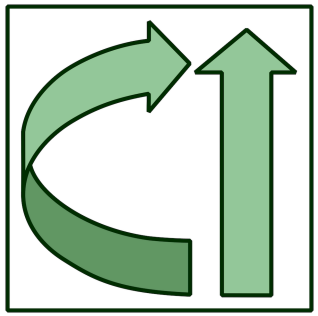

# CILogon and InCommon: Technical Update

Jim Basney <jbasney@ncsa.illinois.edu>

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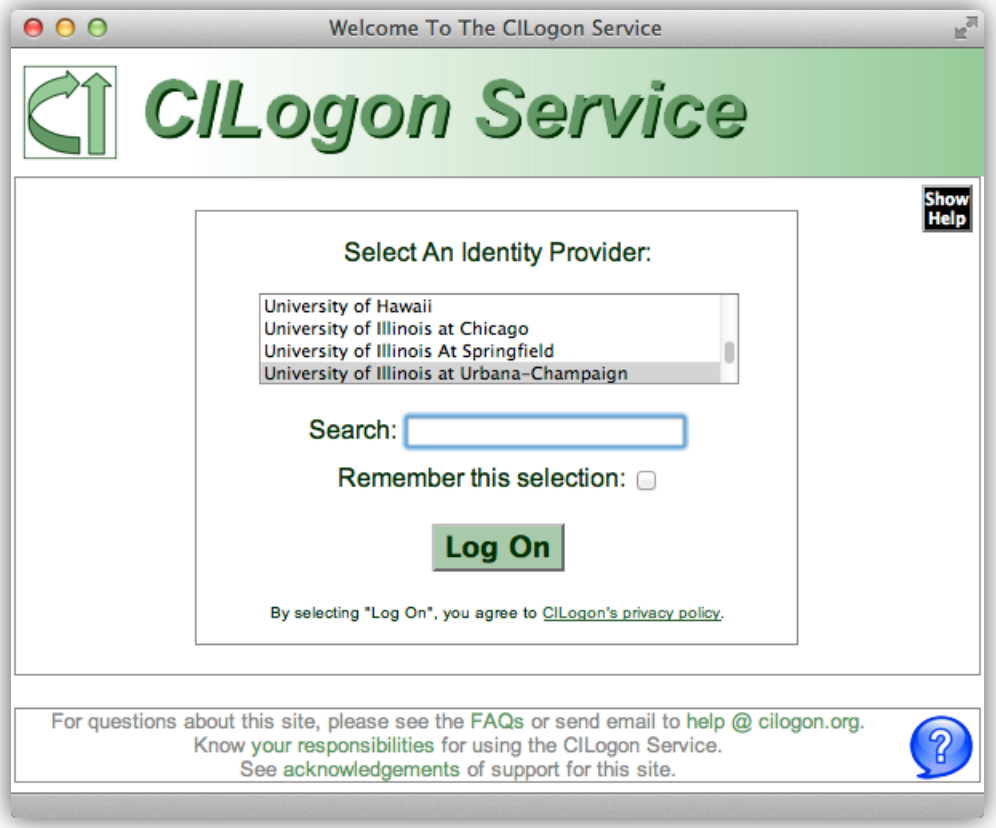
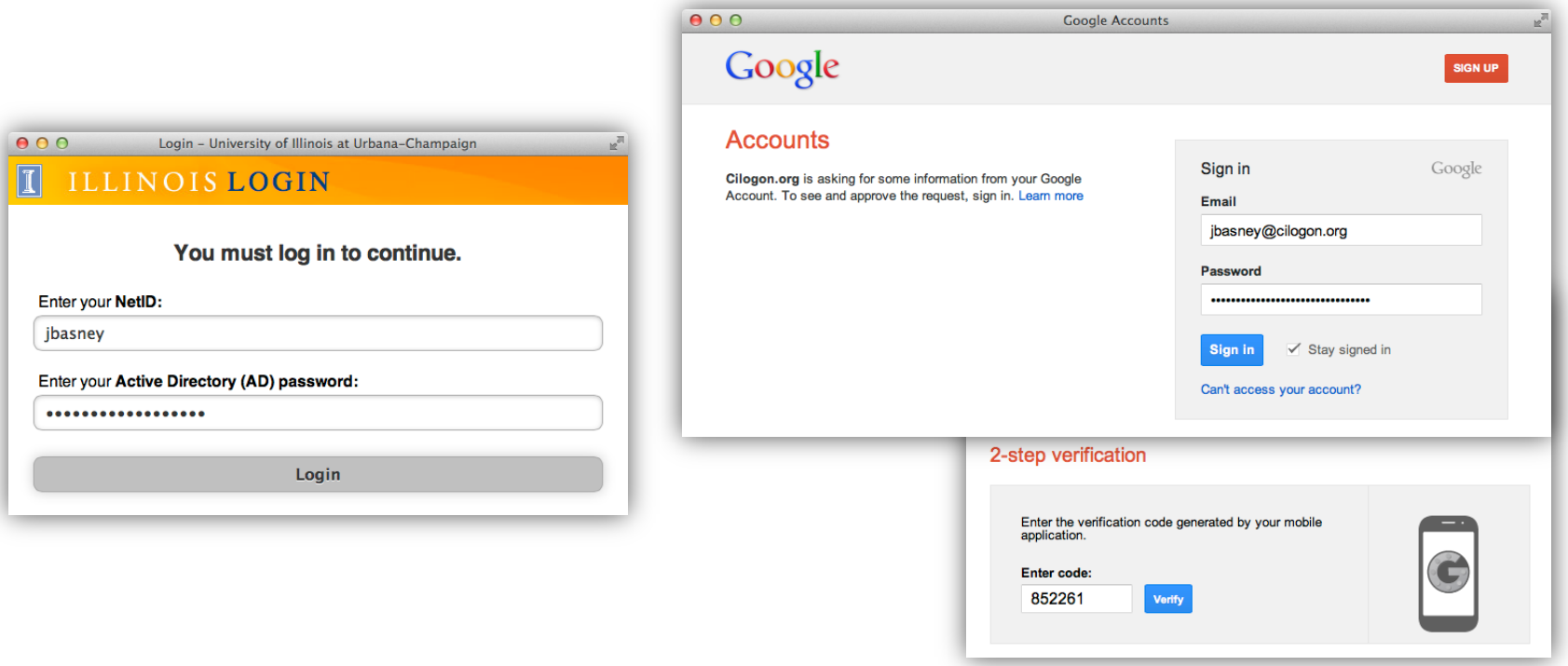
# CILogon – https://cilogon.org/

