Using Federated Identity for NSF- and NIH-Funded Cyberinfrastructure
Wednesday, Jan. 11, 2012 – 3 p.m. ET

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IAM Online is brought to you by InCommon, in cooperation with Internet2 and the EDUCAUSE Identity and Access Management Working Group
InCommon Federation’s Promise

The mission of the InCommon Federation is to create and support a common framework for trustworthy shared management of access to online resources in support of education and research in the United States.

• What this means to me as a user:

   I can use the credentials provided to me by my organization to gain access to systems and services from others in the InCommon Federation

• What this means to me as a Service Provider:

   I can outsource user account management to Identity Providers (Higher Eds, National Labs) and implement one logon interface that supports many users
Progress on Realizing That Promise

<table>
<thead>
<tr>
<th>Higher Ed Participants</th>
<th>Labs &amp; Agencies</th>
<th>Sponsored Partners</th>
<th># Contracts Needed</th>
<th># Contracts Avoided</th>
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<tbody>
<tr>
<td>248</td>
<td>18</td>
<td>88</td>
<td>354</td>
<td>62,127</td>
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</tbody>
</table>

- Federation enables inter-org transactions at scale
  - Technology
  - Multilateral framework (table above)

- Programs that help manage risk & remove obstacles
  - Service Categories to scale attribute release
  - Identity Assurance (Silver) for riskier transactions
Making it Real for Researchers

• National Science Foundation & National Institutes of Health are counting on InCommon to reduce time & cost needed to engage users with cyberinfrastructure

• Devils, and some angels, in the details of implementing a federated service for researchers

• “Research & Scholarship”, InCommon’s first Service Category, designed to address needs of federated access to cyberinfrastructure
  • Webinar on R&S next week!

• First batch of Silver universities to come online in 2012
The InCommon Roadmap Project

• Funded by NSF (Grant # 1040777 OCI)
• Goal to provide a practical guide to implementing InCommon
• Bill Barnett, PI. Von Welch wrote the document
• Benefitted from editorial board and broad community feedback
• Now at: http://www.incommon.org/cyberroadmap.html
About Collaboration

• The intellectual capital to successfully undertake scholarly research is no longer found at a single institution, or a single country.

• Even within institutions and departments, collaborative research is increasingly becoming the norm.

• The resources necessary for competitive research are no longer found in an isolated research lab.

• Distributed analytical and computational facilities and online datasets are changing the research resource landscape.
Types of Research Collaborations

• Highly distributed communities of independent scholars who share educational content and tools.

• Institutional collaborations to accelerate research workflows and move them online.

• Distributed research projects that have moved their analytical workflow online to accelerate research.
The CTSA and Indiana CTSI

- NIH Clinical and Translational Sciences Awards (CTSA)
- 60 Institutional awards across the country
- Goal to promote ‘bench to bedside’ research and improve research and research administration tools
- Indiana CTSI primarily serves 1700 people at IU, Purdue, and Notre Dame but also develops national resources.
- Limited number of institutions with large numbers of participants at each is a nice match for InCommon.
What Do Translational Researchers Want?

- Control over the tools they use for their projects
- Easy to use interfaces
- Ability to easily collaborate
- Not to have to hunt down and rediscover resources

OR

Google
What Do Researcher Administrators Want?

- Control over the tools they use for their projects
- Easy to use interfaces
- Ability to easily collaborate
- Not to have to hunt down and rediscover resources

OR

Google

Web Images Groups News Froogle Maps more »

Google Search I'm Feeling Lucky

Advanced Search Preferences

Business Solutions About Google

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The Indiana CTSI HUB

A modular research collaboration portal based on Joomla! that excels at data sharing, modeling and simulations, multimedia content, community participation.

Originally created as nanoHUB at Purdue.
Indiana CTSI Federated Login to Web Applications

HUB/Joomla! Applications

Alfresco Share Private File Sharing

REDCap Distributed Team Data Management

Multi-Team Project Workflow Tools
Fed ID works for the Indiana CTSI:

• It is worth the effort because once you set up Fed ID it supports everyone in the institution

• It uses institutionally managed credentials so has higher level of trust and can be used for clinical research

• It is easier for researchers and staff to use because they use existing credentials

• Credentials automatically move from application to application without constant re-authentication.

