Core Tools: eduGAIN

Interconnecting federations to link services and users worldwide

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e-IRG Workshop 2014
9– 10 June 2014
Athens

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Identity Federations World Wide

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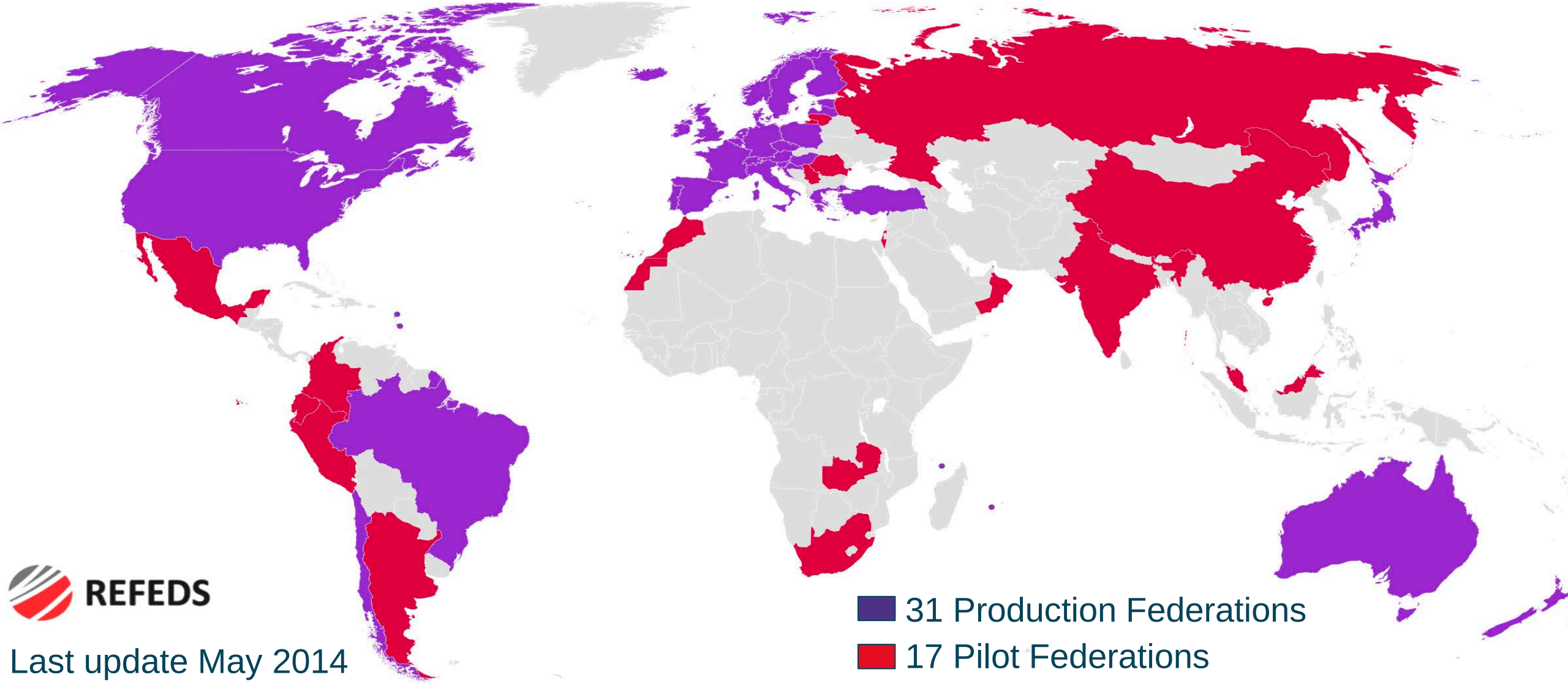
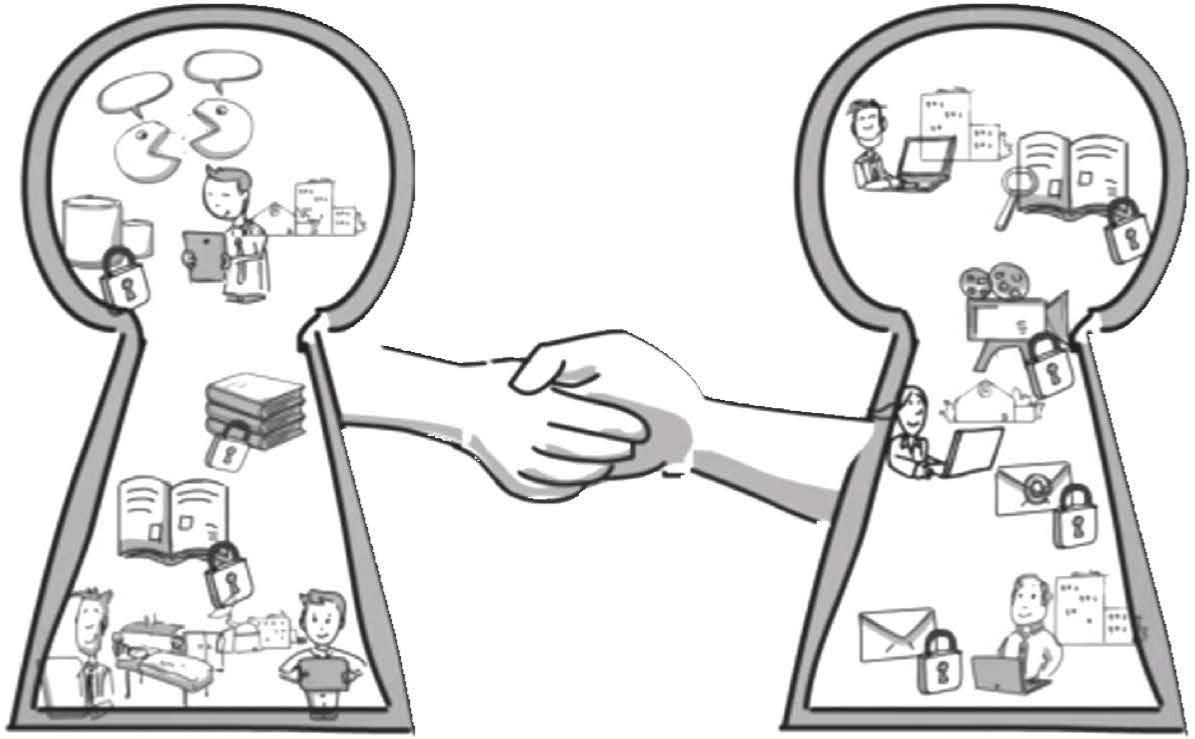


