The case for federation

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Overview

1. What is federated identity?

2. Case study: the UK federation.

3. The future of federated identity.
What is federated identity?

“At noon on Thursday 26 February 2009, the new Slovenian Ambassador presented his Letters of Credence to HM The Queen.”

The **Relying Party** (HM The Queen)

The **Attesting Party** (President Danilo Türk)

The **Subject** (Ambassador Iztok Jarc)

An existing trust relationship between UK and Slovenia
Federated identity is everywhere…

• Many Research and Education activities already depend on federated identity.
  – Library visitors
  – Visiting academics
  – ERASMUS students
  – Virtual Learning Environments, Wikis, etc.

• Different applications, using different approaches to federating identities.

• Wouldn’t it be easier if there was a single approach to federating identity, for any application or purpose?
The “Three T’s” of federated identity

• Trust
  – Parties must make assurances about the way they manage and use identities.
  – Parties need a way to authenticate other parties so that they can be confident that the information is going to, and coming from, the correct party.

• Token
  – Parties need common semantics to understand the tokens used to express federated identity.

• Transport
  – Attesting parties need a way to transport tokens to Relying parties.
Federations as social systems

- Composed of self-governing regions
  - Research & Education Institutions
  - Research & Education Institutions and organisations that serve them

- Coming together to solve common problems
  - Network connectivity
  - Federated identity

- Governed by a common constitution
  - Acceptable Use Policy
  - Federation agreement

- Realised and enforced through common instruments
  - Network infrastructure and norms (routers, naming, numbering, etc)
  - Identity infrastructure and norms (trust, schema, protocols, etc)
Federations as technical systems

• Security Assertion Mark-up Language
  – August 2002: SAML 1.0
  – November 2003: SAML 1.1
• March 2005: SAML 2.0
  – Liberty Alliance ‘Identity Federation Framework’ (ID-FF)
  – Internet2 ‘Shibboleth’: the software, project and profile.
• November 2008: Microsoft ‘Genesis’
About the UK federation

• Replacing the legacy ‘Athens’ service
• Why?
  – Improves personalisation.
  – Easier to comply with privacy legislation.
  – Enables single sign-on.
  – A common approach to access management for all applications, both internal and external.
  – Promotes the UK government e-learning strategy
    • any time and anywhere access.
    • “14-19 agenda”
  – Consistent approach across UK education, from four years old to adult learning.
    • improves learner experience
    • enables applications such as e-portfolios

• JISC and Becta participation, covering the entire UK education system.
Participation

• Eligible to all education and research organisations, and those that serve them.

• Rules of Membership

• Technical Recommendations
UK federation statistics

• UK federation established in November 2006

• 699 member organisations
  – On average, one new member per day since the federation started.
  – Almost 100% of Higher Education Institutions
  – About 50% of Further Education Colleges
  – About 50% of the Schools sector
    • ~30,000 schools
  – About 150 service providers

• About eight million users at present; four times larger than the next largest R&E federation.
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A world of R&E federations
Beyond Research & Education

• Integration with citizen e-identity

• Supporting other Government services

• Working with other Public Sector bodies
Federation futures

• Federating federations
  – Inter-federation
    • Kalmar Union
    • UK federation & InCommon
  – Confederation

• Going beyond Web Single Sign-On
  – federated file-store
  – rich authorisation in eduroam
  – identity-aware networks
Pan-European federated services

GEANT3 project

- European PKI coordination
- eduroam
- eduGAIN
  - confederation of European federations.

26 participating partners (47 man years total)
Conclusions

• Federations are a critical part of R&E infrastructure.

• Federations are growing beyond national R&E.

• Are federations becoming more important than the network?
Thank you for your attention

Any questions?