



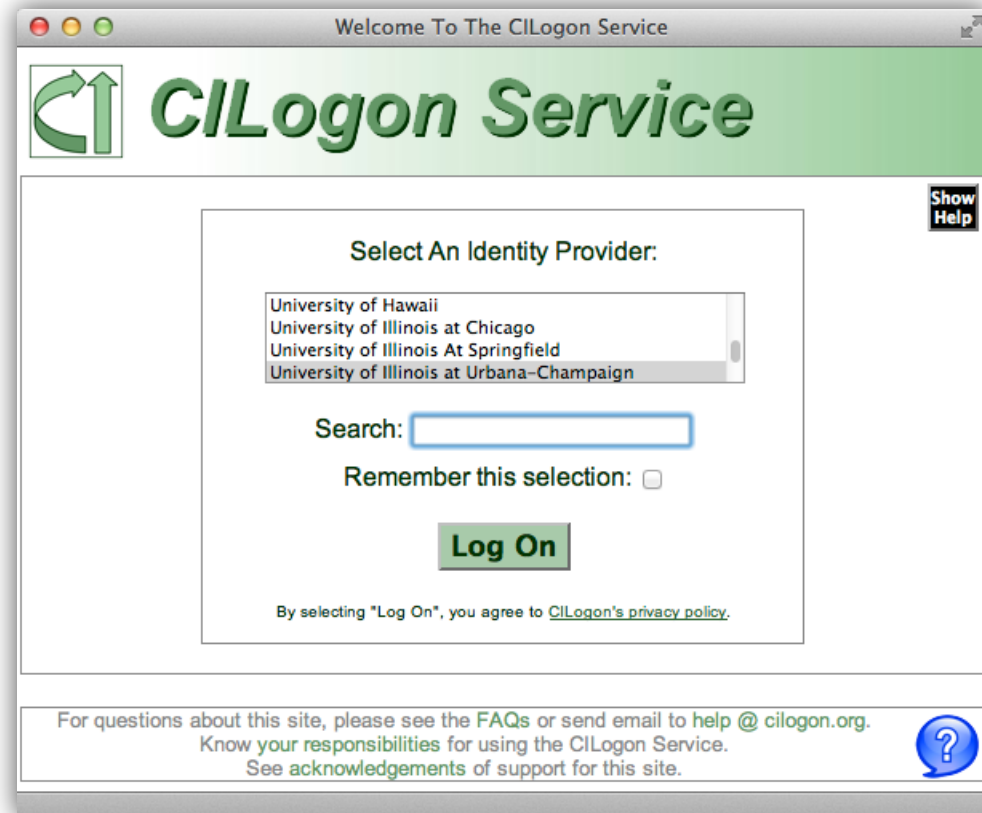
Case Studies in Identity Management for  
Scientific Collaboration  
2014 Technology Exchange

Jim Basney  
[jbasney@ncsa.illinois.edu](mailto:jbasney@ncsa.illinois.edu)

This material is based upon work supported by the National Science Foundation under grant numbers 0943633 and 1053575 and by the Department of Energy under award number DE-SC0008597. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the United States Government or any agency thereof.

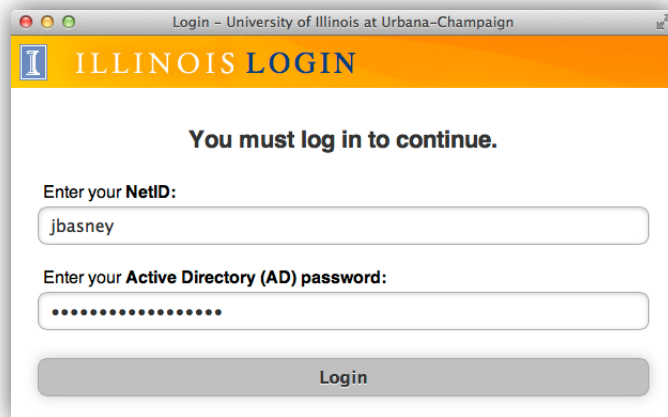
# CILogon – <https://cilogon.org/>

- 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



Login – University of Illinois at Urbana–Champaign

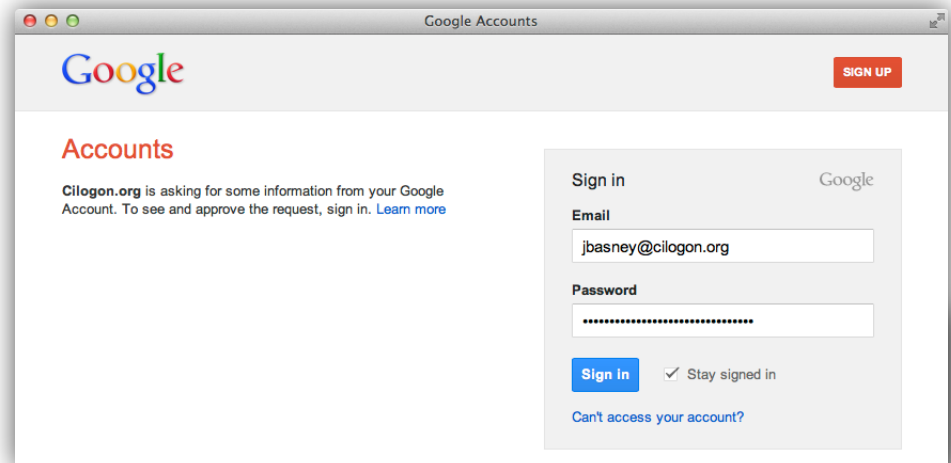
**ILLINOIS LOGIN**

**You must log in to continue.**

Enter your **NetID**:

Enter your **Active Directory (AD) password**:

Login



Google Accounts

**Google**

**Accounts**

Cilogon.org is asking for some information from your Google Account. To see and approve the request, sign in. [Learn more](#)

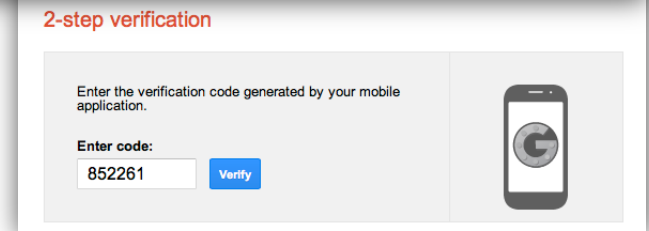
**Sign in**

Email

Password

**Sign in** ☒ Stay signed in

[Can't access your account?](#)




**2-step verification**

Enter the verification code generated by your mobile application.