- Provides personal digital certificates for access to cyberinfrastructure
- Uses federated authentication for user identification

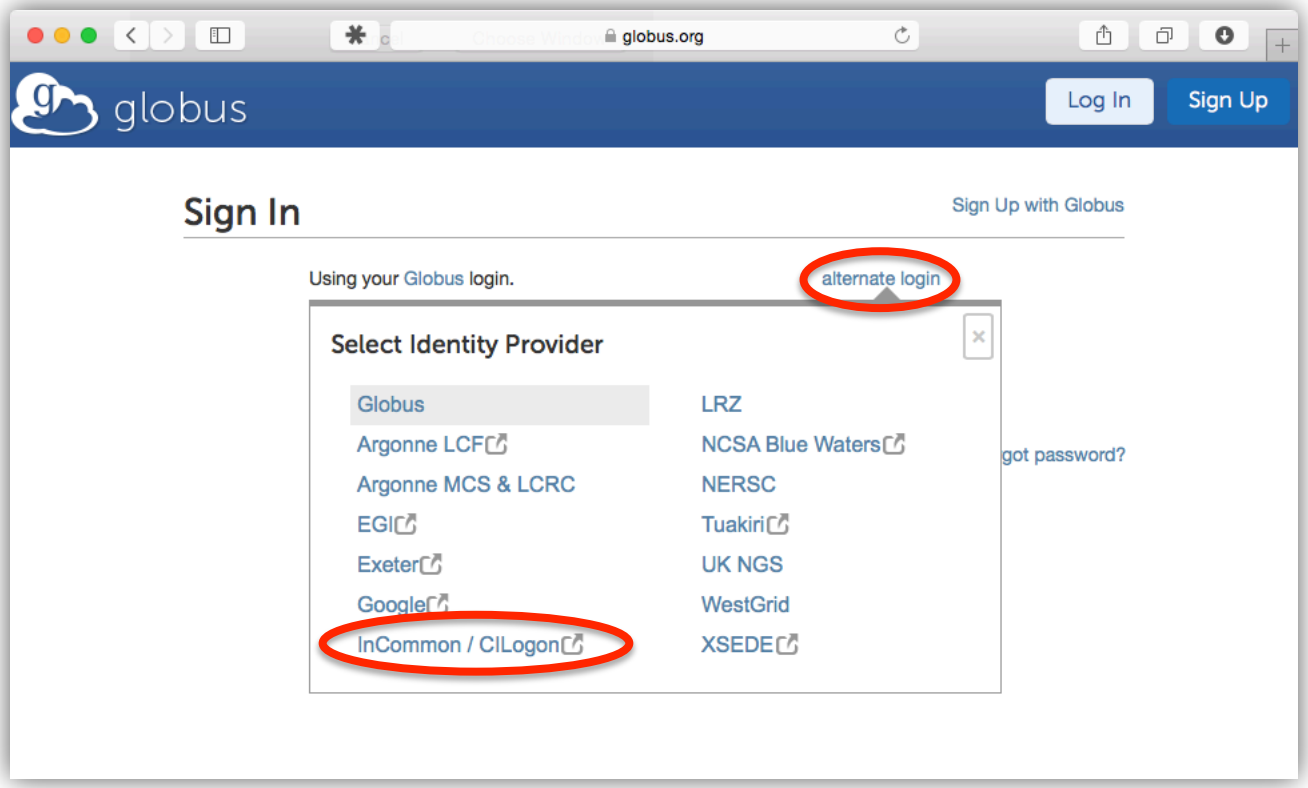


