THE AARC BLUEPRINT ARCHITECTURE TO SUPPORT RESEARCH COLLABORATIONS

CONNECT spoke with Nicolas Liampotis (AARC architecture WP leader); Christos Kanellopoulos (AEGIS chair); David Groep (AARC policy WP leader); and Licia Florio (AARC project coordinator) to learn more about the AARC BPA.

What is the AARC BluePrint Architecture (BPA) and who is it for?

The AARC BPA defines a reference architecture for authentication and authorisation infrastructures (AAI) that best fits the needs of international research collaborations. The AARC BPA is meant to guide architects in research collaborations in building interoperable AAIs.

Why does AARC offer a blueprint instead of an implementation that can be downloaded and installed?

The AARC BPA provides a set of architectural building blocks, along with implementation and policy guidelines and a common vocabulary with which to discuss and implement interoperable AAI solutions. It thus allows AAI software architects and technical decision makers to build solutions which fit their specific requirements and are guaranteed to interoperate with other BPA-compliant implementations.

Offering an implementation is not desirable as it would mean offering one solution to fit all needs, which is of course very prescriptive and not inclusive.

Why do we need an AARC BPA if there is eduGAIN?

eduGAIN and the national R&E identity federations enable the federation of identities and services globally. AARC is leveraging eduGAIN as the foundation for federated identities and adds the dimension of the research collaborations. The relationship between the users' home institutions and service providers, which is typically found in the national identity federations and eduGAIN, now becomes a relationship between a research community, the users' home institutions and service providers.

The AARC BPA builds on top of eduGAIN and adds the functionality required to support common use cases within research collaborations, such as access to non-web services and access to resources based on community membership. The AARC BPA champions a proxy architecture in which services in a research collaboration can connect to a single point, the proxy, which itself takes the responsibility for providing the connection to the identity federations in eduGAIN, thus reducing the need for each service having to separately connect to a federation/eduGAIN.

The AARC BPA has played a significant role in "standardising" this architecture, by providing a reference architecture along with a set of technical and policy implementation guidelines. Three years after the AARC initiative started, we are witnessing wide adoption of the AARC BPA as the reference model for building AAIs for research collaboration in Europe and beyond. A number of solutions are already available, allowing research collaborations to pick the one that best fits their needs, without having to worry about interoperability and vendor lock-in.

How does AARC help my research collaboration/ infrastructure to deploy an AAI that is AARC BPA compliant?

The AARC BPA comes with a reference architecture and a set of technical and policy implementation guidelines, along with a policy development 'kit', that helps you on your way. The guidelines help you pick the best way of identifying your users - and keeping track of them when they move jobs through their career, but remain associated with your collaboration; and template policies to help you organise your community to access data, computing and network services without researchers being bothered with Terms and Conditions and tick-boxes all the time. If you operate your own AAI, there are guidelines for you to manage data protection and the sharing of attributes - just look at the "Snctfi" framework that helps you interoperate with resource providers and peers alike, and use the guidelines to fill in the missing bits.

Who is deploying an AARC BPA compliant AAI?

The AARC BPA has already been adopted by many e-infrastructure providers, research infrastructures and collaborations. Examples include:

- DARIAH - Digital Research Infrastructure for Arts and Humanities
- EGI
- ELIXIR
- EUDAT
- GÉANT
- Life Sciences - A cluster of 13 research communities from the Life Sciences domain
- LIGO (The Laser Interferometer Gravitational-Wave Observatory),

In parallel, there are a number of AARC pilots that are being carried out where more research collaborations, such as WLCG (Worldwide Large Hadron Collider Computing Grid), CTA (Cherenkov Telescope Array) and EPOS (Earth Science Collaboration Clusters), are testing the implementation of AARC BPA compliant AAIs.

My research infrastructure operates an AAI how can I check if it is AARC BPA compliant?