Enter code:

**Verify**



# Bridging InCommon and IGTF

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

InCommon is operated by Internet2

## InCommon

About Participants Join InCommon

Home Federation Certificates Assurance Multifactor

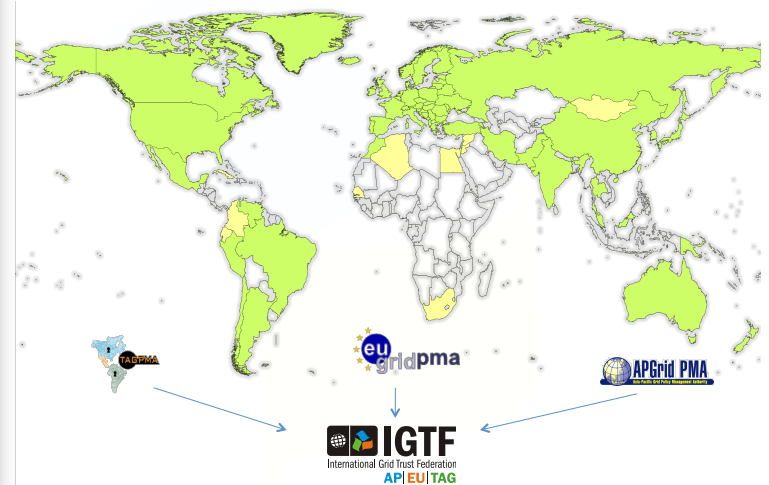
### Current InCommon Participants

Below is a complete list of InCommon Participants. There are also lists available for:

- **Identity and Service Providers** deployed in the federation (and other metadata-driven pages)
- **Certificate Service** subscribers

The IdP and SP pages include links to more-detailed information on each entity—just go to the IdP or SP list and click on the name of the IdP or SP you are interested in. **InCommon serves almost 6 million end-users through federated identity management.**

Higher Education Participants (372)	Government and Nonprofit Laboratories, Research Centers, and Agencies (28)	Sponsored Partners (148)
<a href="#">A. T. Still University</a> <a href="#">Allegheny College</a> <a href="#">American University</a> <a href="#">Amherst College</a> <a href="#">Arizona State University</a> <a href="#">Arkansas State University</a> <a href="#">Auburn University</a> <a href="#">Augsburg College</a> <a href="#">Azusa Pacific University</a> <a href="#">Ball State University</a> <a href="#">Barry University</a> <a href="#">Bates College</a> <a href="#">Bay De Noc Community College</a> <a href="#">Baylor College of Medicine</a>	<a href="#">Ames Laboratory</a> <a href="#">Argonne National Laboratory</a> <a href="#">Brookhaven National Laboratory</a> <a href="#">ESnet</a> <a href="#">Fermilab</a> <a href="#">GENI Project Office</a> <a href="#">Idaho National Laboratory</a> <a href="#">Internet2</a> <a href="#">Jefferson Lab</a> <a href="#">Lawrence Berkeley National Laboratory</a> <a href="#">LIGO Scientific Collaboration</a> <a href="#">LTERN (Long Term Ecological Research Network)</a>	<a href="#">9STAR</a> <a href="#">Academic Works, Inc.</a> <a href="#">Acatar</a> <a href="#">Accessible Information Management, LLC</a> <a href="#">Advantage Connect Pro Inc.</a> <a href="#">ALEKS Corporation</a> <a href="#">Alexander Street Press</a> <a href="#">American Psychological Association</a> <a href="#">Apple - iTunes U</a> <a href="#">AppointmentLink Portal Solutions, Inc.</a> <a href="#">ARTstor</a> <a href="#">Association for Computing Machinery</a> <a href="#">AT&amp;T Services</a> <a href="#">AthenaOnline.com</a>



# 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

A screenshot of a web browser window titled 'Google Authenticator Login'. The page has a green header with the CILogon Service logo and name. Below the header, the title 'Google Authenticator Login' is displayed. A message states: 'Your account has been configured to use Google Authenticator as a second authentication factor. Enter a one-time passcode as generated by the app below.' A form box contains the text 'Account: A534@cilogon.org' and 'Passcode: 177799' with a text input field. Below the passcode field is a green 'Enter' button. At the bottom of the page, there is a link that says 'Don't have your phone with you?'.

# Multiple Interfaces

- SAML/OpenID Web Browser SSO
  - PKCS12 certificate download
  - Certificate issuance via OAuth
  - Coming Soon:
    - OpenID Connect token issuance
- SAML ECP
  - Command-line certificate issuance

# ligo-proxy-init using SAML ECP

```
$ ligo-proxy-init scott.koranda
```

```
Your identity: scott.koranda@LIGO.ORG
```

```
Enter pass phrase for this identity:
```

```
Creating proxy ..... Done
```

```
Your proxy is valid until: Mar 5 13:45:16 2013 GMT
```

```
$ grid-proxy-info -all
```

```
subject : /DC=org/DC=cilogon/C=US/O=LIGO/CN=Scott Koranda scott.koranda@ligo.org
```

```
issuer  : /DC=org/DC=cilogon/C=US/O=CILogon/CN=CILogon Basic CA 1
```

```
identity : /DC=org/DC=cilogon/C=US/O=LIGO/CN=Scott Koranda scott.koranda@ligo.org
```