# Federated Authentication

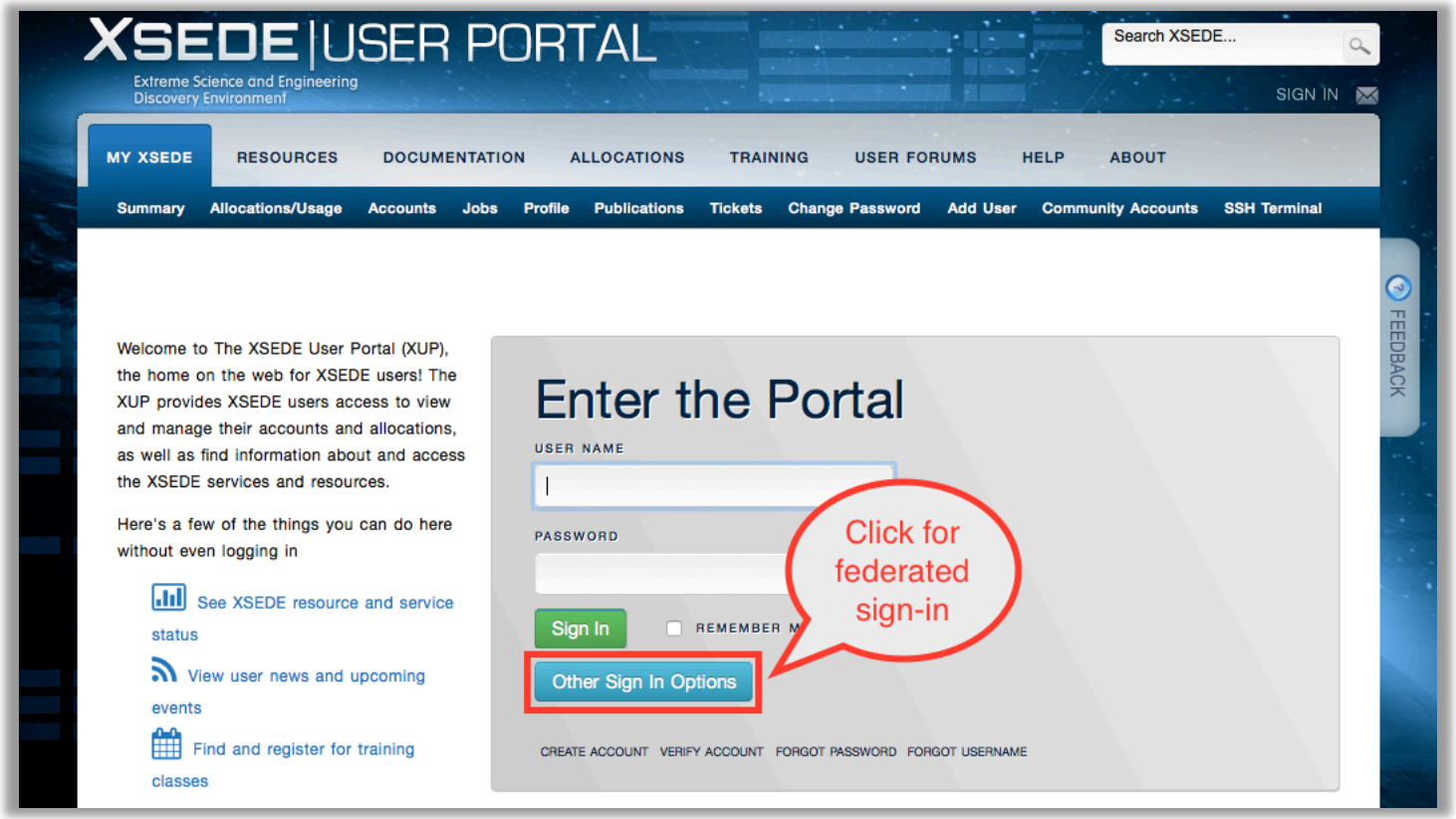
- Log on to CILogon using your campus (InCommon) or Google (OpenID) account



