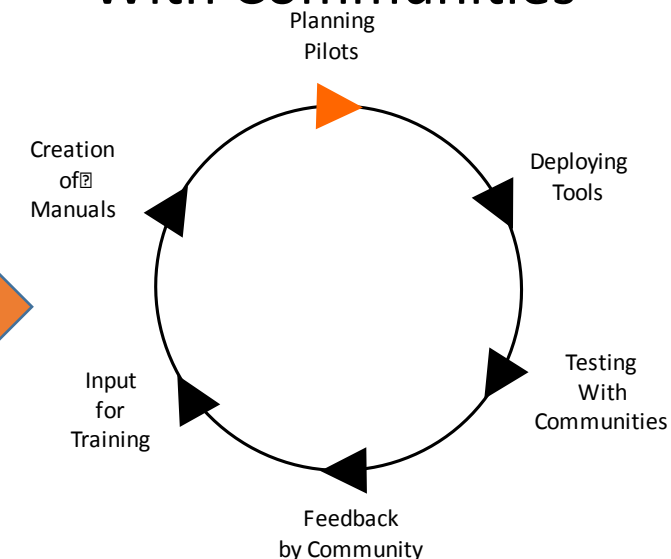
The general flow for user authentication is straightforward.

- First step: user gets authenticated, typically using a federated account (usually via SAML or X.509, with SAML being increasingly used. Non-web authentication for research communities usually requires certificates (or (non-federated) username/password), however, there is ongoing research into alternatives. In case the user is not affiliated with an institution operating an IdP, a "catch-all" functionality can be provided by the community-run IdPs (so-called "Guest" IdP or homeless "IdP", see MJRA1.2). An alternative (or in addition) to operating such an IdP would be to support authentication through social media identities (e.g. Facebook or Google) or eGov identities.
- Second step: the authenticated user may proceed to the resource in one of the following ways:
  - directly,
  - or via a Proxy
  - or via a Proxy and a Token Translation Service (TTS)
  - or via a TTS

The Proxy is commonly used because it helps to address the most commonly observed requirement (RS: "flexible and scalable attribute release policies"). The proxy can ensure that the information received are harmonised even if the external IdPs publish different attributes; and it can help ensure that attributes such as

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## Running Pilots With Communities

