



UK federation landscape and roadmap FAM25, Manchester

Alex Stuart

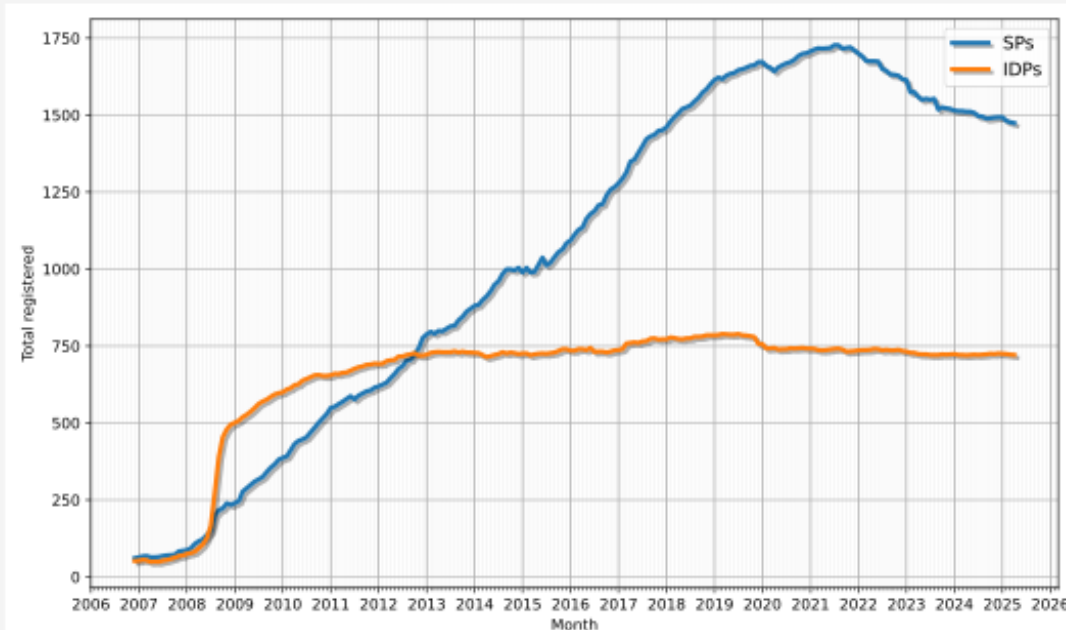
T&I technical architect



What is the UK federation?

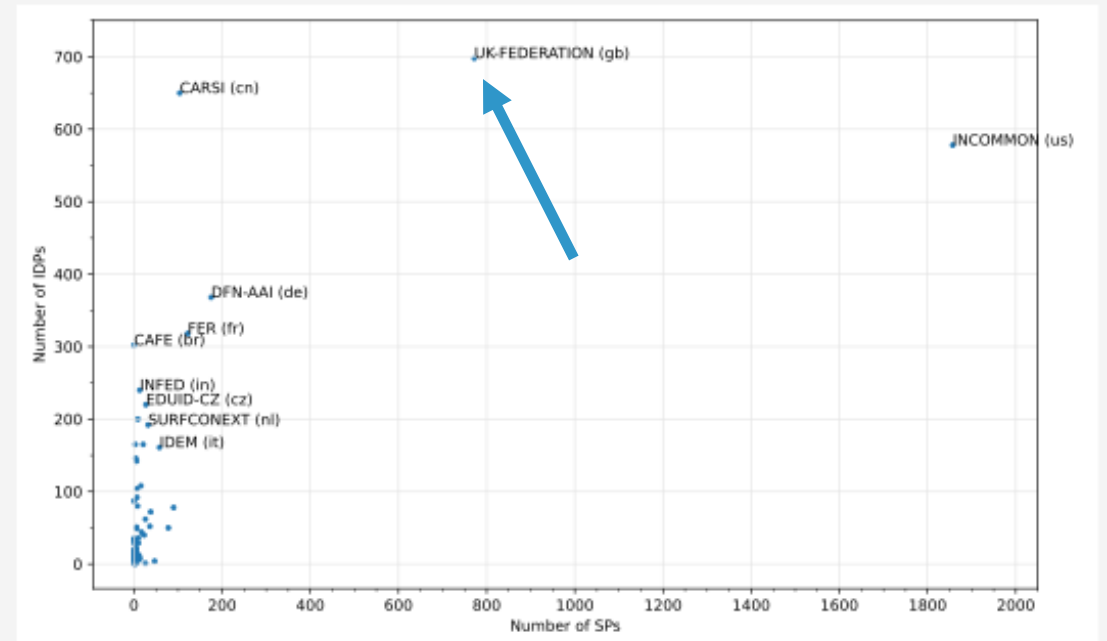
Number of IdPs and SPs

Registered Entities by Type



Integration with eduGAIN

Size of federations in eduGAIN



What is the future for SAML?

Evidence for good health

- The UK federation continues to register new SAML services
- Our helpdesk receives excellent customer service feedback for its support to Jisc members and customers
- Data from federations which produce statistics on number of authentications (such as the Dutch federation SURFnet) show an increase year-on-year
- In April 2025 five new national federations joined the eduGAIN (SAML) inter-federation service.

