AARC AND EDUGAIN: WORKING TOGETHER TO EXPAND FEDERATED ACCESS TO ONLINE RESOURCES

Today, online services are crucial to research and education. Students, teachers and researchers rely on them for collaboration, analysing and sharing data, and for accessing journals and libraries. And some of the most exciting research is performed in international collaborations, where researchers need to share data and software between institutions and across borders.

To manage access to all these resources, institutions and research collaborations need a way to digitally identify their users. Once they know who is who, they need to give the right users access to the rights tools, data and resources. This relies on Authentication and Authorisation Infrastructures (AAIs).

However, nationally-based institutions and international research collaborations have different AAI needs and challenges. And these are being addressed through the eduGAIN service and through the AARC project respectively.

How does eduGAIN address the AAI needs of institutions?

Many research and education institutions provide their users with a single online identity. This gives users access to all the services that are available locally within the institution. To bring together a wider pool of users and services, R&E identity federations were created to build trust between the identity-providing institutions and providers of services such as e-learning platforms and clouds infrastructures.

By participating in a national federation, institutions can rapidly and cheaply expand the range of services they offer to users, making them more attractive places to work or study. They also control which user data to share with services, preserving data privacy. The users need only the one trusted identity from their institution to access participating services instead of juggling multiple passwords, making for greater security. And participating services get a larger audience of users: with the identity providers handling the users' accounts, there's reduced overhead for accounts and user support so the cost per user is lowered.

eduGAIN connects federations at an international level, enabling the trustworthy exchange of information related to AAI by coordinating elements of the federations' technical infrastructure and providing a policy framework that controls this information exchange. This contributes to the seamless operation of services provided through the GÉANT (GN4-2) Project, other communities or commercial service providers.

Through eduGAIN, participating institutions can further expand their service offer to include trusted services from other federations around the world. Participating services can access an international audience, again at a lower cost per user. And these users are trusted by their identity-providing institution. Service providers need sign up with only one federation instead of with them all separately, which saves more time, effort and money, and is the most efficient way to reach global users. Commercial providers can also offer aggregated pricing or special access at an institutional level.

eduGAIN is provided by GÉANT and partners. With over 2,500 participating identity providers and more than 1,800 service providers, eduGAIN is the primary mechanism for enabling R&E collaboration around the world.

How does AARC address the AAI needs of research collaborations?

While eduGAIN primarily operates at an institutional level, research fields are typically structured in a different way, with researchers organising themselves into collaborative groups driven by common research goals and grants. The individuals within these groups may be in different institutions, countries or continents. Such collaborations function as virtual communities or organisations, which must offer and manage services for their members. Typically, services are delivered based on 'membership' information rather than on which institution a researcher is affiliated with.

Until recently, each time a new research collaboration began, it developed its own AAI, meaning its own technical architecture and tools, its own policies and training materials. This approach hinders AAI interoperability and reduces the capacity of researchers in different countries, organisations or research teams to cooperate. For some of these collaboration communities eduGAIN has helped, but a lot of collaborations have AAIs that cannot connect with eduGAIN, if they have one at all.

The AARC (Authentication and Authorisation for Research and Collaboration) project is creating a common AAI framework - one blueprint architecture, one set of policies and one collection of training materials that should work for all research collaborations. AARC is also working with research collaborations to pilot and improve specific technical and policy aspects.

AARC relies on the federated approach and infrastructure championed by eduGAIN and its participating national federations. AARC expands the adoption of federated access to services in a far more granular and flexible manner: researchers can log in using their own institutional identity while membership to different research collaborations is managed in line with AARC guidelines. So AARC means that research collaborations need spend less time and money on reinventing the AAI wheel, and it provides more connections between solutions and between research communities. This all means safe and more reliable access for more researchers to more services, data and software. So researchers can focus on research.

Who is using the AARC blueprint architecture?

GÉANT eduTEAMS
EGI CheckIn
EUDAT b2access
DARIAH-eu
INDIGO IAM
ELIXIR
CTA & Life Science AAI (see p16-17)

Who endorses AARC policies through AEGIS (AARC Engagement Group for Infrastructures)?

GÉANT
EGI
EUDAT
DARIAH-eu
ELIXIR
PRACE
Xsede

www.aarc-project.eu/
- see the video: **https://goo.gl/6qz5jY**
www.edugain.org/
- see the video: **https://goo.gl/ZcYwVU**