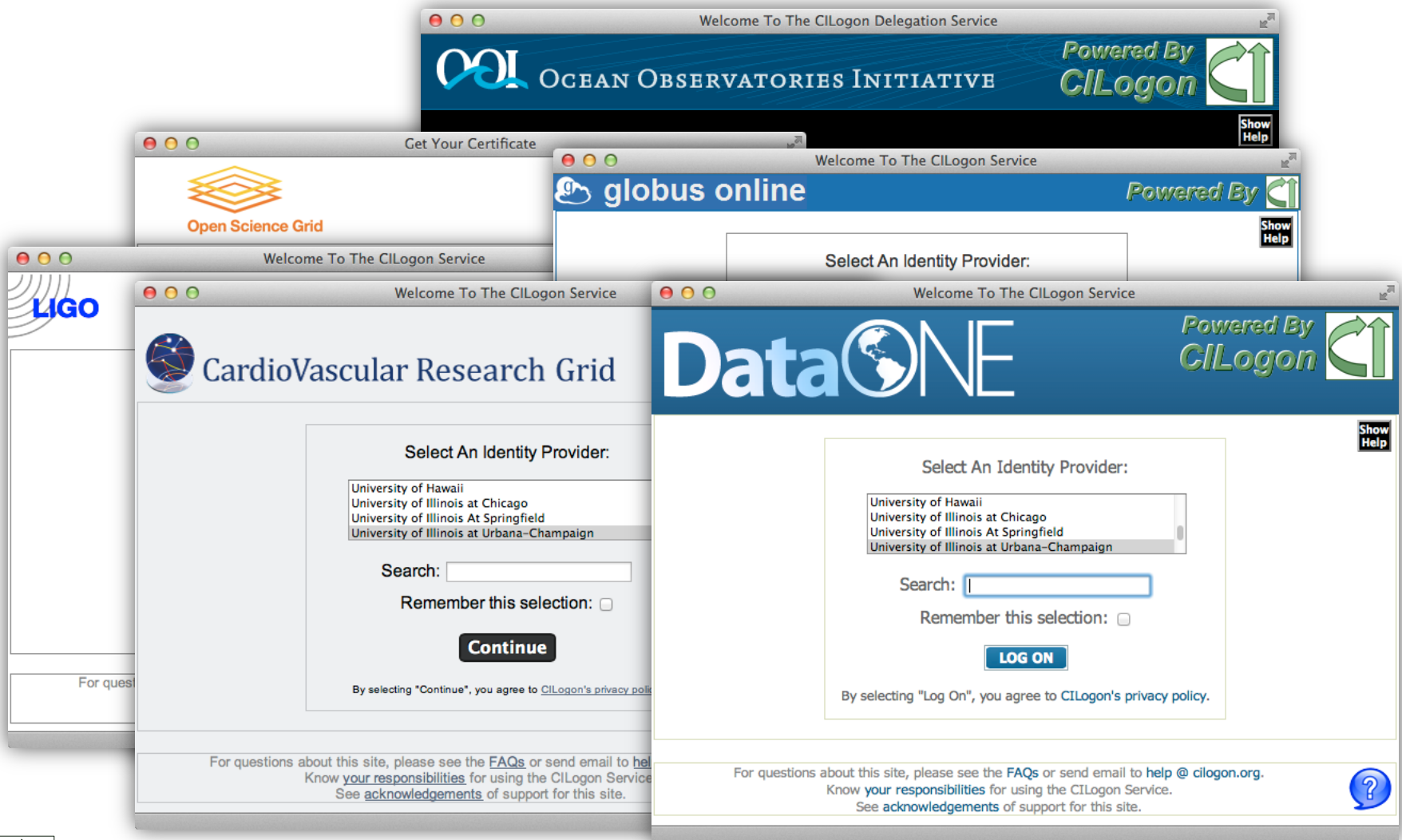
```
type    : end entity credential
```

```
strength : 2048 bits
```

```
path    : /tmp/x509up_u1000
```