• It scales
A Roadmap for Using NSF Cyberinfrastructure with InCommon

NSF Grant OCI-1040777
William Barnett (PI), Von Welch (Lead author)
Alan Walsh (co-PI), Craig A. Stewart (co-PI)
Indiana University

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A Roadmap for Using NSF Cyberinfrastructure with InCommon

The "InCommon Roadmap for NSF CyberInfrastructure" provides guidance for NSF cyberinfrastructure projects and their representative campuses on the successful adoption and use of InCommon to advance data sharing, build collaborative communities, and reduce barriers to cyberinfrastructure adoption.

The Roadmap provides concrete guidance to campuses and cyberinfrastructure projects for how to effectively take advantage of federated identity as a foundation for a national cyberinfrastructure.

The Roadmap is available through Indiana University ScholarWORKS:
- Full version
- Abbreviated version

Or, order a printed copy from CreateSpace.

Authors: William Barnett, Von Welch, Alan Walsh, Craig A. Stewart

This material is based upon work supported by the National Science Foundation under OCI findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.

Barnett, W., Welch, V., Walsh, A., and Stewart, C.A.

A Roadmap for Using NSF Cyberinfrastructure with InCommon.

http://www.incommon.org/cyberroadmap.html
What is it?

• A Primer for joining InCommon
  • For both IdPs and SPs

• A how-to for the particular challenges to support research CI via InCommon

• Three sections: Overview, Technical and Policy.
Document Scope

NSF CI Projects and campuses representing NSF scientists and Engineers

Shibboleth

“High level” and out of the ephemeral technical details.
Why is it? - Roadmap Goals

Providing education and fostering the use of InCommon and Shibboleth to support NSF cyberinfrastructure.

Discussing benefits, challenges and alternatives.

Outlining a process and best practices.
Capturing Community Experiences

https://go.teragrid.org/

And:

LIGO

OOI

DataONE

CTSI
Fed ID becoming important to Research Administration

Other research facilities joining...

http://www.incommon.org/energy_labs.html
A quick tour...
Roadmap Outline

Benefits, Challenges and Overview

The Guide to Technical Deployment

The Guide to Policy and Business Processes

Glossary and other Resources
Benefits, Challenges, Overview

Intended for campus and project leadership, scientists and engineers.

Highlights of this section follow.
Benefits and Challenges

Benefit: CI projects no longer have to provision passwords, handle lost passwords, etc.

Challenge: CI projects have reliance on outside infrastructure == change in risk profile.
Benefits and Challenges

Benefit: Campuses have insight into the CI usage of their researchers through use of local IdM system

Challenge: Campuses must decide policies on attribute release.
Benefits and Challenges

Benefit: Researchers use same authentication for local & NSF resources.

Challenge: NSF CI projects must arrange “on-boarding” (attribute release) process from all institutions of interest.
Alternatives: e.g. Social Ids

Discussion of pros and cons.

Can be used together coherently
E.g. InCommon for higher value, Social Ids for broader community.
And more…

Issues unique to NSF CI
Other alternative approaches
Estimating the effort required
Process steps

Persistent identifiers
Incident Response
Prerequisites to federating identity
Who needs to be involved
SP Categories Pilot

https://spaces.internet2.edu/pages/viewpage.action?pageId=26575612

• New since Roadmap publication
• Addresses attribute release/on-boarding problem.
• Streamlining attribute release by bundling attributes and categorizing SPs.
  • Defines category membership requirements.
  • InCommon vets SP’s category membership.
• Allows campuses to determine attribute release policy with regards to categories
  • In addition to individual SPs.
• Research and Scholarship is first category, in pilot.
Many Thanks to our Editorial Board

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In conclusion...

Now you’ve seen the movie, Go read the book.

http://www.incommon.org/cyberroadmap.html

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Evaluation
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