eduGAIN

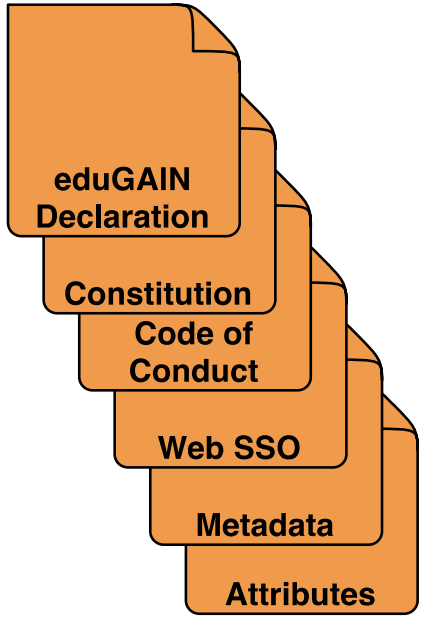
- Global Authentication Infrastructure
  - **April 2011:** Official start of eduGAIN
  - Web site: http://www.eduGAIN.org/
- SAML2-based ("All roads lead to SAML2”)
  - Currently mostly web-based services but non-web services are supported too (e.g. via SAML ECP)
- An interfederation service primarily for Research & Education
  - Connects existing SAML-based academic identity federations
- Developed and funded by European GÉANT projects
  - But open also to non-European federations

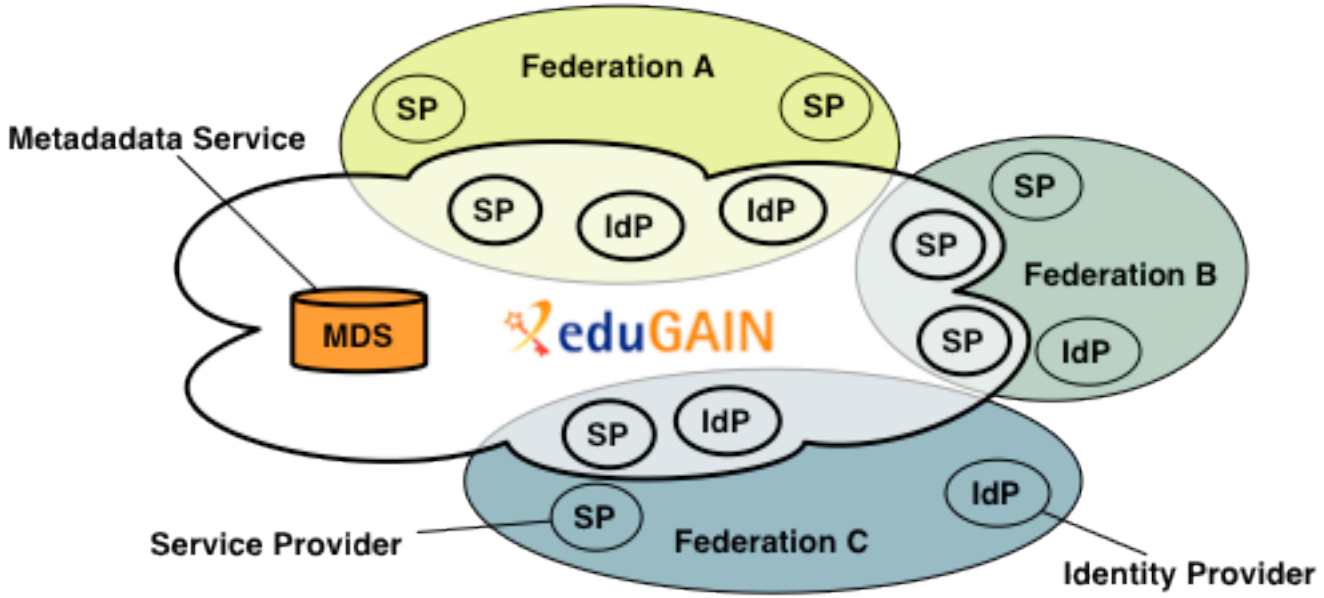
Why and how of eduGAIN: Interconnect Identity Federations



