

*Using Federated Identity for NSF- and NIH-  
Funded Cyberinfrastructure*

Wednesday, Jan. 11, 2012 – 3 p.m. ET

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## 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 on-line 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

Higher Ed Participants	Labs & Agencies	Sponsored Partners	# Contracts Needed	# Contracts Avoided
248	18	88	354	<b>62,127</b>

- 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




```
David@asteron:~$ ls -l /todo.py
-rw-rw-r-- 1 david david 1024 2009-06-07 08:01:00
Your current Todo list is:
Berkside Podcast 2009-06-07 08:01:00
pipist 2009-07-29 01:01:00
David [11:16 AM] asteron ~ $ bash -l -version
GNU bash, version 4.0.33(2)-release (x86_64-pc-linux-gnu)
Copyright (C) 2009 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>
This is free software; you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.
David [11:16 AM] asteron ~ $
```

OR



# 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



```
File Edit View Terminal Help
To edit your todo's, run: /todo.py
Your current todo list is:
Berkside Podcast 2009-06-07 08:01:00
pipist 2009-07-29 01:01:00
david [11:10 AM] opteron - $ bash --version
GNU bash, version 4.0.33(2)-release (x86_64-pc-linux-gnu)
Copyright (C) 2009 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>
This is free software; you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.
david [11:16 AM] opteron - $
```

OR



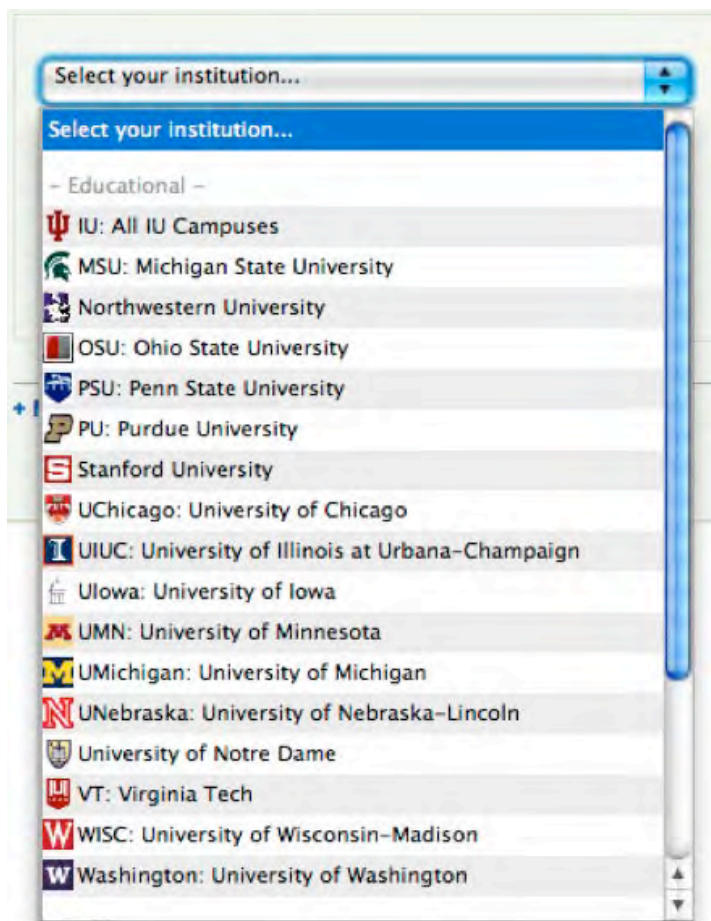
# The Indiana CTSI HUB

The screenshot shows the Indiana CTSI HUB website. At the top left is the logo for INDIANACTSI (Clinical and Translational Sciences Institute) with the tagline "Accelerating Clinical and Translational Research". To the right are logos for IU, Purdue, and Notre Dame. Below the header is a navigation menu with links for Home, Login, No Account? Register Now!, and a search bar. A sidebar on the left contains a list of menu items: About (Mission & Goals, Leadership, Our Partners, Our Programs, Contact Us), News & Events, Research Resources, Training & Education, Funding, Community Engagement, Get Involved, and Tools. The main content area features a large banner with the text "I NEED I AM" overlaid on images of researchers in a lab. Below the banner is a grid of service categories: Letter of Support, Clinical Research Services, Community Access, Compliance Guidance, Data Management & Statistics Help, Education & Training, Grants & Funding, Project Development Help, Subject Recruitment Information, Technology & Lab Resources, Find Collaborators, and Find Research Studies. To the right of this grid is a list of roles: Community Member, Health Provider, Institutional Partner, New Faculty Member, Research Coordinator, Research Volunteer, Scientist or Researcher, and Student or Postdoc. Below this is a "Featured Story" section with a photo of a researcher and a text snippet: "Indiana CTSI program supports summer research internships for local high school students [More ...]". At the bottom left, there are buttons for "CTSI Newsletter" and "Grants Login". The bottom right section contains "Announcements" and "Upcoming Events". The footer includes contact information (icsi@iupui.edu), a note about the website being powered by HUBzero, and logos for the National Institutes of Health and CTSA Clinical & Translational Science Awards.