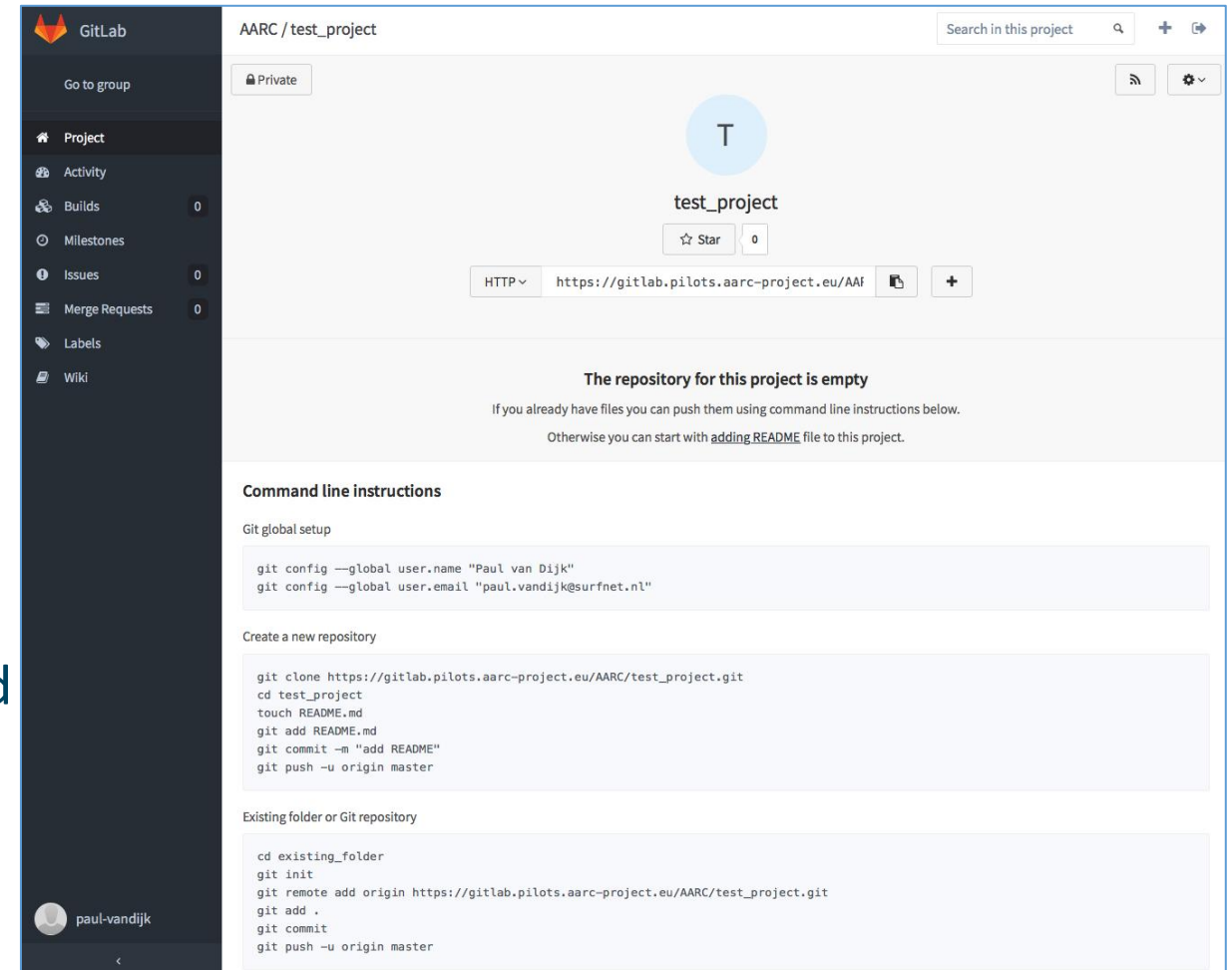


[aarc-project.eu](https://aarc-project.eu)

# Established a pilot platform [pilots.aarc-project.eu](https://pilots.aarc-project.eu)



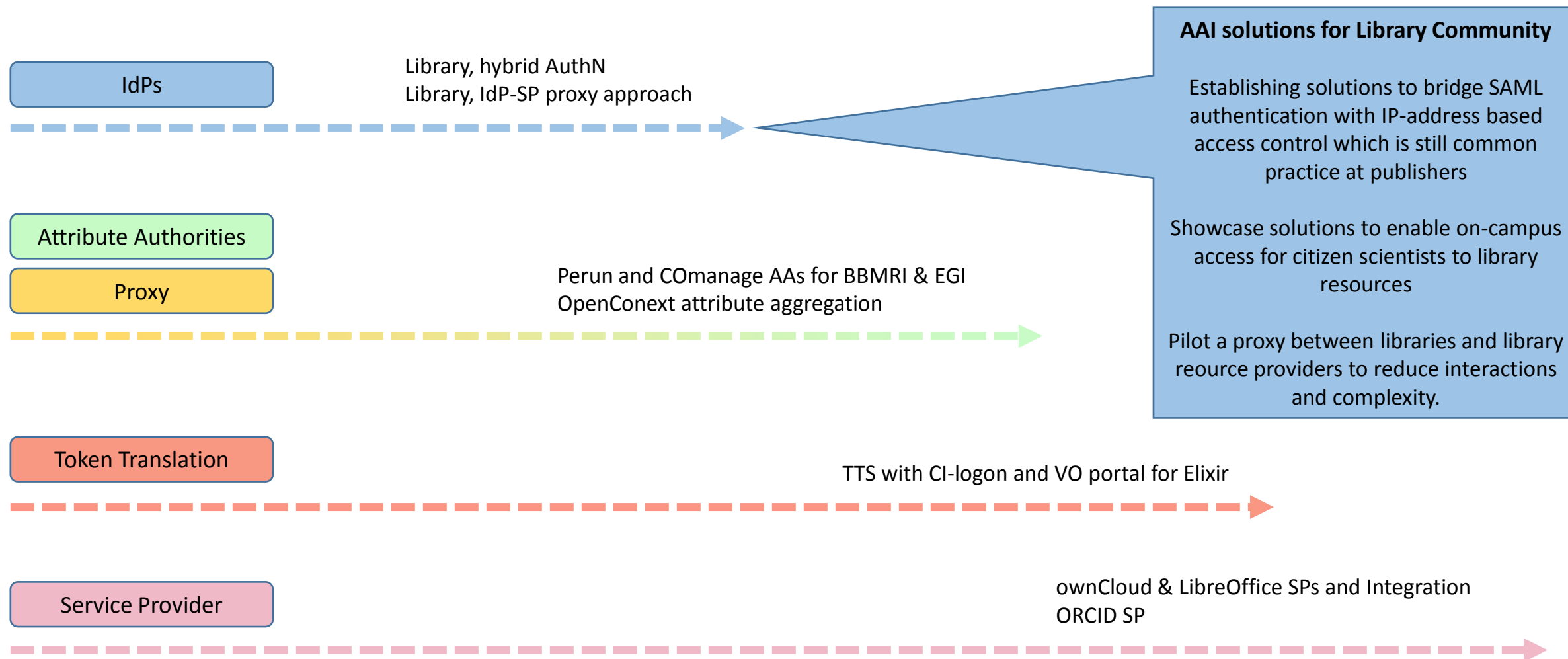
- A staging area for our services
- Technical platform delivered by  okeanos
- >20 VMs instantiated
- Using Ansible scripts for deployment
- SimpleSAMLphp DIY IdP available
- Gitlab for collaborative coding, deployment and testing: [gitlab.pilots.aarc-project.eu](https://gitlab.pilots.aarc-project.eu)
- Online support by SURFnet staff