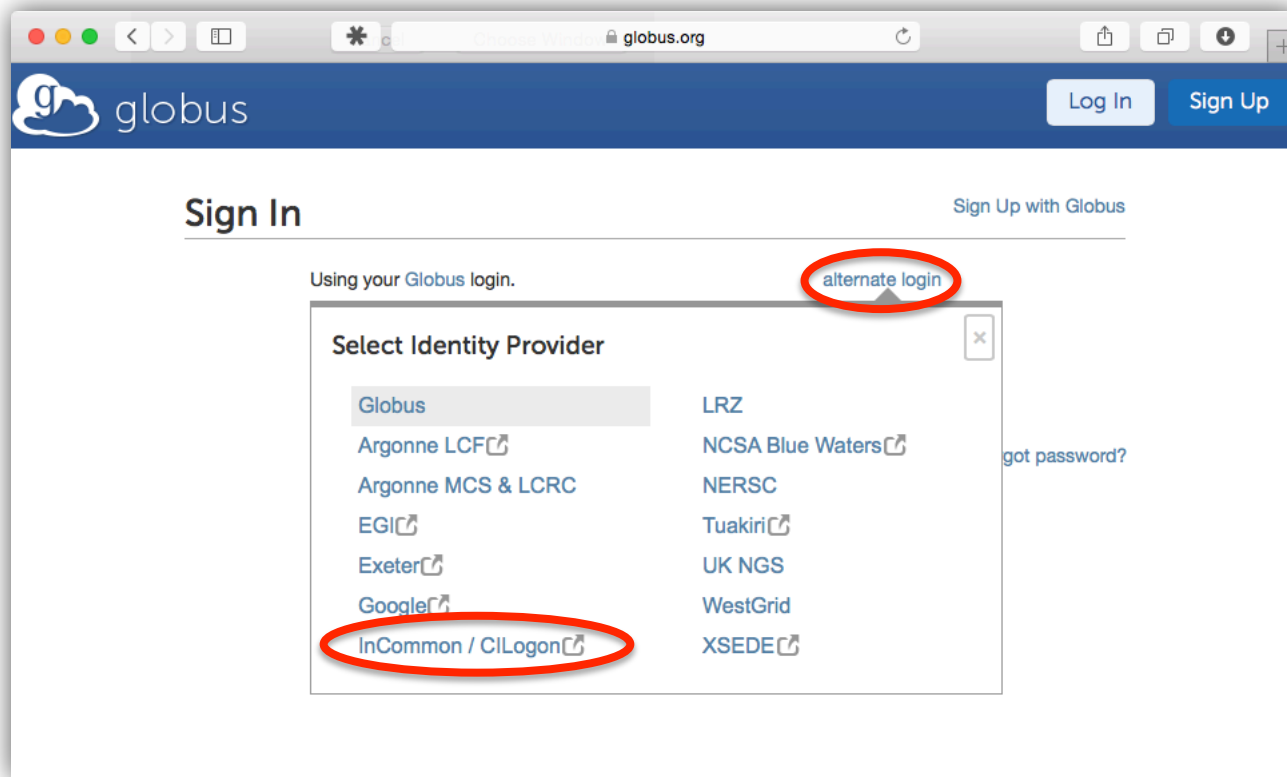
```
timeleft : 71:59:52 (3.0 days)
```

# Integrated with CyberInfrastructure

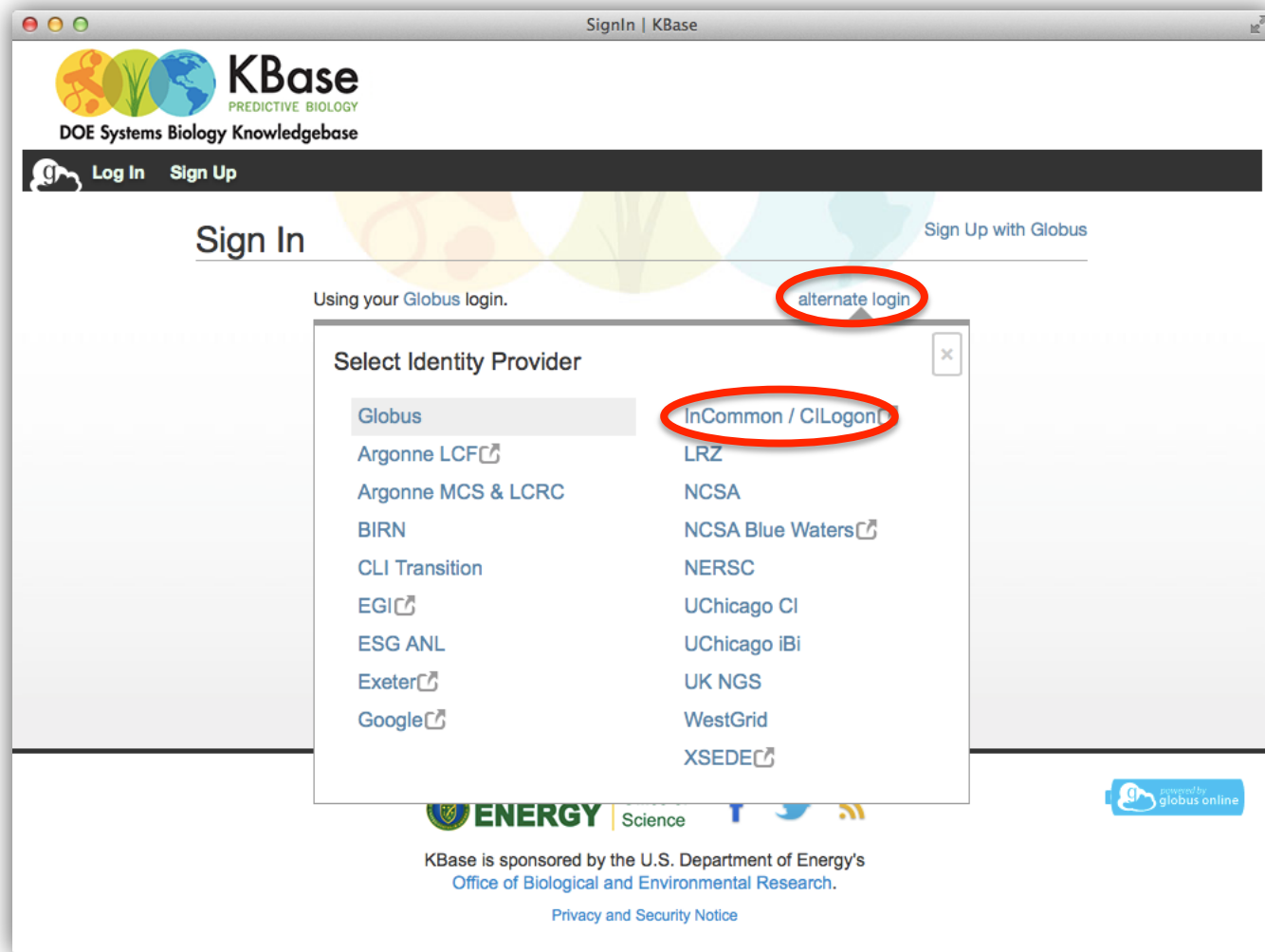




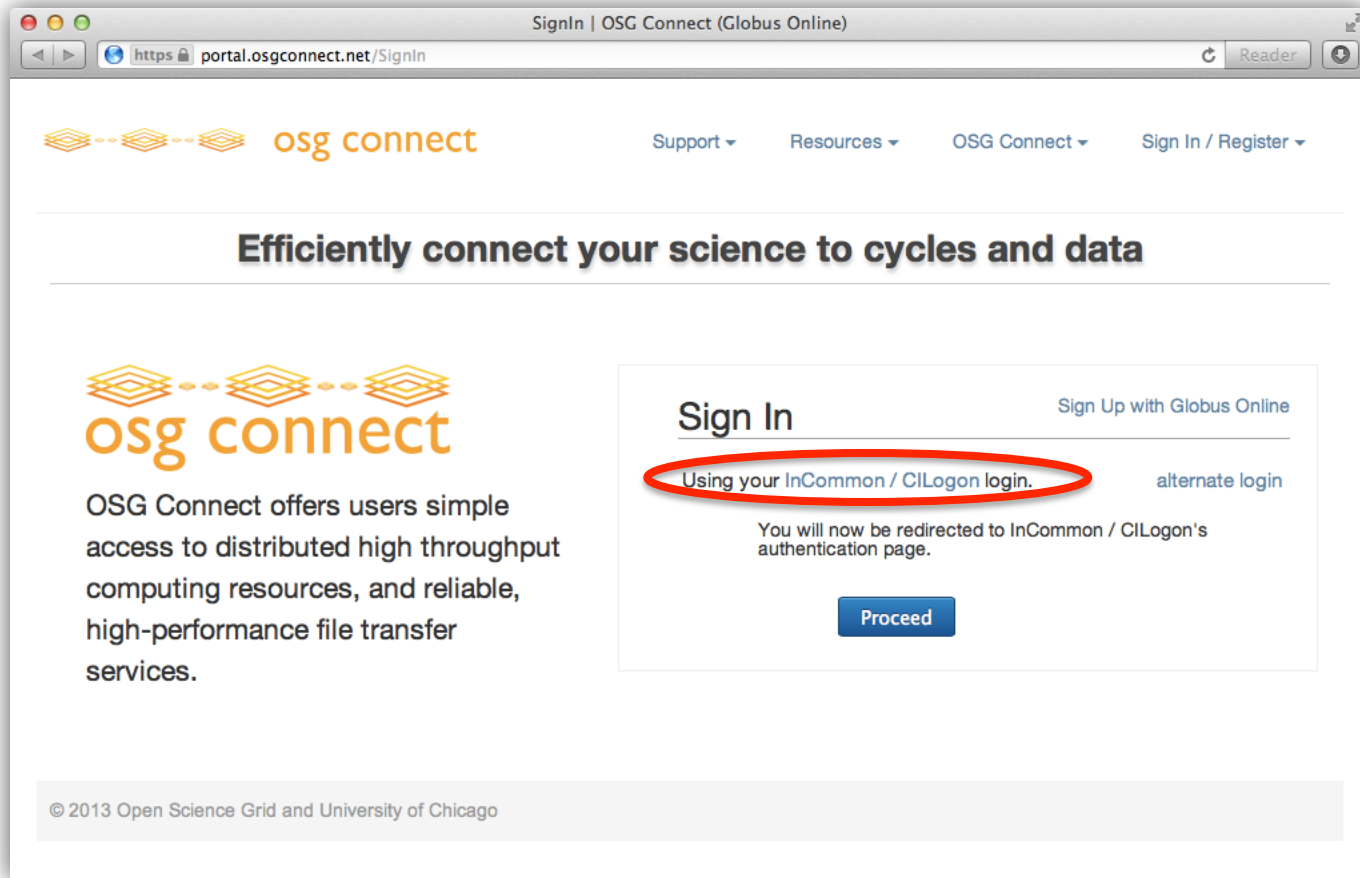
# Integrated with Globus



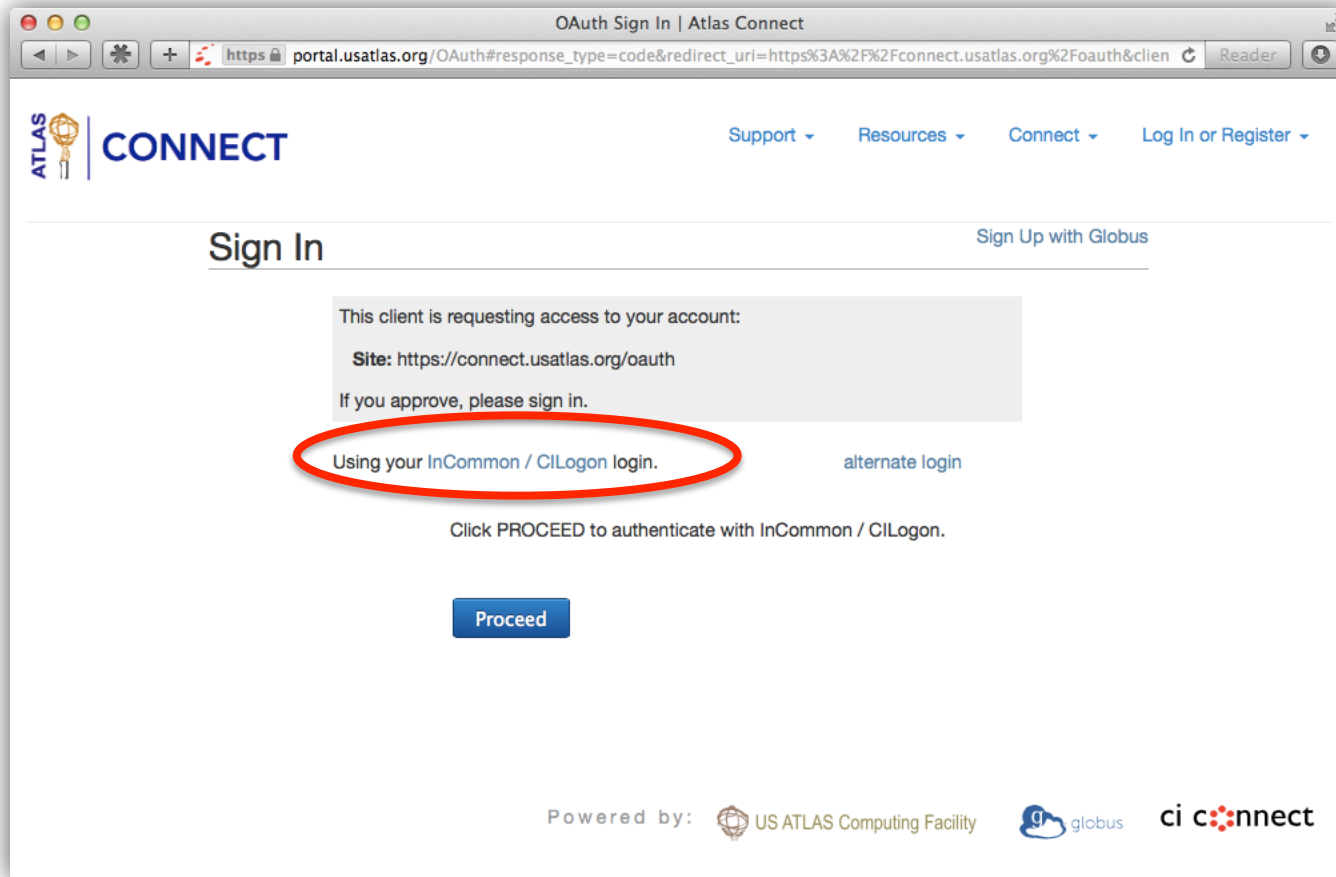
# Used by DOE KBase



# Used by OSG Connect



# Used by ATLAS Connect



# Integrated with Campus

The image displays three overlapping screenshots of university web portals, illustrating integration with