The Shibboleth Consortium: Sustainability and Future Directions
IAM Online May 10, 2017

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Introductions

Justin Knight, Jisc
Jisc operates the Shibboleth Consortium

Scott Cantor, OSU, Shib Developer and Board Member
Scott is at Ohio State and represents the developers on the Consortium board

Kevin Morooney, Internet2
Kevin is Vice President for Trust and Identity at Internet2

Steve Zoppi, Internet2
Steve is Associate Vice President for Service Integration at Internet2

Steve and Kevin represent Internet2 on the Consortium board
Shibboleth Consortium

Justin Knight, Jisc
Background

• Shibboleth evolved out of Internet2 Middleware Initiative in 2000, with first release in 2003.

• Significant funding from Internet2 (USA) and latterly JISC (UK) resulted in wide adoption by research and education communities enterprises around the world.

• Used by 26 national federations (maybe more?):

  UKAMF (UK), InCommon (US), SWITCHaai (Switzerland), AAF (Australia), AAI@EduHR (Croatia), ACONet (Austria), Belnet (Belgium), CAF (Canada), CAFE (Brazil), CARSI (China), CESNET (Czech Republic), COFRe (Chile), DFN-AAI (Germany), Edugate (Ireland), eduID.hu (Hungary), GakuNin (Japan), GRNET (Greece), Haka (Finland), IDEM (Italy), LAIFE (Latvia), Tuakiri (New Zealand), RCTSaai (Portugal), RENATER (France), SIArnesAAI (Slovenia), SWAMID (Sweden), TAAT (Estonia) and ULAKAAI (Turkey).
The Consortium

- Comprised of a Board, Members, Manager and Developers
- The body which handles financial and contractual management
- Provides strategic direction to the Shibboleth Project
- Not a legal entity in itself
- Requires an Operator (Jisc) and has a Manager (Justin)

Key risk factors
- Current form is non-obligatory Membership payments and contracts with Developers
- The Operator isn’t liable if the Consortium’s finances go into deficit
- If the finances go under, the contracts do, too
Consortium Board

• Principal Members’ Representatives:
  • Internet2 (US): Kevin Morooney and Steve Zoppi
  • Jisc (UK): Josh Howlett
  • SWITCH (Switzerland): Ann Harding and Christoph Witzig

• Members’ Representatives:
  • Lalla Mantovani, GARR (Italy)
  • Wolfgang Pempe, DFN (Germany)

• Developers’ Representative:
  • Scott Cantor (Ohio State, US)
Consortium Membership

• **Principal Members**
  Internet2 (US), SWITCH (Switzerland) & Jisc (UK)

• **Federation Members**
  ACOnet (Austria), NII/GakuNin (Japan), CSC/Haka (Finland), RENATER (France), NORDUnet (Nordic region), Belnet (Belgium), CANARIE (Canada), DFN (Germany), The European Space Agency, GARR (Italy), CESNET (Czech Republic), HEANet (Ireland), REANNZ (New Zealand) & RNP (Brazil)

• **Academic / Non-Profit Members**
  Carnegie Mellon University (US), LIGO Scientific Collaboration (US), The Space Telescope Science Institute (US), CINECA (Italy) & Lawrence Berkeley National Laboratory (US)

• **Commercial Members and Donors**
  Digital Identity Labs, Overt Software Solutions, Clareity Security & InfoStreet
**Financials**

*Income:* Membership payments and donations. Equate roughly to £370K / €430K / $460K per annum.

*Expenditure:* Development contracts; Consortium Manager. Equate to £400K / €465K / $495K per annum.

Currently surviving on reserves built up in first two years of operation when Principal fee was significantly higher.

Developer hours were cut by 20% in August 2016 so as to avoid a deficit in 2016.

January 2017 has seen an increase in fees of 25% to avoid a 2017 deficit.

The current level of income and expenditure will keep the Consortium afloat until ~Q1 2018 before the reserves are exhausted.
## Membership Fees

<table>
<thead>
<tr>
<th>Category</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>NREN/Federation Member</td>
<td>€ 12,500 (~$13,500)</td>
<td>€ 25,000 (~$27,000)</td>
<td>€ 50,000 (~$54,000)</td>
</tr>
<tr>
<td>Academic/Non-Profit Member</td>
<td>€ 2,500 (~$2,700)</td>
<td>€ 5,000 (~$5,400)</td>
<td>€ 7,500 (~$8,100)</td>
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<tr>
<td>Commercial Member</td>
<td>€ 5,000 (~$5,400)</td>
<td>€ 10,000 (~$10,800)</td>
<td>€ 20,000 (~$21,500)</td>
</tr>
</tbody>
</table>

To become a Principal Member and get a seat on the Board, an additional EUR 20K will qualify any level.