# Integrated with Globus

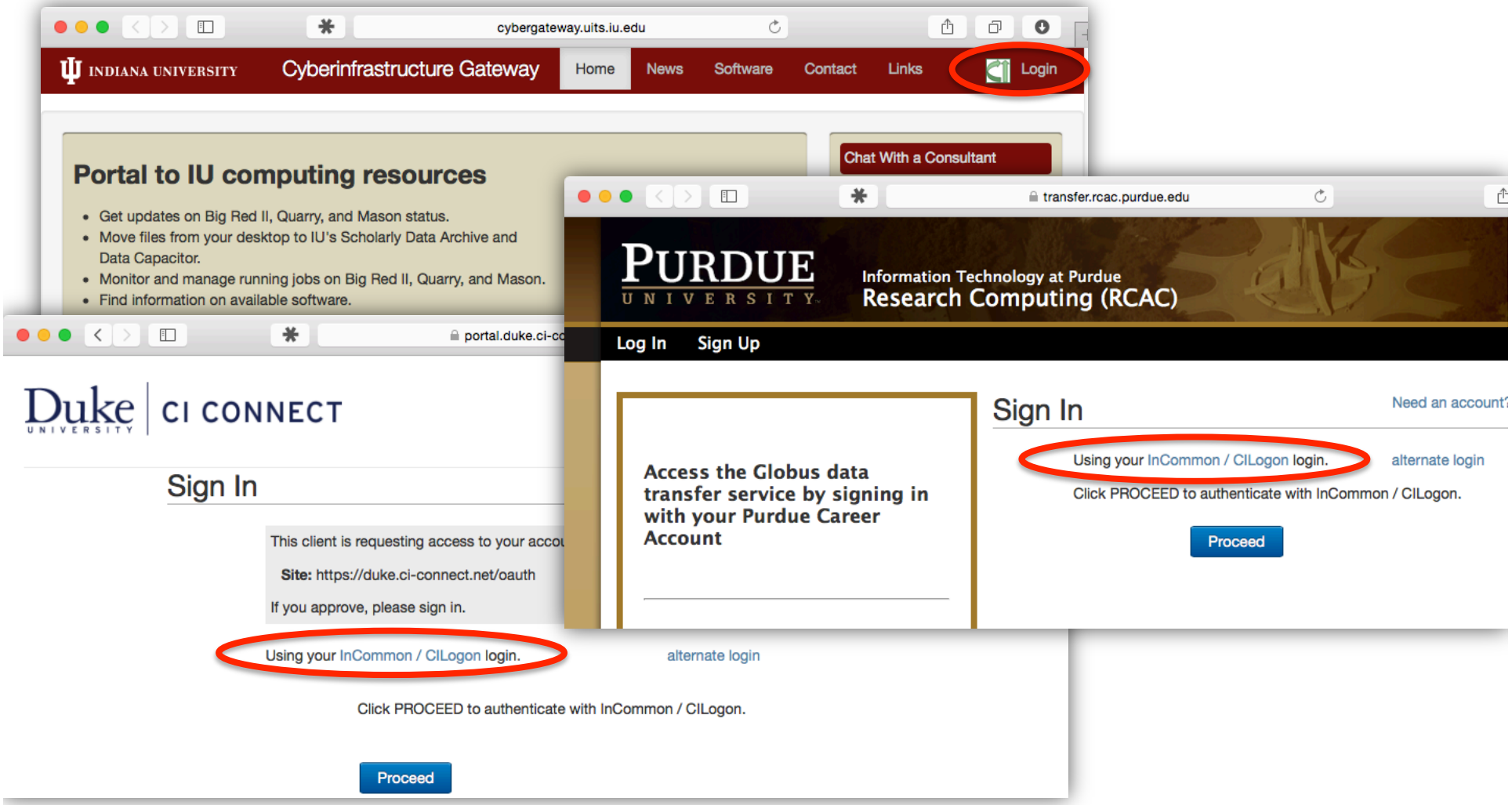


# Integrated with XSEDE



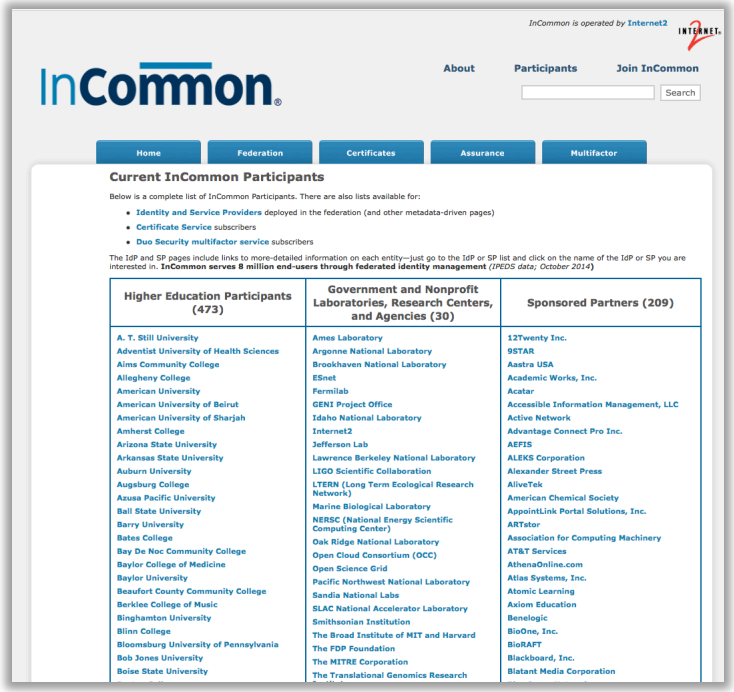

www.cilogon.org/xsede

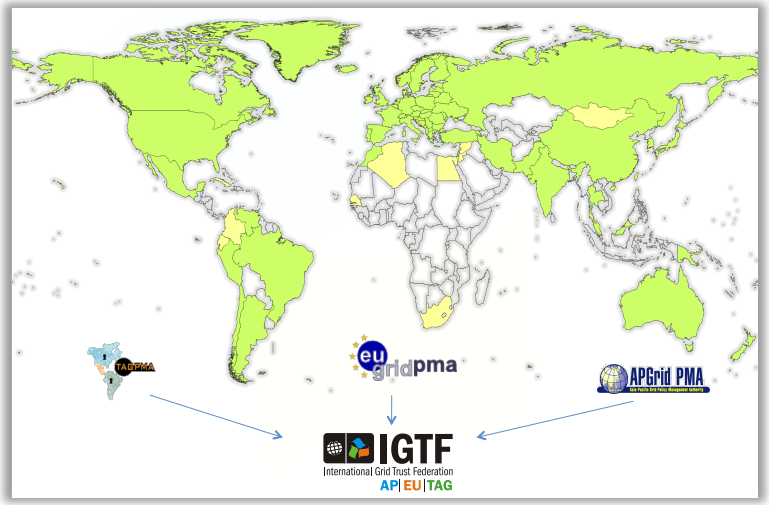
# Integrated with Campus



# Bridging InCommon and IGTF

- Translating mechanism and policy across higher education and grid trust federations