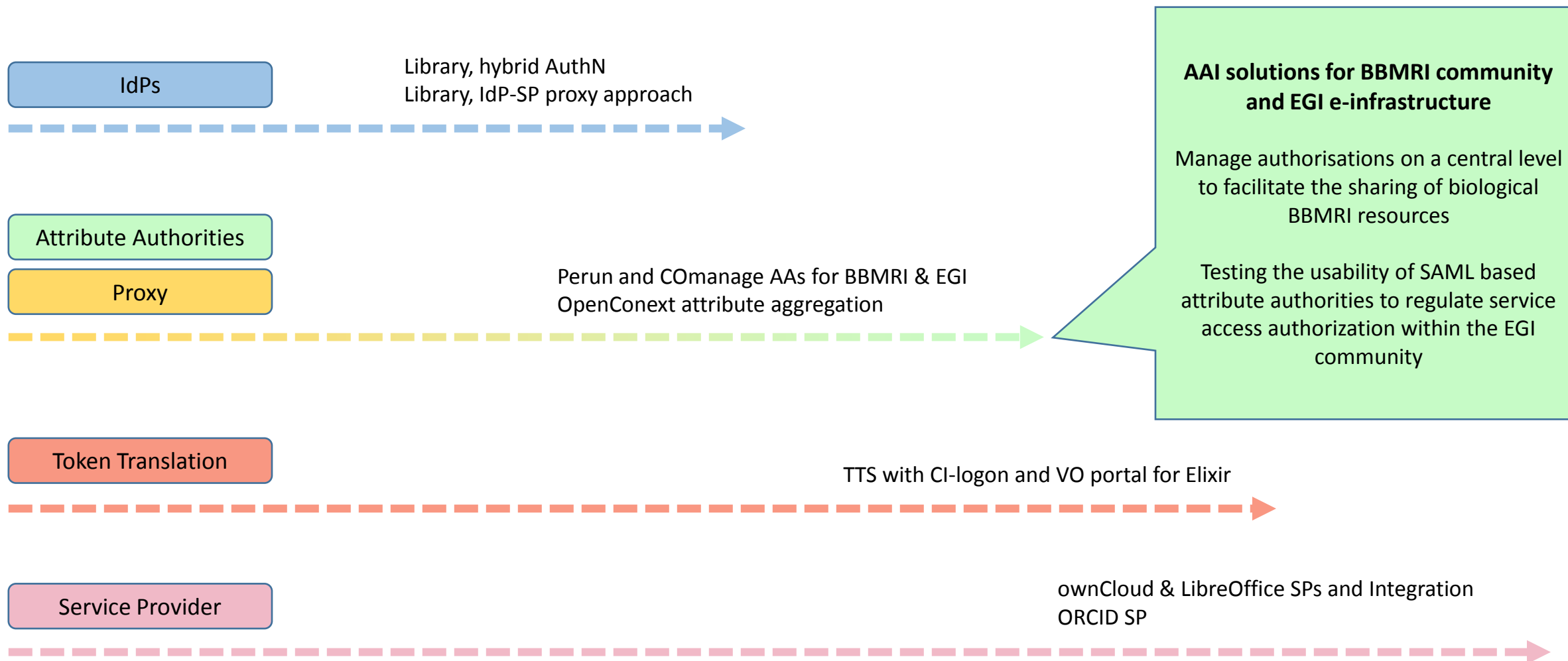
# AAI building blocks and pilots commenced