Provide legal and technical frameworks to make Identity Federations interoperate = interfederate

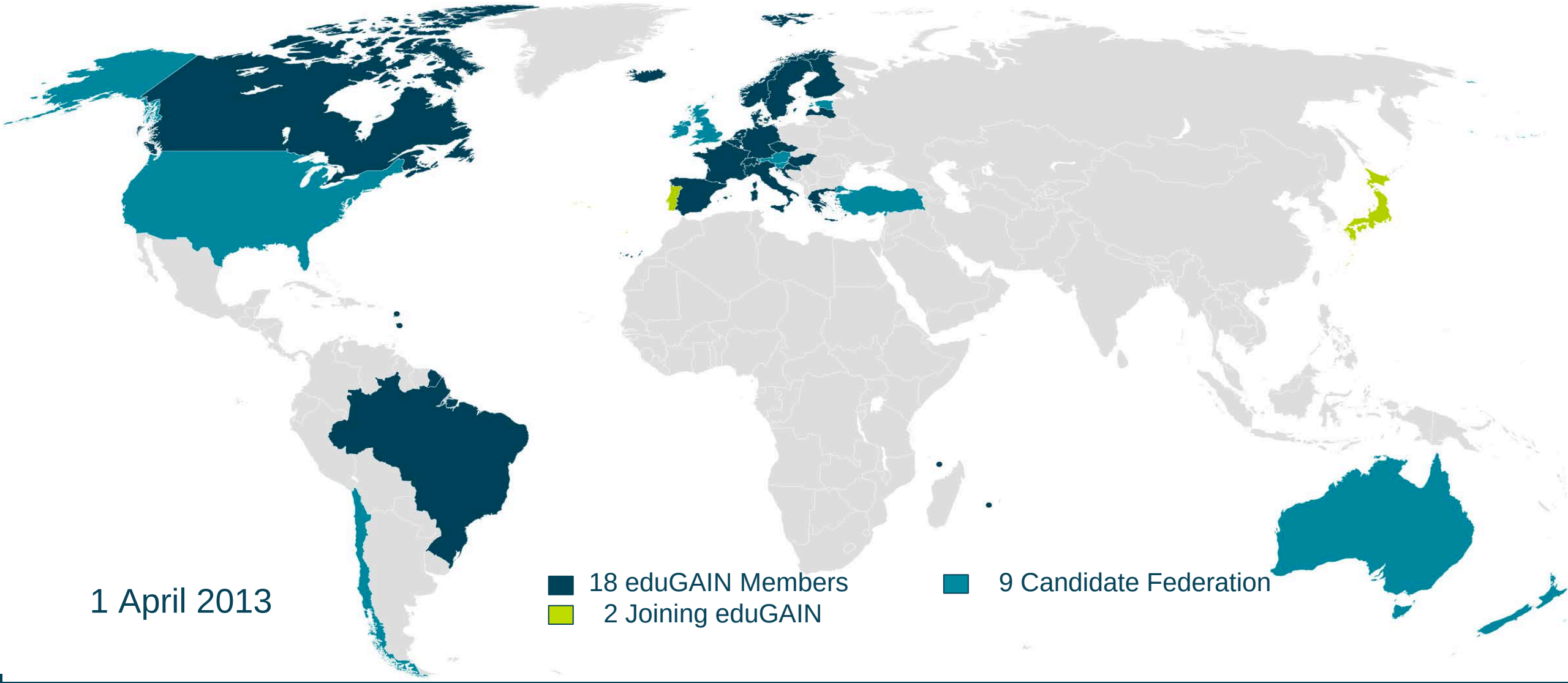
eduGAIN: how it works



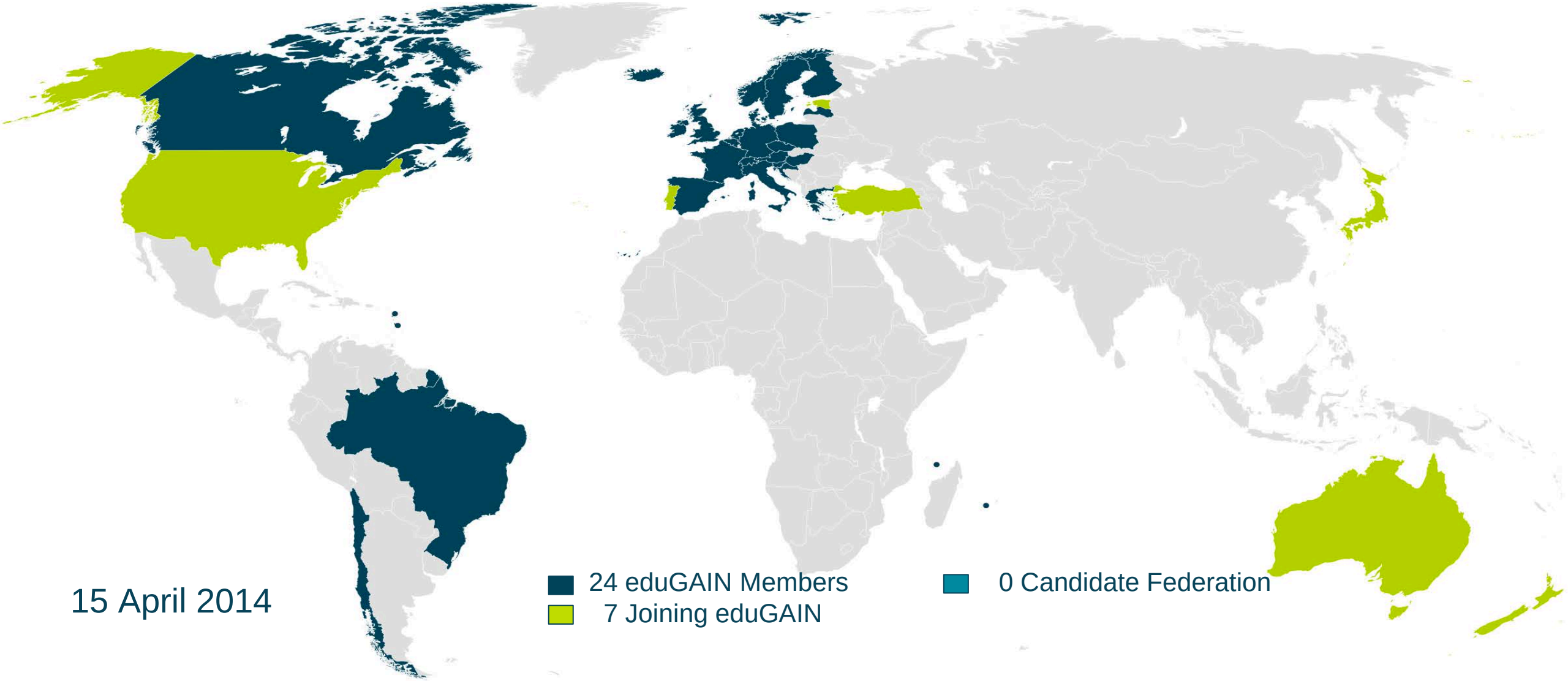


- eduGAIN provides policy framework and standards to build trust
- SPs and IdPs of participating federations should opt-in for eduGAIN
- MDS fetches, aggregates and republishes metadata