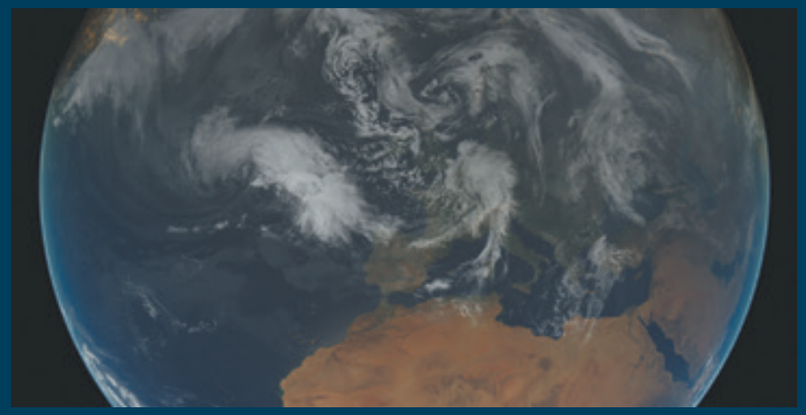
If your AAI implements the AARC guidelines and uses an IdP/SP proxy, then you are mostly likely compliant with the AARC BPA. In order to facilitate the interaction and dialogue with and between operators of AAIs that implement the AARC BPA, we created the "AARC Engagement Group for Infrastructures - AEGIS", which provides a forum for infrastructure operators to engage with AARC and discuss the adoption of the AARC outcomes in their production environments. Research collaborations that operate an AAI that uses an IdP/SP proxy and who want to benefit from the AARC BPA are welcome and encouraged to get in touch with the AARC team, who will be happy to review their current architecture and help them in adopting the AARC BPA

A new version is expected in the summer 2018 - what will change in this version?

While the current version of the BPA provides a blueprint for implementing an AAI, the next version of the AARC BPA focuses on the cross-AAI interoperability aspects, to address an increasing number of use cases from research communities requiring access to federated resources offered by different infrastructure providers. The new version of the BPA will offer a broader view.

AARC GIVES FEDERATED IDENTITY TRAINING TO RESEARCH COMMUNITIES

Research communities sometimes need face-to-face training, in order to better understand what authentication and authorisation infrastructure (AAI) solutions are available for them. For this reason, the training team of the European project AARC (Authentication and Authorisation for Research and Collaboration) decided to organise ad-hoc training courses alongside community-dedicated events. This was the case for EPOS, which gathered Earth sciences communities in Portugal last March, and a Life Science event, held in Germany last April.



In March, at the EPOS meeting in Lisbon, around 30 participants attended an AARC training event, where they learned about the basics of AARC, the blueprint architecture and relevant policy frameworks needed for them to deploy an AAI. Also, this training event paved the way for an EPOS pilot solution that is planned in the AARC project. It proved the importance of reaching out to research communities in order to understand their needs and address them with available solutions.

In April, representatives from several life science communities welcomed the project's training team at the BMS AAI meeting organised by CORBEL. The participants came from BBMRI, ELIXIR, Euro-Bioimaging, INFRAFRONTIER, INSTRUCT and CORBEL and joined the two-half-day workshop in Munich. This event was then followed by a further one-day training by ELIXIR, on more technical aspects of connecting to the ELIXIR infrastructure. The focus was to provide basic concepts about AAI and its benefits, with a focus on the new AAI for life sciences that is being piloted within the AARC project.

During both events questions and doubts were addressed and participant feedback showed a very positive response to the AAI concepts and satisfaction about the training goal, scope and quality. Also, the sharing of research collaboration use-cases was particularly appreciated, and this encouraged the AARC team to interact with the research collaborations participating in the project to ensure more information is shared among them.

For the future, the participants expressed their desire to address also some specific technical aspects and getting insights into detailed implementations of existing architectures and more specific training on AARC results regarding architecture and policy.

The feedback received is very valuable and will be taken into consideration for future AARC training events that will take place in the second half of this year.

Further information:
https://aarc-project.eu