## First results expected at Q1 2016



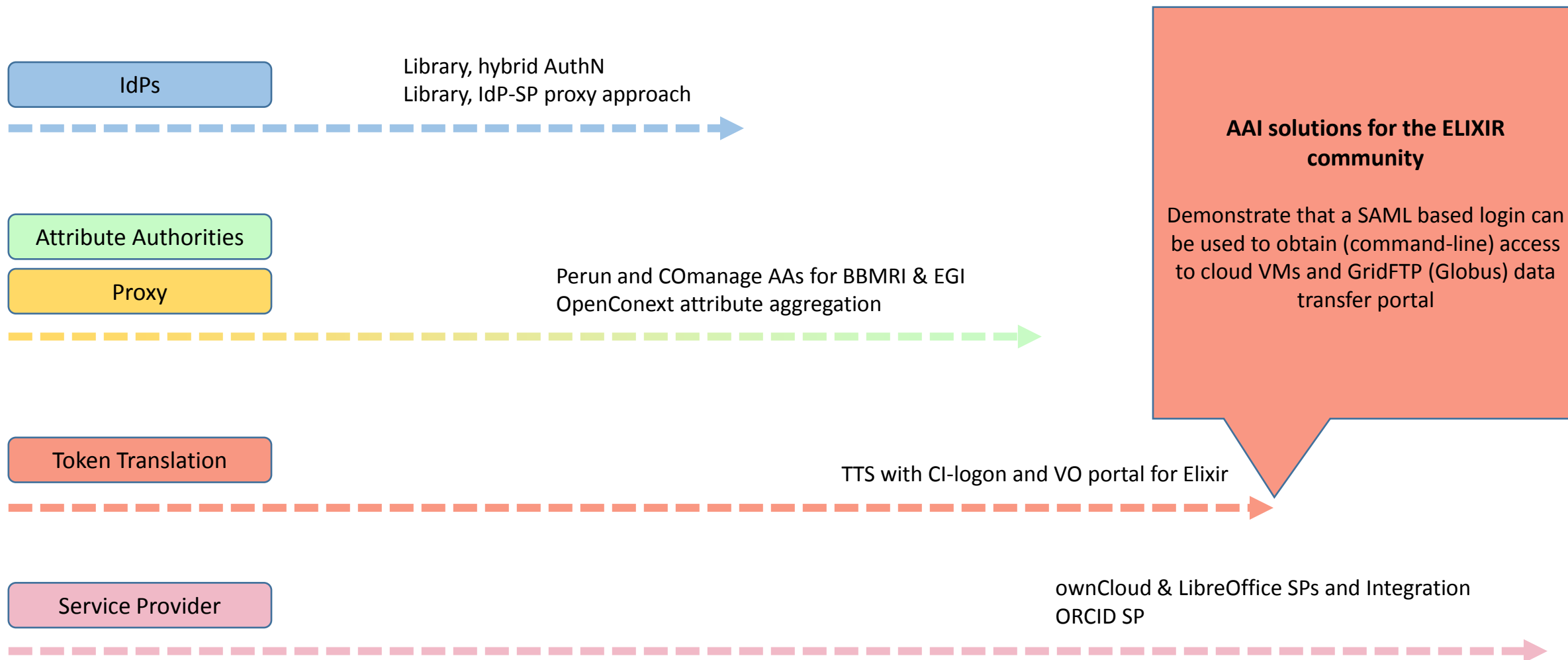
# AAI building blocks and pilots commenced