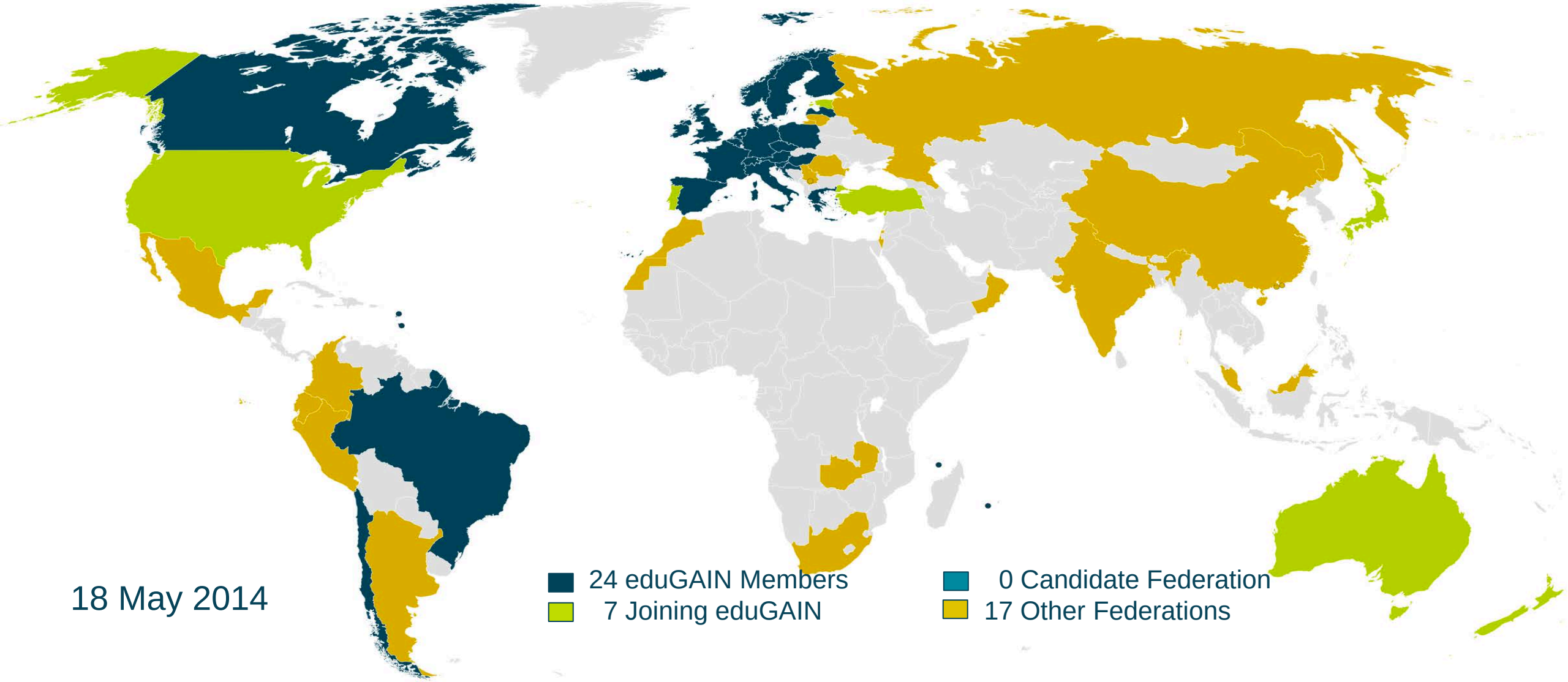
eduGAIN & Federations



eduGAIN & Federations



eduGAIN & Federations



Interfederation Use Cases

Researchers

Often work together in international research projects, which operate many web-based services that need authentication. Services are in different countries/federations. Thanks to the Interfederation researchers can use the institutional accounts

Lecturers

Can start e-learning collaborations across country borders. Create (costly) e-learning content collaboratively or easier “sell” it to other universities abroad.

Content Publishers

Companies like Elsevier /Thomson Reuters/etc already joined multiple federations. Cumbersome for them and for federation operators. Thanks to the Interfederation: Join one, be connected to many!

Federated Identity Management for Research

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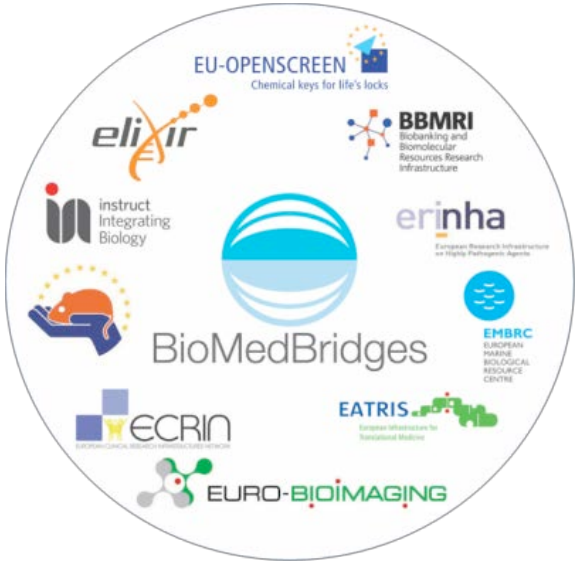

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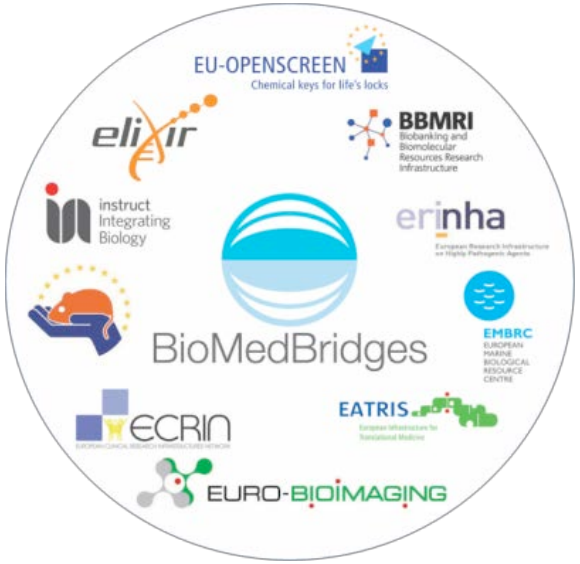
ENVRI

30+ Research Infrastructures in Europe

eduroam

Federated Identity Management for Research



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Shared Challenges – FIM4R and TERENA AAA Study

- Attribute aggregation
- User friendliness
- Credential translation
- Scalable, flexible attribute release
- Levels of Assurance
- Homeless users
- Bridging Communities
- Non-web-browser

Collaborative pilots between user communities and GÉANT

"A connected network of people, information, tools, and methodologies for investigating, exploring and supporting work across the broad spectrum of the digital humanities."