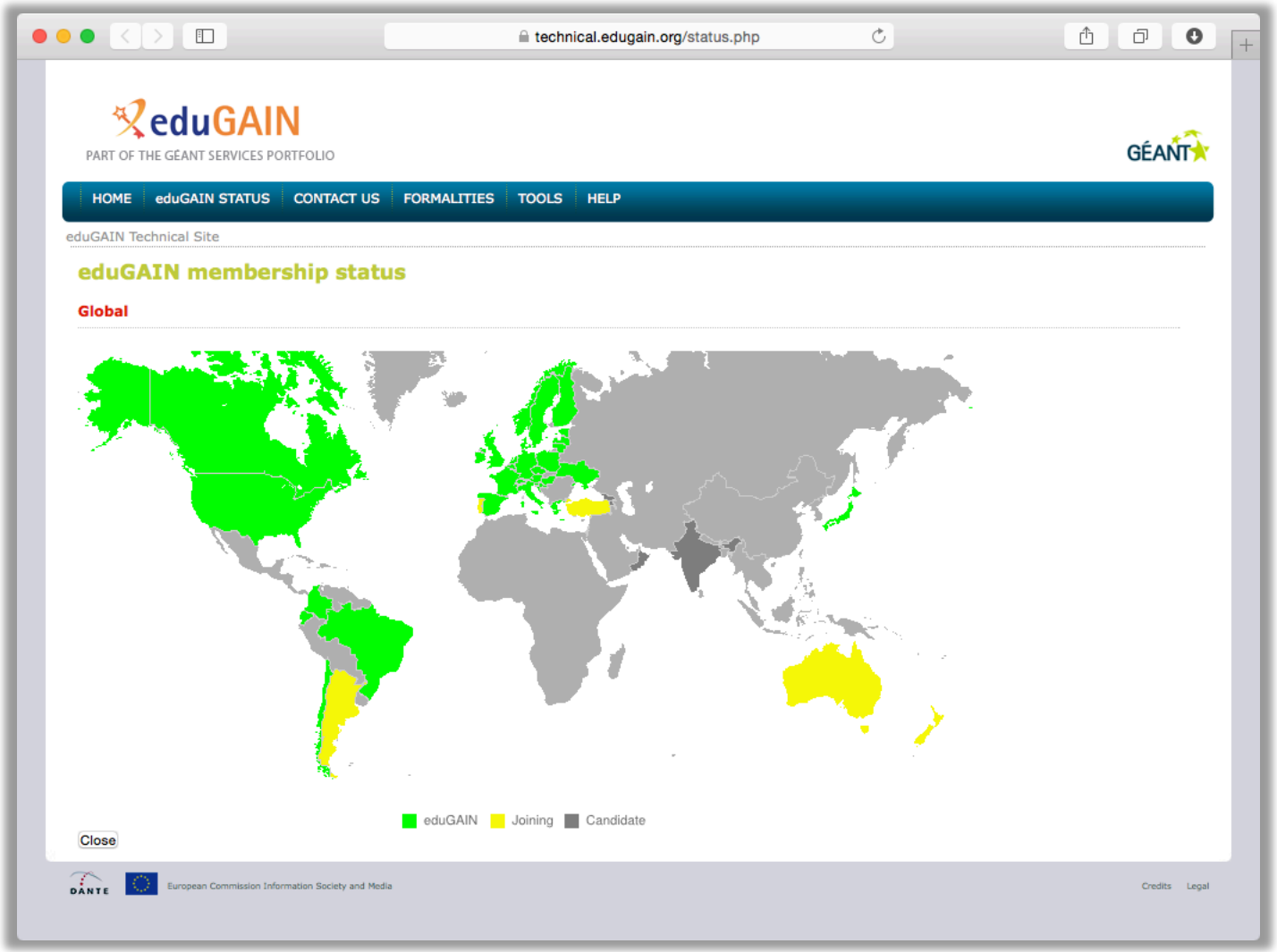



# 100+ InCommon Research and Scholarship Identity Providers

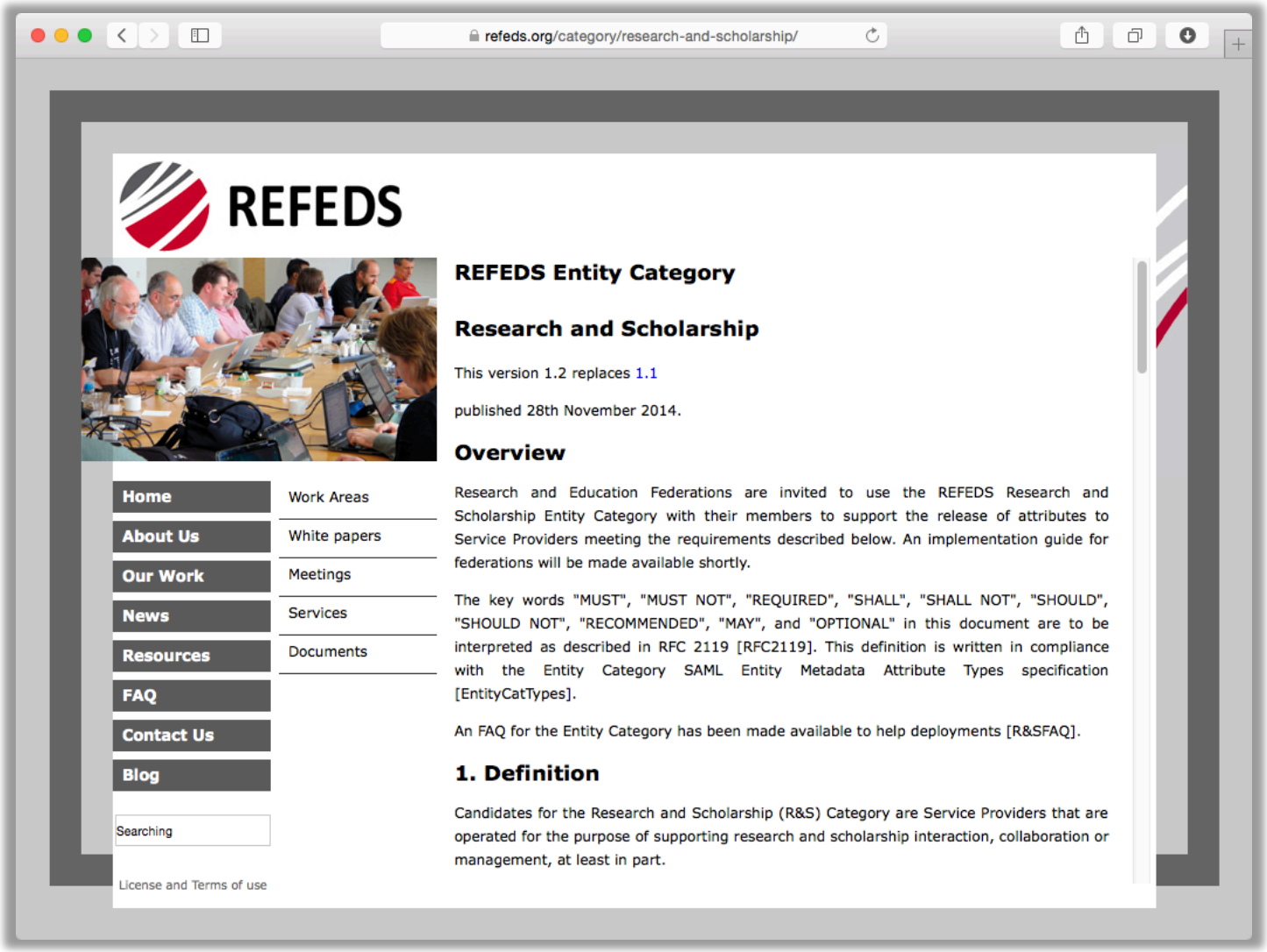
Arizona State University
Boston University
Brookhaven National Laboratory
Brown University
California Institute of Technology
California State Polytechnic University, Pomona
California State University, Fresno
California State University, Fullerton
Carleton College
Carnegie Mellon University
Clemson University
Colorado School of Mines
Colorado State University
Columbia University
Cornell University
Florida International University
George Mason University
Georgia Institute of Technology
GPN (Great Plains Network)
Indiana University
Indiana University of Pennsylvania
Internet2
Iowa State University
Johns Hopkins
Kansas State University
Lawrence Berkeley National Laboratory
Lehigh University
LIGO Scientific Collaboration
Louisiana State University
LTERN (Long Term Ecological Research Network)
Massachusetts Institute of Technology
Montana State University - Bozeman
New York University
North Carolina State University
Northwestern University
Ohio State University
Ohio Technology Consortium (OH-TECH)
Oregon State University
Pomona College
Purdue University Main Campus
Reed College
Rice University
Rockefeller University
Rutgers, The State University of New Jersey
San Diego State University
Southern Illinois University
Southern Methodist University
Stevens Institute of Technology
Stony Brook University
Syracuse University
Texas A & M University
The University of Arizona
Towson University
Tufts University
University At Albany, State University of New York
University of Alabama at Birmingham
University of Alaska Statewide System
University of Arkansas
University of California, Davis
University of California, San Francisco
University of California, Santa Cruz
University of California-Irvine
University of California-Los Angeles
University of Central Florida
University of Chicago
University of Cincinnati Main Campus
University of Colorado at Boulder
University of Dayton
University of Florida
University of Hawaii
University of Houston Libraries
University of Illinois at Chicago
University of Illinois At Springfield
University of Illinois at Urbana-Champaign
University of Iowa
University of Kansas
University of Maryland Baltimore
University of Maryland Baltimore County
University of Maryland College Park
University of Massachusetts Amherst
University of Michigan
University of Minnesota
University of Missouri System
University of Nebraska-Lincoln
University of North Carolina at Chapel Hill
University of Oregon
University of Pennsylvania
University of Pittsburgh
University of South Florida
University of Southern California
University of Utah
University of Vermont
University of Virginia
University of Washington
University of Wisconsin-Madison
University of Wisconsin-Milwaukee
Utah State University
Utah Valley University
Vanderbilt University
Virginia Polytechnic Institute and State University
Weill Cornell Medical College
West Virginia University
Western Michigan University
Wheaton College (MA)
Yale University