Please note: the conversions to US dollars are approximate.
Shibboleth Consortium

Kevin Morooney, Internet2
Project Areas

- Consortium
- Project and Program
- Core Technology
Project Area - Consortium

• Consortium Management (20%)

• Consortium Marketing/Business Development (0%)
Project Areas - Project and Program

- Project Management (5%)
- Infrastructure Management (10%)
- Community Technical Support (10%)
- Standards Development (0%)
Project Areas - Core Technology FTE

Identity Provider
- Core (50%)
- Authentication (15%)
- Integration (25%)
- Consent / Privacy Mgmt (5%)
- SAML (60%)

Service Provider (Native) (15%)
Metadata Aggregator / Fed. Mgmt (10%)
QA / Testing (20%)
Packaging / Installation (20%)

Unallocated Work
- Command Line / Non-Traditional Integration
- Service Provider (Java)
- Discovery / User Interface / GUI Design
- Documentation / Training
- Identity Provider (OIDC / OAuth)
- Pair Programmer / Backup Engineering Support
Scenarios being considered

- Minimum sustainable
- Optimal sustenance and moderate growth
Shibboleth Usage in edugain

2,367 IdPs (as of 27 March 2017)
Shibboleth Usage in InCommon

433 IdPs (as of 27 March 2017)
Next steps

- Develop alternatives to closing the gaps, continue community consultation
- Continue to refine this presentation/material
- CEO engagement strategy
- Develop a communications plan
Shibboleth Project

Scott Cantor, Ohio State and Shibboleth Developer
The Developers

Scott Cantor
Project infrastructure, board liaison, Service Provider, lead on IdP and IdP’s clustering, authentication, SAML support

Daniel Fisher
LDAP library author, and LDAP support consultant

Brent Putman
OpenSAML in Java, security design and code

Rod Widdowson
SP, software installation on IdP and SP, IdP’s attribute capabilities, embedded discovery service

Ian Young
Metadata Aggregator

Tom Zeller
Project infrastructure, testing, IdP consent support

Marvin Addison (committer, not contracted)
CAS implementation and maintenance
Project Plan for 2017-2018

- Assumes relatively flat funding
- Avoids larger, multi-year project commitments
- Avoids additional maintenance debt
Identity Provider

- V3.4 in 2017
- Final V3 release to prepare for V4 changes:
  - Identify, warn on deprecated features scheduled for removal
  - Redesigned Dependency syntax for attribute resolution
    - `<InputAttributeDefinition>`, `<InputDataConnector>`
    - Formalizes distinction between single- and multiple-input plugins
  - TIER-sponsored work on metadata-driven configuration
    - [https://wiki.shibboleth.net/confluence/x/VQC_AQ](https://wiki.shibboleth.net/confluence/x/VQC_AQ)
  - Evaluating community-built plugins to aid proxying
Identity Provider cont.

- V4.0 in 2018, perhaps 2019
- Spring 5, Java 8+ (no Java 7)
- Elimination of various V2 holdovers and some bad design decisions
- Likely installation/deployment improvements
- Short window for V3 support, perhaps a year
Service Provider

- V3.0 in 2017, perhaps 2018
- Technical debt
  - OpenSSL 1.1 compatibility (major transition on many Linux distros)
  - Updated Windows compiler
  - XML parser vulnerabilities on RH7 platform
  - Separate and clean up documentation
Service Provider cont.

• Unlikely to involve redesign, big configuration changes, or other improvements one might associate with a major release

• Substantive ideas:
  • Rebase IIS support on IIS7 with more native functionality and better security guarantees
  • New session cache options borrowed from IdP to improve clustering

• Very short window for V2 support, likely minimal depending on upgrade implications
Other Activities

• Finalizing V1.0 Metadata Aggregator (used by multiple large federations for their metadata processing today)
• Better alignment and support for third-party installation and packaging projects
• As much consultation, design assistance, and possibly library development as we can spare on third-party OIDC/OAuth projects (see slide 1)
Questions?

Contact Information

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Evaluate Today’s IAM Online

InCommon Shibboleth Installation Workshops

iwww.incommon.org/shibtraininging

- June 14-15, Denver, Colorado
- July 19-20, Easton, Pennsylvania
- November 7-8, Bethesda, Maryland [Starting with this session, the curriculum will shift to Shibboleth incorporated with TIER]
June IAM Online

Consent and Attribute Management

June 21, 2017
2 pm ET

Rob Carter, Duke University
Ken Klingenstein, Internet2