"Basic life science information constitutes a testament of human and natural evolution and advancement. As such, this wealth of knowledge should be freely available for all to access, study and process"

"Umbrella is the Federated Identity Solution of the Photon and Neutron Community, enabling user initiated trans-facility access."

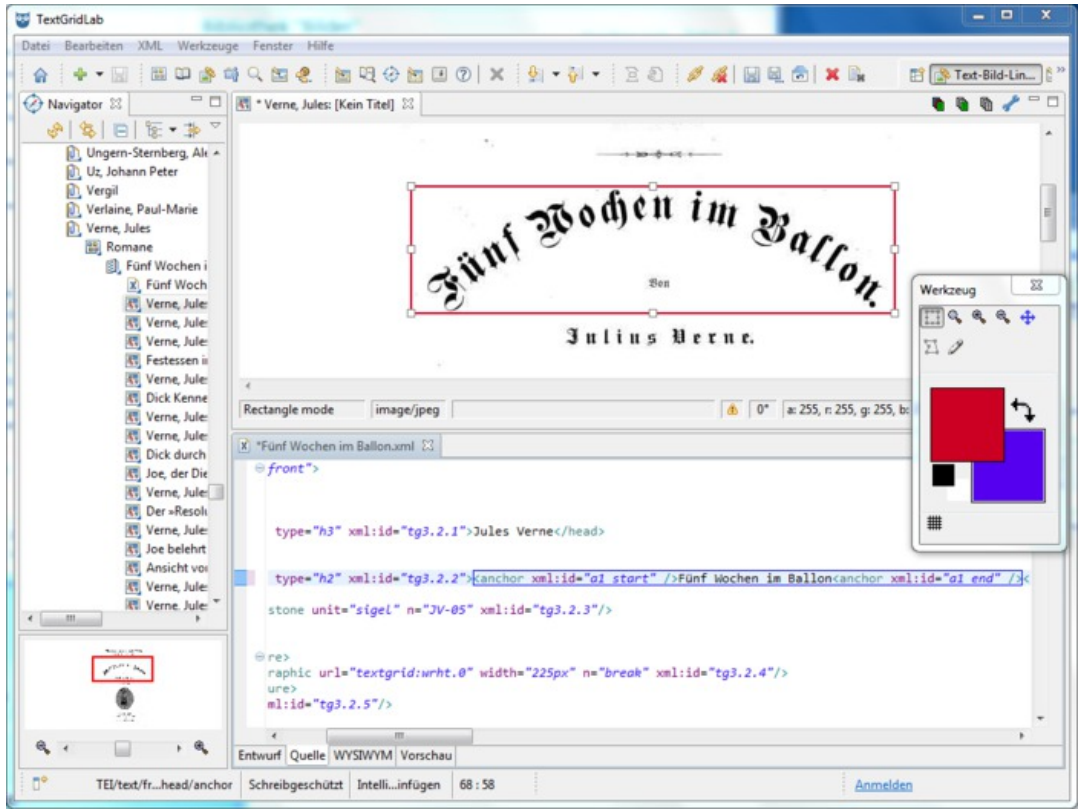
DARIAH Goals

Support humanities researchers

Find and use a wide range of research data

Work across domains and disciplines

Experiment and innovate in collaboration with other scholars



Textgrid Lab tools for scholarly digital editions

Make DARIAH DE services available via eduGAIN

Encourage attribute release based on GÉANT Code of Conduct

Group and attribute management integration with DARIAH-DE

DARIAH Progress

DARIAH-EU

Planning for considerations in group and attribute management

5 DARIAH services in DFN AAI: Portals, search, wiki, collections, research tools

Architectures for using eduGAIN

Support safe attribute release via GÉANT Code of Conduct

DARIAH Experience

eduGAIN is the best approach to pan European AAI for DARIAH
- Some time needed to fulfil all requirements

DARIAH would like to see more entities available in eduGAIN
- And reasonable attributes available

DARIAH has been able to meet many requirements
- Distributed user and privilege administration
- Policies that allow for integration into DFN-AAI and eduGAIN

Combination of eduGAIN and community specific
- DARIAH homeless-IdP and attribute authority

ELIXIR Goals

Research requiring AAI – Matching the treatment to the cancer

One in 10 women in the EU-27 will develop breast cancer before the age of 80.

If they can identify patterns of genes that are active in different tumours, we can diagnose and treat cancers earlier

ELIXIR distributed infrastructure

Pilot Goals: Requirements for Levels of Assurance

Make EGA and REMS available on a pan-European basis via eduGAIN

Part of a wider portfolio of ELIXIR AAI work

ELIXIR Progress

Level of Assurance capabilities for European Identity Federations/IdPs vs. EGA's security needs

Use of GÉANT Data Protection Code of Conduct

EGA SP registered to Haka (the Finnish Identity Federation).