id.incommon.org/category/research-and-scholarship

# International Federation: eduGAIN



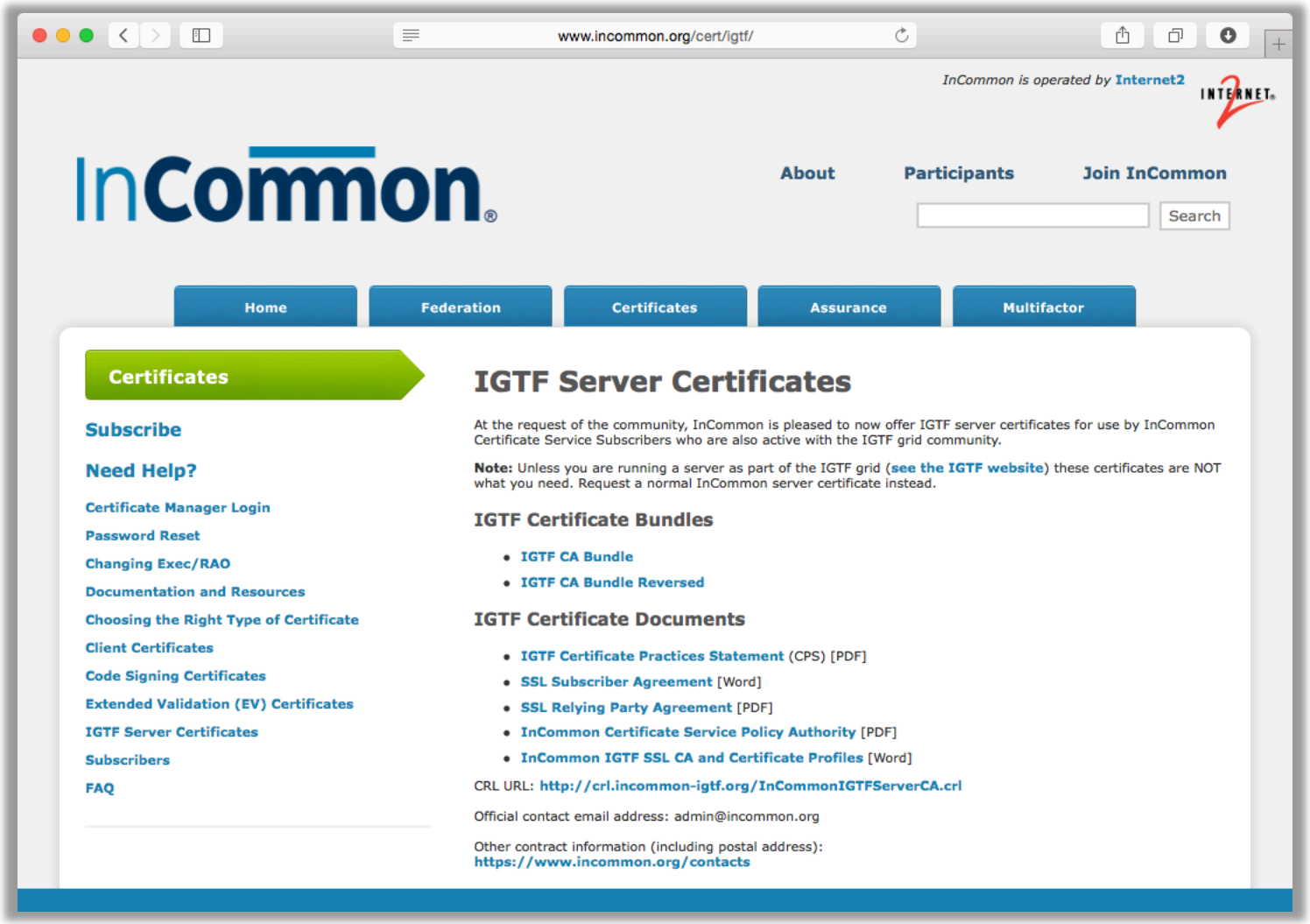
# International R&S: REFEDS



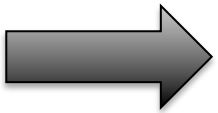
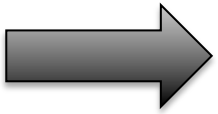
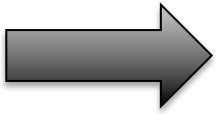
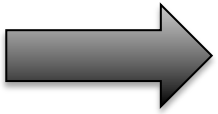
# Multiple Levels of Assurance