campus systems. Red circles highlight specific login links in each interface.

- Indiana University Cyberinfrastructure Gateway:** The top screenshot shows the 'cybergateway.uits.iu.edu' page. The 'Login' link in the top navigation bar is circled in red.
- Duke University CI CONNECT:** The bottom-left screenshot shows the 'portal.duke.ci-connect.net' page. The 'Sign In' section includes a message: 'This client is requesting access to your account. Site: https://duke.ci-connect.net/oauth. If you approve, please sign in.' Below this, the link 'Using your InCommon / CILogon login.' is circled in red.
- Purdue University Research Computing (RCAC):** The bottom-right screenshot shows the 'transfer.rcac.purdue.edu' page. The 'Sign In' section includes the text: 'Using your InCommon / CILogon login.' This link is circled in red.

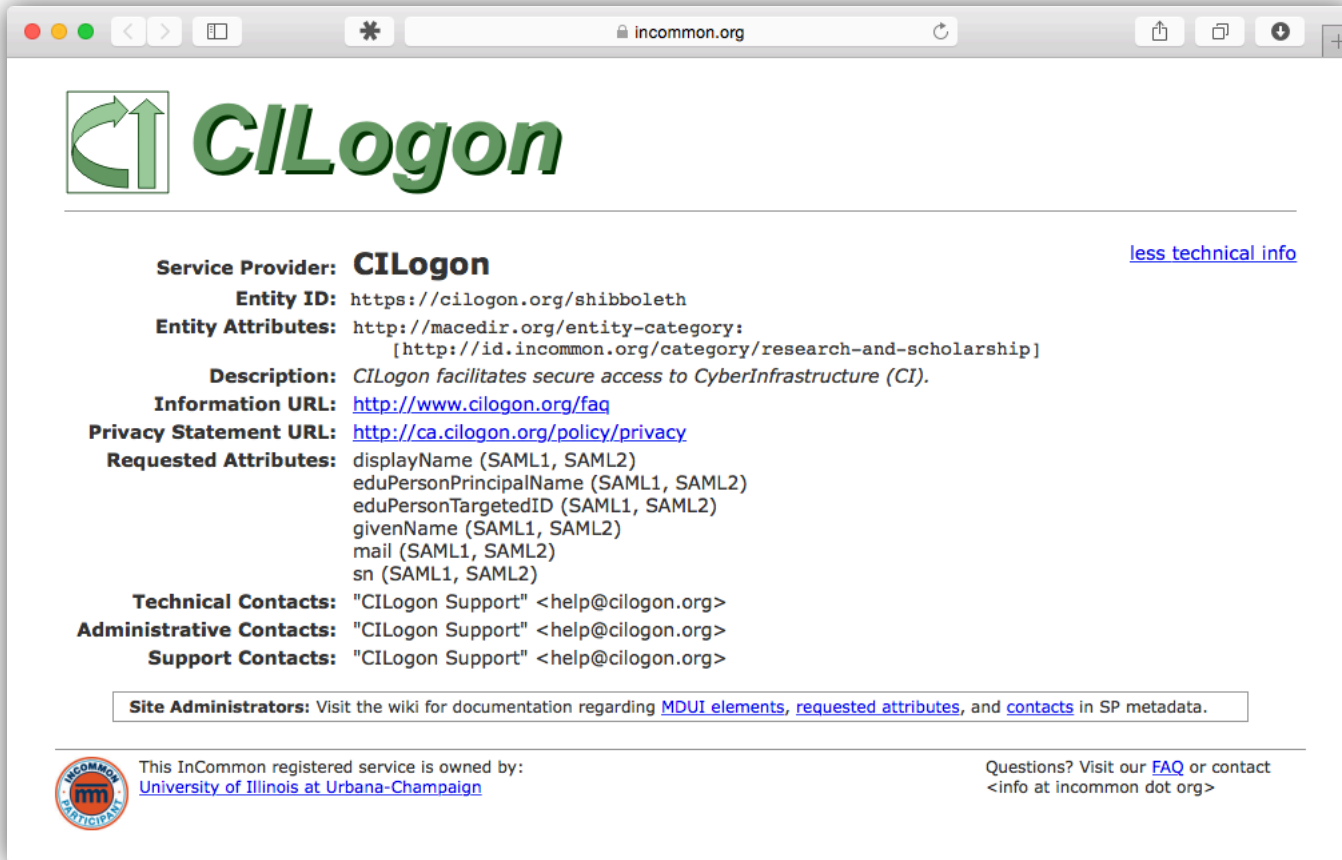
Each screenshot also shows a 'Proceed' button at the bottom of the login section.