EGA SP exported to eduGAIN

ELIXIR Experience

Next phase of AAI in ELIXIR – blueprint for discussion

- External IdPs via eduGAIN
- ELIXIR specific services for authorisation (REMS), non web, homeless users and community management

Federated identity cross sector collaboration: REMS to be used by FI-CLARIN & FI-CESSDA

A pan-European approach to LoA would be appreciated/necessary in the future

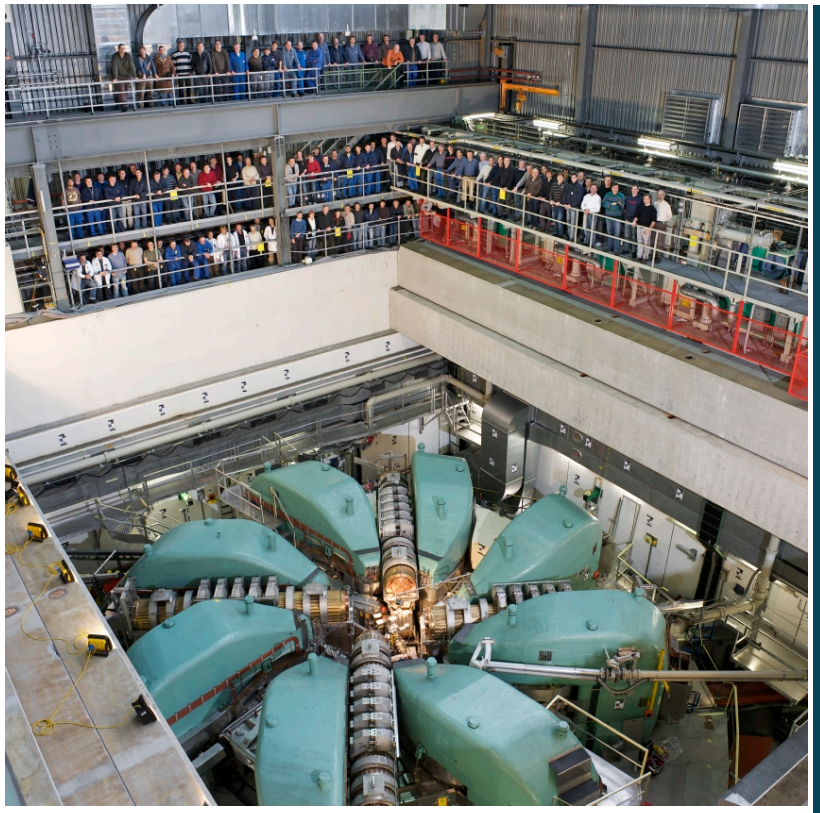
Minimise ELIXIR-specific customisation

Umbrella Goals

Umbrella Platform – a collaborative effort by leading European light source facilities as part of several EU projects.

Optimisation of process from experimental data acquisition to data publication

Sectors from biology to physics to archaeology and more – up to 40%-60% of researchers at multiple



The PSI's large proton accelerator without roof in 2010 (Photo: Paul Scherrer Institute/Markus Fischer)

Bridging Home Institution Accounts with Umbrella persistent identities

Enable Home Org identities to be used in Umbrella
Enable Umbrella identities to access resources available via eduGAIN

Non-web-browser based

Umbrella Progress

Next step – considerations for interfederation testing of Moonshot

Moonshot pilot infrastructure for SSH

Umbrella-eduGAIN Bridging prototype

Considerations for usability in a production Umbrella context

Umbrella Experience

More opportunities for NREN/Research Infrastructure Collaboration

- Security analysis discussion at FIM4R

Piloting with a wider community has benefits

- JANET/Diamond Light in UK Moonshot Pilot

Confidentiality aspects critical for Umbrella - high competition, especially structural biology

- Authorisation is delegated to the systems participating in Umbrella

GÉANT Goals
Better Understanding = Better Services

Collaborate with the wider GÉANT project and with international user communities to increase usage of AAI infrastructure.

Act as an expert partner for large pan-European projects with AAI requirements.

White paper “Options for Joining eduGAIN”
Improved public documentation & knowledgebase

Custom support for finding the best option
Help you reach the right federation contacts

In development – test IdP, plans for other services beyond basic eduGAIN

GÉANT Experience - What still needs work?

Attributes - Release, consistency, community specific and harmonisation

Levels of Assurance
A long term issue to be broken down

Understanding security and incident response

Progress can be slow as we learn to work together
More experience, work faster

Non web
Early pilot not novice user

Many other research communities developing their AAI requirements and workplans

GÉANT Experience - where do we see progress?