- CILogon Silver CA
  - InCommon Silver IDs
  - IGTF accredited February 2011
- CILogon Basic CA
  - "Basic" InCommon IDs
  - IGTF accredited June 2014
- Google Authenticator provides second authentication factor

# InCommon IGTF Server CA



# Security Updates

| | | |
|---|---|---|
| SHA-1 |  | SHA-2 |
| SSL |  | TLS |
| OAuth 1.0 |  | OAuth 2.0 |
| OpenID 2.0 |  | OpenID Connect |

# MyProxy
## Credential Management Service

NCSA CyberSecurity

## Fifteen years of securing cyberinfrastructure

MyProxy is part of the Globus Toolkit and is included in Fedora and Debian Linux operating system package repositories.
MyProxy is used by many grid projects including CILogon, OSG, and XSEDE.

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015

April 2000
MyProxy 0.1 was released.

November 2000
A web-based grid portal using MyProxy for authentication debuted at SC2000.

October 2001
Support for certificate-based authentication added by Daniel Kouril and Miroslav Ruda for the European DataGrid project.

December 2001
MyProxy version 0.4.1 was released, adding support for Globus Toolkit 2.0.

July 2002
NSF Middleware Initiative MyProxy Project collaborative project with Marty Humphrey at the University of Virginia began.

April 2003
The NSF Middleware Initiative (NMI) issued its third software release, the first NMI release to include MyProxy.

July 2003
MyProxy was used in the NEESgrid MOST experiment.

April 2004
Condor-G 6.7.0 was released, including support for managing credentials with MyProxy.

May 2005
FusionGrid deployed replicated MyProxy for grid portals and credential renewal.

September 2005
ESG used PURSE, built on MyProxy, for user authentication.

September 2005
MyProxy 3.0 was released, with contribution from LBNL adding certificate authority capability.

October 2005
MyProxy used in LTER Grid demonstration.

August 2006
MyProxy 3.6 was released, including support for VOMS authorization.

September 2006
NVO used MyProxy with PubCookie for web single sign-on.

February 2006
GridShib-CA was released, demonstrating MyProxy use with InCommon.

TeraGrid '06
"Managing Credentials on the TeraGrid with MyProxy"

February 2007
Inca 2.0 was released with support for MyProxy.

June 2008
NERSC deployed authentication for their Grid resources using MyProxy CA.

June 2009
CILogon project started.

February 2009
MyProxy passed independent vulnerability assessment.

September 2009
New CILogon Service provided bridge between InCommon and Grid authentication.

November 2011
Globus Online supported OAuth interface to XSEDE MyProxy server.

February 2012
OAuth for MyProxy v1.0 was released, providing an OAuth-compliant web interface to MyProxy.

June 2012
"An Online Credential Repository for the Grid: MyProxy" was selected as one of the best papers of the IEEE HPDC conference's 20 years.

June 2013
OAuth for MyProxy passed independent vulnerability assessment.

October 2014
MyProxy 6.1 was released.
This was the 61st release of MyProxy.

January 2015
CILogon Service passed XSEDE acceptance tests.

September 2014
Globus Toolkit 6.0 included MyProxy 6.0.

Core MyProxy Team at NCSA
(current and past):

Jim Basney (lead)
Bill Baker
Randy Butler
Shiva Shankar Chetan
Patrick Duda
Mike Freemon
Terry Fleury
Zhenmin Li
Jason Novotny
Venkat Yekkirala
Von Welch

MyProxy was funded primarily by:

National Science Foundation
WHERE DISCOVERIES BEGIN

via
NLANR
NSF Middleware Initiative
NCSA Core Award
TeraGrid
STCI

MyProxy Community Collaborators and Contributors:

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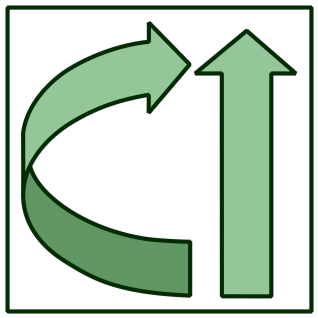
Monte Goode (LBNL)
Marty Humphrey (UVa)
Daniel Kouril (CESNET, CZ)
Alexandre Lossent (CERN)
Neill Miller (ANL)
Miroslav Ruda (CESNET/EGEE)
Steve Traylen (CERN/EGEE)
Benjamin Temko (IU)
Steven Tuecke (ANL)
Naotaka Yamamoto (AIST)

# Thanks!

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