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

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NSF Grant OCI-1040777

William Barnett (PI), Von Welch (Lead author)

Alan Walsh (co-PI), Craig A. Stewart (co-PI)

Indiana University

*IAM Online*  
*January 11, 2012*



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Home
New to InCommon?
Federation Basics
InCommon Basics
InCommon Benefits
Sponsored Partner Resources
Case Studies
Join InCommon
Fee Schedule
Policies and Practices
Participants and Affiliates
Participants
Affiliates

## A Roadmap for Using NSF Cyberinfrastructure with InCommon

The "InCommon Roadmap for NSF CyberInfrastructure" provides guidance for NSF cyberinfrastructure representative campuses on the successful adoption and use of InCommon to advance their research. 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.

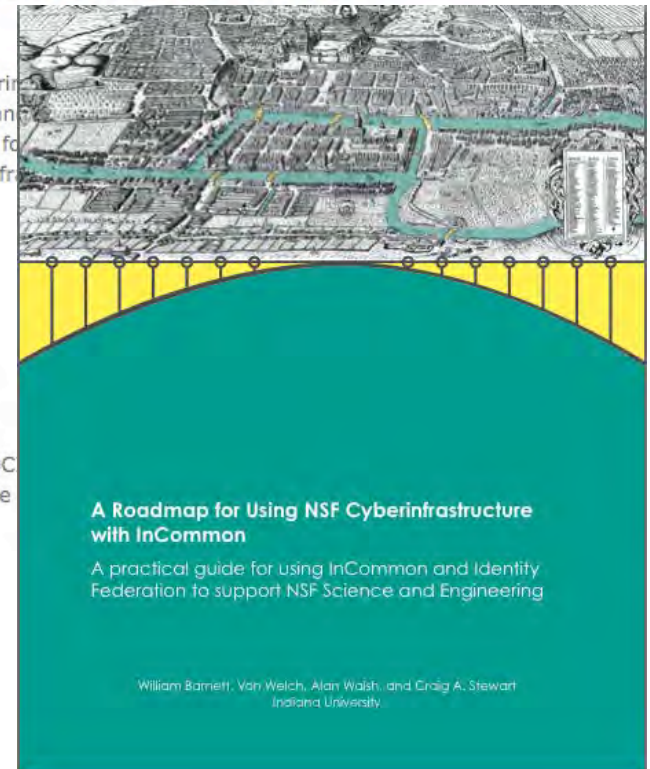
The Roadmap is available through Indiana University ScholarWORKS:

- [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 OC 0845382. Any findings, and conclusions or recommendations expressed in this material are those of the authors and not necessarily those 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>



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## 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.





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# Document Scope

NSF CI Projects and campuses  
representing NSF scientists and Engineers

Shibboleth

“High level” and out of the ephemeral  
technical details.



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## 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.



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# Capturing Community Experiences

The image shows two screenshots. The top screenshot is the CILogon Service login page, featuring a green header with the CILogon logo and the text "CILogon Service". Below the header is a "Select An Identity Provider:" dropdown menu with a list of universities: Arizona State University, California Institute of Technology, Carnegie Mellon University, and Clemson University. There is a "Remember this selection:" checkbox and a "Log On" button. A small "Show Help" link is in the top right corner. Below the dropdown is a note: "By selecting 'Log On', you agree to CILogon's privacy policy." The bottom screenshot is the go.teragrid.org website. It has a green header with the "GO" logo and "TeraGrid" text. Below the header is a "Welcome to go.teragrid.org!" message. The main content area has sections for "What Is go.teragrid.org?", "How Does go.teragrid.org Work?", and "How Do I Use go.teragrid.org?". The "How Does go.teragrid.org Work?" section explains that the site maps TeraGrid usernames to Shibboleth identities. The "How Do I Use go.teragrid.org?" section provides instructions for initial setup, including having login information handy for both systems.

And:

LIGO

OOI

DataONE

CTSI

<https://cilogon.org/>

<https://go.teragrid.org/>



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# Fed ID becoming important to Research Administration

NSF National Science Foundation  
WHERE DISCOVERIES BEGIN

NSF Web Site

Home Funding Awards Discoveries News Publications Statistics About FastLane

News

Press Release 11-135  
**Through Research.gov, Institutions Gain Streamlined Access to Federal Research Systems**

NSF partners with InCommon Federation to provide grantee institutions single login and password

Research.gov

Now PIs & Co-PIs can access FastLane via Research.gov Using Single Sign-On!