# *CILogon* and XSEDE

Extreme Science and Engineering  
Discovery Environment

- CILogon is
  - a component in the XSEDE architecture
  - following the XSEDE engineering process:  
architecture, design, and security reviews and  
operational acceptance tests
- XSEDE provides sustained operational support to CILogon users (ATLAS, DataONE, OOI, OSG, KBASE, LIGO, etc.)
- Including backup CILogon instance at NICS

# InCommon R&S SP

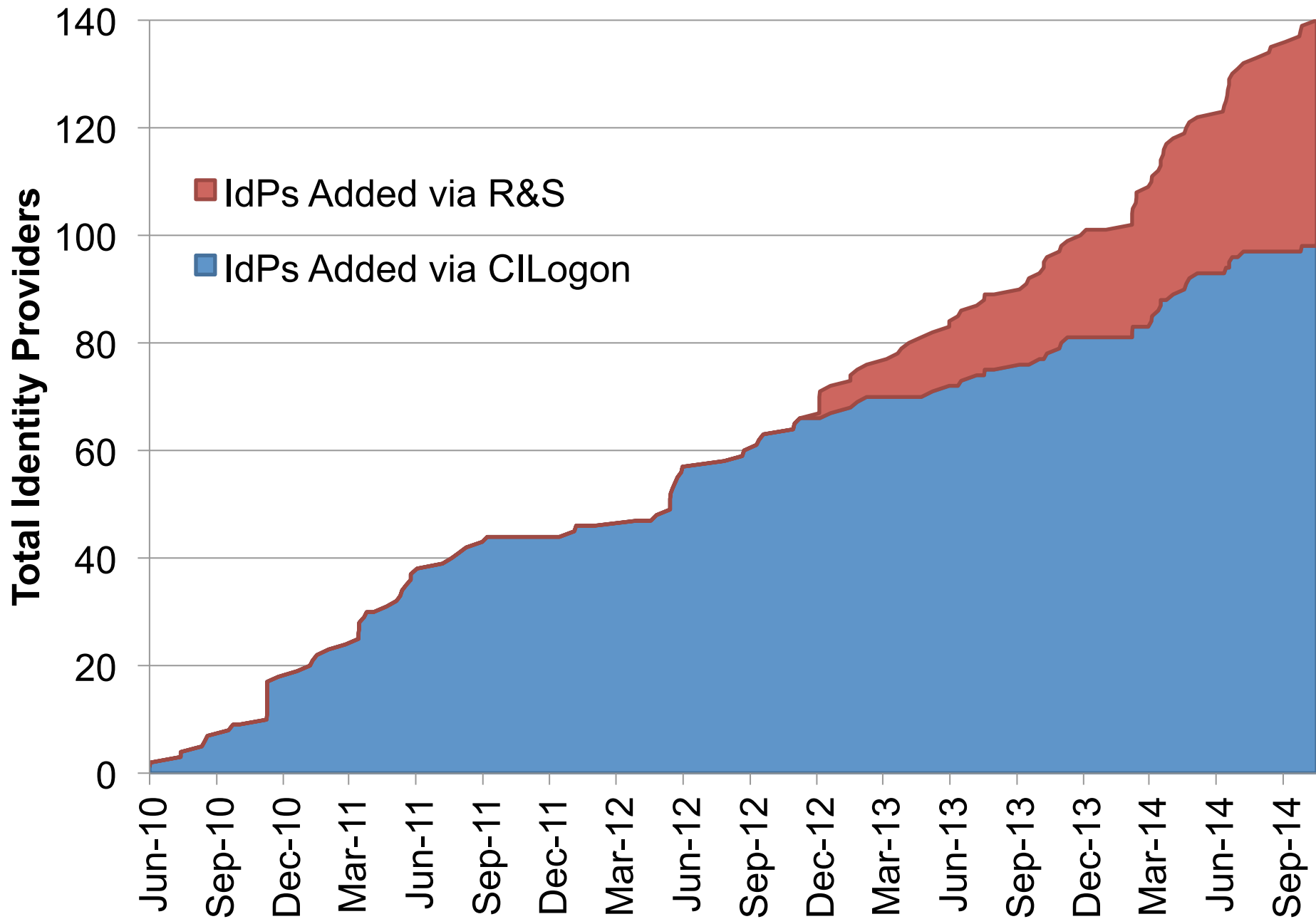


The screenshot shows a web browser window with the address bar displaying "incommon.org". The page features the CILogon logo, which consists of a green circular arrow icon and the text "CILogon" in a green, stylized font. Below the logo, the page lists the following information:

