GÉANT and RA21
An e-Infrastructure view from the R&E Community

Klaas Wierenga
Chief Community Support Officer

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www.geant.org
GÉANT Association supports and represents over 40 NRENs across Europe.
Together they support over 10,000 institutions and 50 million academic users.
Network

The GÉANT network interconnects research, education and innovation communities worldwide, with secure, high-capacity networks.

We design, plan, build and operate the large-scale, high-performance GÉANT network that connects European NRENs to each other and the rest of the world for sharing, accessing and processing the high data volumes generated by research and education communities and for testing innovative technologies and concepts.

Interconnecting Europe’s NRENs over a 500Gb highly-resilient pan-European backbone. NRENs serve 50 million users at 10,000 institutions across Europe.

Network services: IP, Point-to-Point Services, VPN, Testbeds, performance monitoring
Specialist Services

GÉANT develops the specialist services members need to support researchers, educators and innovators – at national, European and international levels.

GÉANT’s portfolio of advanced services covers:

- Network centric services
- Trust identity and security
- Storage and clouds
- Real-time communications
- Professional services
What is Federated Identity and what does it buy us?

• **Definition:** Delegation of responsibility to authenticate and authorize individuals to a trusted party
  - This trusted party is typical the individual’s organization in an enterprise environment, the involved parties agree on rules, technologies etc.

• **Why?**
  - No long term employee credentials necessary on partner sites
  - Automated user provisioning and removal
  - Managed access to employee information
  - Minimize sharing of attributes about a user
  - Single sign-on
  - Scalable establishment of relations

“The only real problem is scaling. All others inherit from that one.”

Mike O’Dell, Chief Scientist UUNET, 2000
What does it look like?

“I, IdP, claim that the Subject is successfully authenticated and is authorized to access the service offered by Relying Party.”
Why AAI?
Personalised service provisioning!
Why AAI?
Network mobility!
Inter-organization
eduroam
Linking students to the global community

Free secure Wifi provided by NRENs between campuses.

A global network of users across 101 territories. More than 2 billion international authentications and counting

A worldwide success story
From its early beginnings as a joint venture between a few European universities to today – with millions of users in more than 100 territories worldwide, eduroam has been an amazing success story and an example of research and education collaboration.

www.eduroam.org
eduGAIN

Enabling secure Single Sign On services to global research and educational resources

Federated identities enable users to access a wide range of services using a single account sign-on managed by their 'home' institution

• Improves access
• Improves security
• Reduces management overhead and costs.

March 2018:
49 Federations active
6 Federations with voting rights in process of joining
4526 entities (50% growth)
Existing capacity & expertise – eduGAIN depends on federations
InAcademia is a service being developed that simply validates to other services that the user is a student or staff member of the academic community. Helps service providers offer academic discounts online and in real time.

A lightweight federated identity process with minimal attribute release (essentially a simple yes/no). Easy for Service Providers to implement. Removes need for scans of ID cards or primitive e-mail address-based 'authentication'.
InAcademia – Flow overview

1- Is this user a student?

2- Please login to prove affiliation

3- IdP says Affiliation: Student

4- Yes
eduVPN - securing access for remote users

eduVPN provides easy-to-use client software and a secure gateway to authenticate users and encrypt data.
eduTEAMS
AAI as a Service for communities

A service to enable use of federated identities in research communities

Components
- Proxy & Identity Hub
- Membership Management service
- Discovery Service
- Metadata Service
- Second Factor Authentication (Pilot!)

Partner for any e-Infra or Research Infra inc. “long tail”, informal groups

Characteristics
- Full implementation AARC Blueprint Architecture
- Single- and multi-tenant options
- Sustainability and strategic partnerships

Achievements
eduTEAMS for communities

- Users sign in to services with their community identity via eduTEAMS

- Users register once and access any service (available to their community)

- Reduces complexity for Service Providers by providing one integration point for all services

- Integration with GÉANT, EOSC(-hub) and other community and/or eduGAIN services
eduGAIN

Enabling secure Single Sign On services to global research and education communities

Federated identities enable users to access a wide range of online services using a single sign-on managed by their 'home' institution

- Improves access
- Improves security
- Reduces management overhead and costs.

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So why RA21?

The current Identity Provider discovery workflow is very difficult for users to navigate.

RA21 UX Goals

1. A user only encounters a discovery process once (per browser).
2. The user’s institution is persisted in browser local storage and subsequently rendered in the RA21 button across all participating publishers.
Thank you

Vielen dank

klaas.wierenga@geant.org