Once logged into Research.gov, PIs and co-PIs can connect seamlessly to FastLane's PI/co-PI services

[http://nsf.gov/news/news\\_summ.jsp?cntn\\_id=121018&org=NSF&from=news](http://nsf.gov/news/news_summ.jsp?cntn_id=121018&org=NSF&from=news)



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# Other research facilities joining...



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New to InCommon?
Federation Basics
InCommon Basics
InCommon Benefits
Sponsored Partner Resources
Case Studies
Join InCommon
Fee Schedule
Policies and Practices
Participants and Affiliates
Participants
Affiliates

## InCommon for Energy Labs, Tech Centers and User Facilities

Energy Labs, Tech Centers and User Facilities can now join InCommon as identity providers and/or service providers, taking advantage of federated identity management to provide access to shared service, virtual organizations, and other scientific collaborations.

**Pricing** - A special arrangement provides fixed pricing for three years, beginning in 2011, based on [the current fee schedule](#).

- **Special participation agreement** —Energy labs, tech centers and energy-related user facilities should [use this agreement](#) [DOC] to **join InCommon**, rather than the regular participation agreement.
- Question about eligibility?
  - [List of energy labs and tech centers](#)
  - [List of energy-related user facilities](#)

This program is supported by the [Department of Energy Office of Science, Lawrence Berkeley National Lab](#), and the [Energy Sciences Network \(ESnet\)](#).

### Additional Resources

[Overview of Identity Management](#)

[Technology Behind InCommon](#)

[FAQ](#)

[Shibboleth demo](#) (Quicktime Movie)

[Support and Community](#) (links to wiki)

[Case Studies](#)

[Fee Structure](#)

[How to Join](#)

[http://www.incommon.org/energy\\_labs.html](http://www.incommon.org/energy_labs.html)



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# A quick tour...



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# Roadmap Outline

Benefits, Challenges and Overview

The Guide to Technical Deployment

The Guide to Policy and Business Processes

Glossary and other Resources



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# Benefits, Challenges, Overview

Intended for campus and project leadership, scientists and engineers.

Highlights of this section follow.



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# 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.



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# 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.



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# Benefits and Challenges

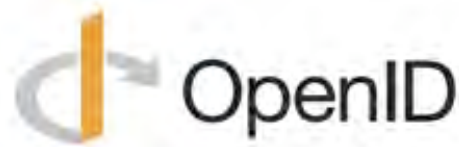
Benefit: Researchers use same authentication for local & NSF resources.

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



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## 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.



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## 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



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# 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.



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# Many Thanks to our Editorial Board

James Basney

NCSA/U. of Illinois; TG, OOI, CILogon

Michael Beyerlein

Purdue U.; Department Head and Professor for  
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Ken Klingenstein

Internet2; Shibboleth, InCommon

Michael McLennan

Purdue U.; nanoHUB



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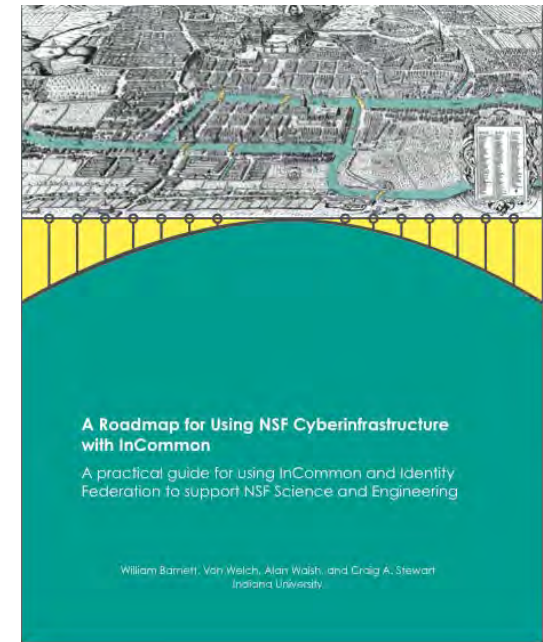


# In conclusion...

***Now you've seen the movie,  
Go read the book.***

***<http://www.incommon.org/cyberroadmap.html>***

***[vwelch@indiana.edu](mailto:vwelch@indiana.edu)***



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## Evaluation

Please complete the evaluation of today's IAM Online.

[www.surveymonkey.com/s/IAMOnline\\_Jan\\_2012](http://www.surveymonkey.com/s/IAMOnline_Jan_2012)

## IAM Online Announcement List

Email [sympa@incommon.org](mailto:sympa@incommon.org) with the subject: subscribe iamonline

*Thank you to InCommon Affiliates for helping to make IAM Online possible.*



*Brought to you by InCommon, in cooperation with Internet2  
and the EDUCAUSE Identity and Access Management Working Group*