Evidence for decline

- Significant development outside R&E on newer protocols with more use cases
- SAML standards body has been wound up
- SAML does not easily support use cases like Single Page Apps or mobile apps, and doesn't have REST APIs for authentication flows
- Making or maintaining secure SAML implementations is likely to get harder as people with relevant skill sets (for example, XML, XSLT and XML Digital Signatures) leave the sector and new developers just want to use and work with JSON and JOSE

The game-changer is NCSC guidance for migration to post-quantum cryptography

By 2028

We must define migration goals and build an initial migration plan

By 2031

We must carry out the earliest, highest-priority PQC migration activities

By 2035

We must complete migration to PQC of all systems

“The security and privacy of XML-based frameworks such as SAML is threatened by the development of increasingly powerful quantum computers.”

Post-quantum XML and SAML Single Sign-On, Müller and Oupický, <https://eprint.iacr.org/2024/828>

UK federation technical strategy (draft)

The Trust & Identity groups's mission is to deliver world class and relevant services.
But how can the UK federation be one of them...

Support business as usual
for operations and
technical support

Meaningfully engage with
technology developments

Stakeholder engagement
to prepare for change

UK federation technical strategy (draft)

Support business as usual

- Reduce technical debt
- Simplify toolchain for maintainability
- Continue to develop tools for managing metadata
- Spread knowledge around the team to upskill and improve resilience
- Migrate from 2K RSA key to 4K RSA key for UKf metadata signing
- Start to regularly review entity attributes
(R&S and Sirtfi in particular, with training materials for deployers)
- Revamp website

UK federation technical strategy (draft)

Meaningfully engage with technology developments

- Roll out new developments, with scheduling and reach informed by members' priorities
- Build capacity in OpenID Connect
- Participate in the development of OpenID Federation standards and infrastructure to ensure the interests of UK federation's members are protected
- Map the use of wallets in the UK and beyond, focussing on cross-sector use cases
- Keep up-to-date with WebAuthn (passkey) for authentication
- Understand post-quantum cryptography as cryptographic agility

UK federation technical strategy (draft)

Stakeholder engagement to prepare for change

- Map stakeholders
- Regularly contact members
- Develop sector-specific and technology-specific strategies
- Support members' organisational capacity for federated access (multilateral or bilateral depending on the use case)
- Understand members' needs and priorities



Some examples of sector-specific and technology-specific developments



Library services

Wugen-ng

[Clockify](#)
<https://clockify.me/tracker>

[Jisc](#) [URL Generator](#) [About](#)

Wugen

1. Institute Selection ?

Start typing to search for an Institution (Identity Provider)

2. Publisher Selection ?

Start typing to search for a Publisher (Service Provider)

3. Target URL (Optional) ?

Provide a target URL if required (Optional)

[Generate WAYFless URL](#)

Service catalogue

[Jisc](#)

[HOME](#) [NEWS](#) [SERVICES](#) [JOIN](#) [SUPPORT](#) [INFO CENTRE](#)

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UK Data Archive

Page last modified on 03 March 2021, at 05:55 PM (Initially posted on 11 August 2008)

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With several thousand datasets relating to society, both historical and contemporary, our Archive is a vital resource for researchers, teachers and learners. Since 2005 the UKDA has been designated a Place of Deposit by the National Archives allowing it to curate public records.

Org.	Service	Attribute	Notes	Required
UK Data Archive, University of Essex	UK Data Service	eduPersonScopedAffiliation eduPersonTargetedID		Yes Yes

Identity providers are required to assert User Accountability and individual users must register online for access.

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Shibboleth SP redesign and re-write

The Shibboleth SP is reaching the end of life and is being redesigned and re-written in Java to make use of much of the IdP software and libraries. This will require significant effort across the board to ensure that current deployers can upgrade or migrate to an appropriate alternative. It will not be just a “yum update” although applications and many of the configuration files will not need altering.

Why is it being re-written?

- The SP is many thousands of lines of C++ code, legacy code style, hard to modify
- Key dependencies are even worse
- Shibboleth IdP code is robust and has team of developers who can develop and maintain it

Scott Cantor, lead developer with the Shibboleth Project, recently said

“We continue to work toward getting an alpha release of the SP done this year”

You can see updates on the Shibboleth wiki <https://shibboleth.atlassian.net>, specifically “Service Provider V4 Redesign” and the development blog.

REFEDS is winding down

In a landscape of organisations promoting federated access, REFEDS is winding down



Several factors have led to this point

- Federation operators are over-stretched and focusing more on internal affairs
- REFEDS Co-ordinator not renewing contract after 10 years
- Many people work in several of the similar organisations – inefficient?

Positives of REFEDS

- Global reach and global governance
- Bi-annual meetings co-located with major conferences
- Community standards and schema, developed through community work and consultation

Sirtfi for outsourced providers

Sirtfi is the Security Incident Response Trust Framework for Federated Identity

With the increased emphasis on information security and uptake of certifications such as ISO27001 and Cyber Essentials, Sirtfi is unique in focusing on federated systems.

- Self-assessment of 16 criteria across Operational Security, Incident Response, Traceability, and User Rules and Conditions
- [IR4] Be able and willing to collaborate in the management of a security incident with affected organisations that participate in Sirtfi.
- UK federation taking a phased approach: adding security contacts, then encouraging organisations to adhere to Sirtfi (version 2)
- Current UK federation work to focus on self-assessment for organisations which outsource some of the IAM provision





For the future of education and research

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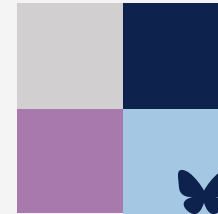
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