Sharing knowledge of federation capabilities

- Survey of Levels of Assurance

Federations looking to do more

- Support of GÉANT Code of Conduct
- Emerging ‘opt-out’ pilots for eduGAIN
- REFEDs Federation Operator Best Practice

Research communities services appearing in national federations and eduGAIN

- Knowledge gained with these pilots helps support other communities & plan services

Ask us for help:
edugain-integration@geant.net

Future work:

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- Policy
- Operational Practises
- Federation Harmonisation
- Best Practises
- LoA
- Training on policies
- Identity Harmonisation

- Enabling Users
- Support for R&E communities
- Supporting Tools
- Outreach
- Guest IdPs
- Proof of Concepts
- Research Work

- eduGAIN
- FaaS
- Moonshot
- eduroam
- Pilot Services

There are channels to do the work: Everyone with a piece of the problem

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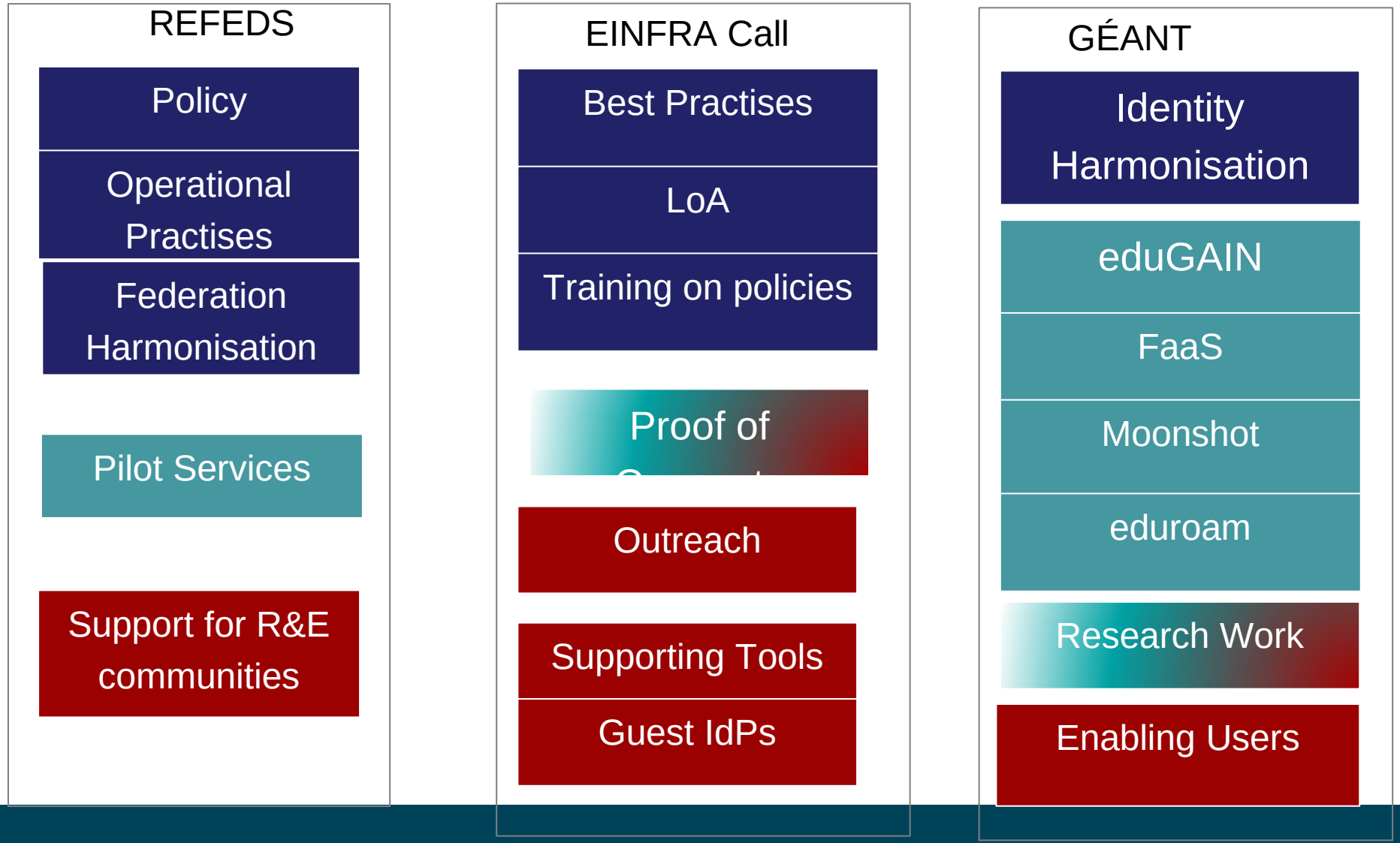

Summary

- Federated AAI is a core infrastructure
- eduGAIN is interconnecting federations to link services and users worldwide
- As of this May all production Federations worldwide are members of eduGAIN
- GÉANT has established active collaborations with the research communities
- The time is right in order to proceed together towards the future

“**All researchers** should be able to **access** their required IT Compute and Data **services** via the use of **a single electronic identity**”

Thank you

Any questions?