## First results expected at Q1 2016



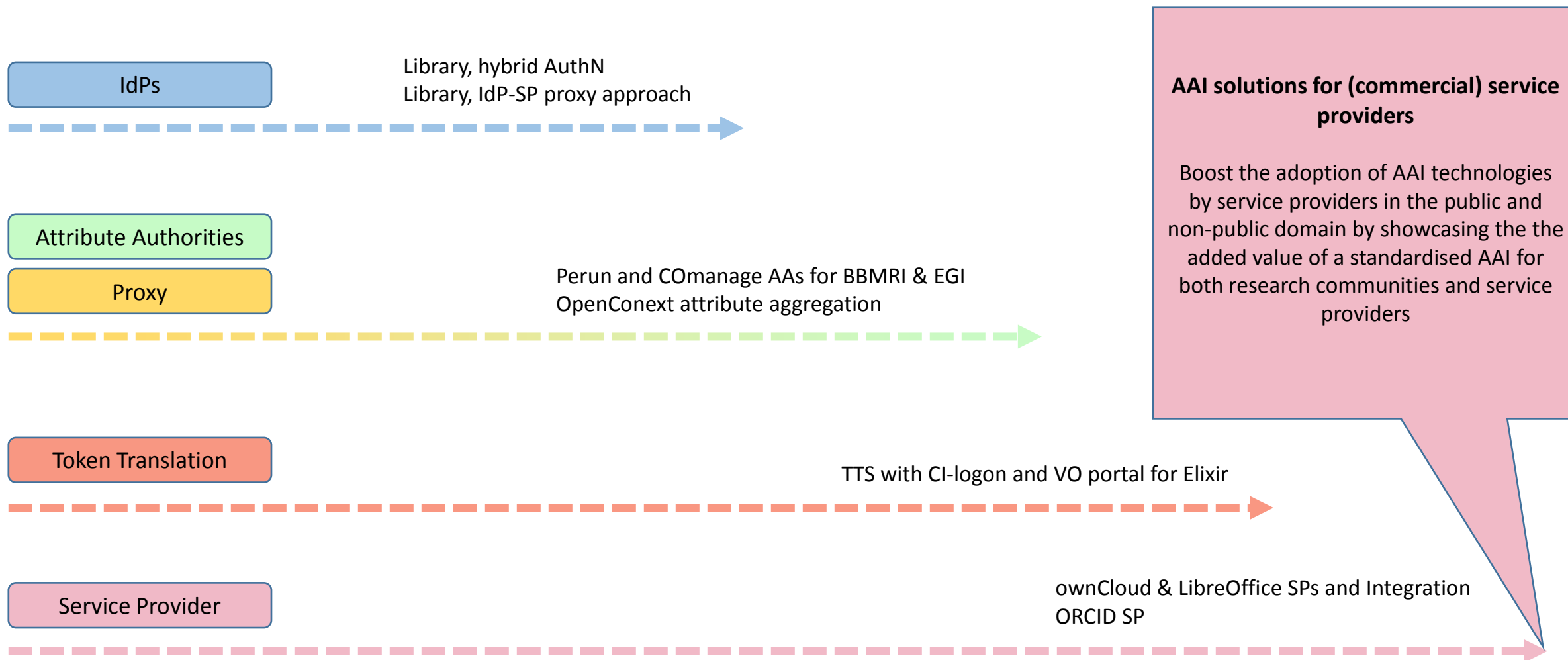
# AAI building blocks and pilots commenced

## First results expected at Q1 2016



# AAI building blocks and pilots commenced

## First results expected at Q1 2016



# AARC 2

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We are preparing the follow-up of AARC!



# AARC 2

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- **Support User-Driven Innovation of Trust and Identity**  
Enable federated access for use-cases that meet data intensive and cross e-Infrastructure requirements
- **Deploy AARC/AARC2 Results**  
Support e-Infrastructures and research infrastructures to deploy AARC/AARC2 results to enable seamless service delivery to the users.
- **Training and outreach**  
Offer different level of training and reach out to different communities to promote AAI adoption when building new services.

# Thank you Any Questions?

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