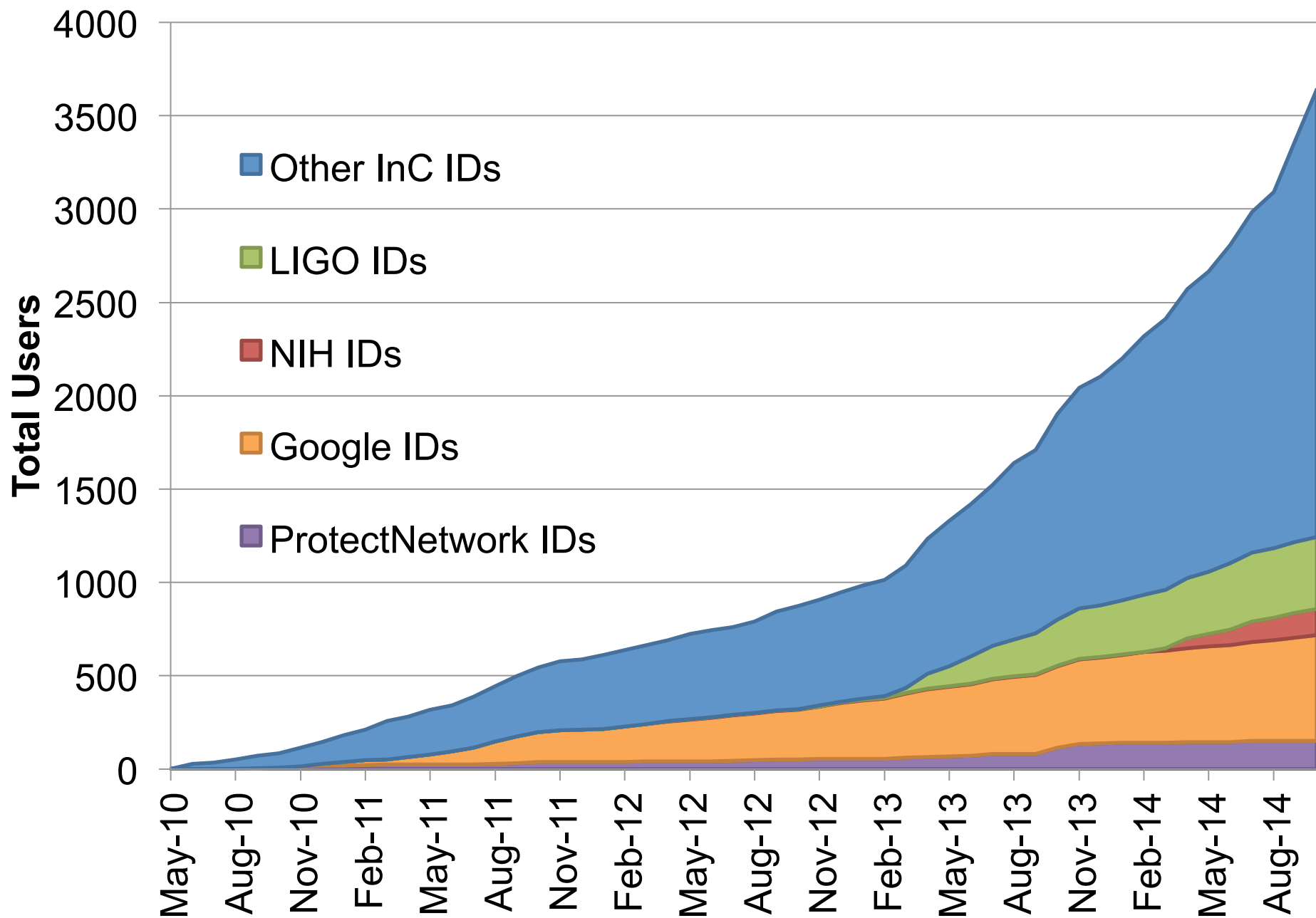
- Service Provider:** CILogon [less technical info](#)
- Entity ID:** <https://cilogon.org/shibboleth>
- Entity Attributes:** <http://macedir.org/entity-category:>  
[<http://id.incommon.org/category/research-and-scholarship>]
- Description:** CILogon facilitates secure access to CyberInfrastructure (CI).
- Information URL:** <http://www.cilogon.org/faq>
- Privacy Statement URL:** <http://ca.cilogon.org/policy/privacy>
- Requested Attributes:** displayName (SAML1, SAML2)  
eduPersonPrincipalName (SAML1, SAML2)  
eduPersonTargetedID (SAML1, SAML2)  
givenName (SAML1, SAML2)  
mail (SAML1, SAML2)  
sn (SAML1, SAML2)
- Technical Contacts:** "CILogon Support" <help@cilogon.org>
- Administrative Contacts:** "CILogon Support" <help@cilogon.org>
- Support Contacts:** "CILogon Support" <help@cilogon.org>

A box at the bottom of the main content area states: **Site Administrators:** Visit the wiki for documentation regarding [MDUI elements](#), [requested attributes](#), and [contacts](#) in SP metadata.

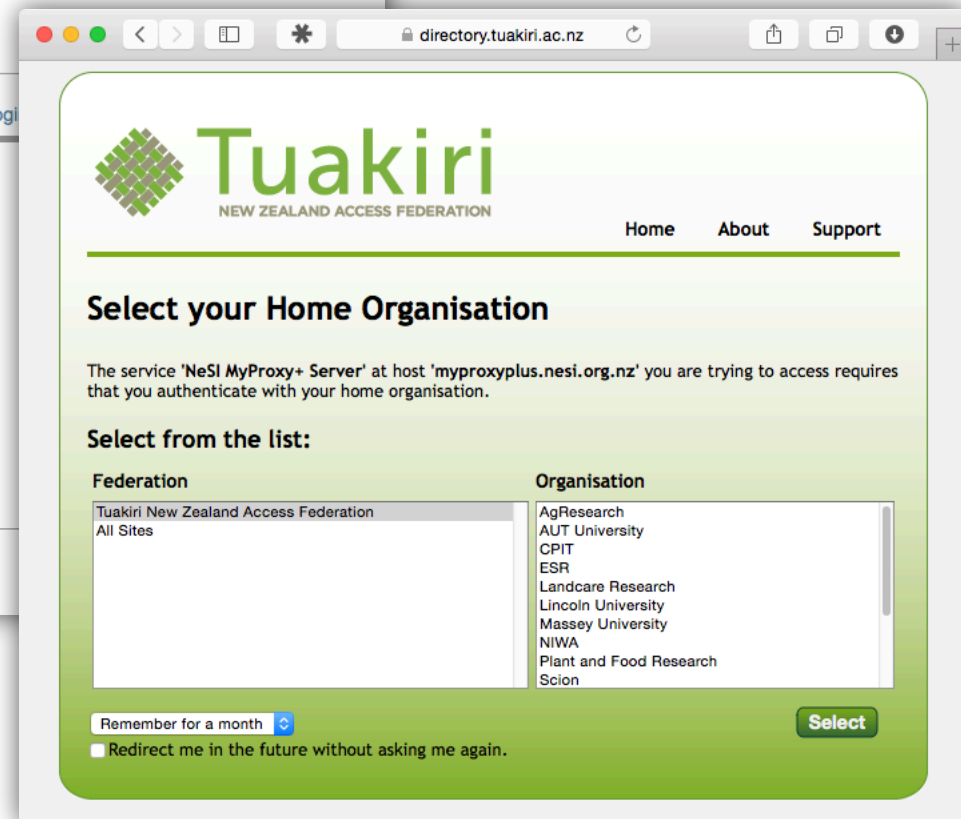
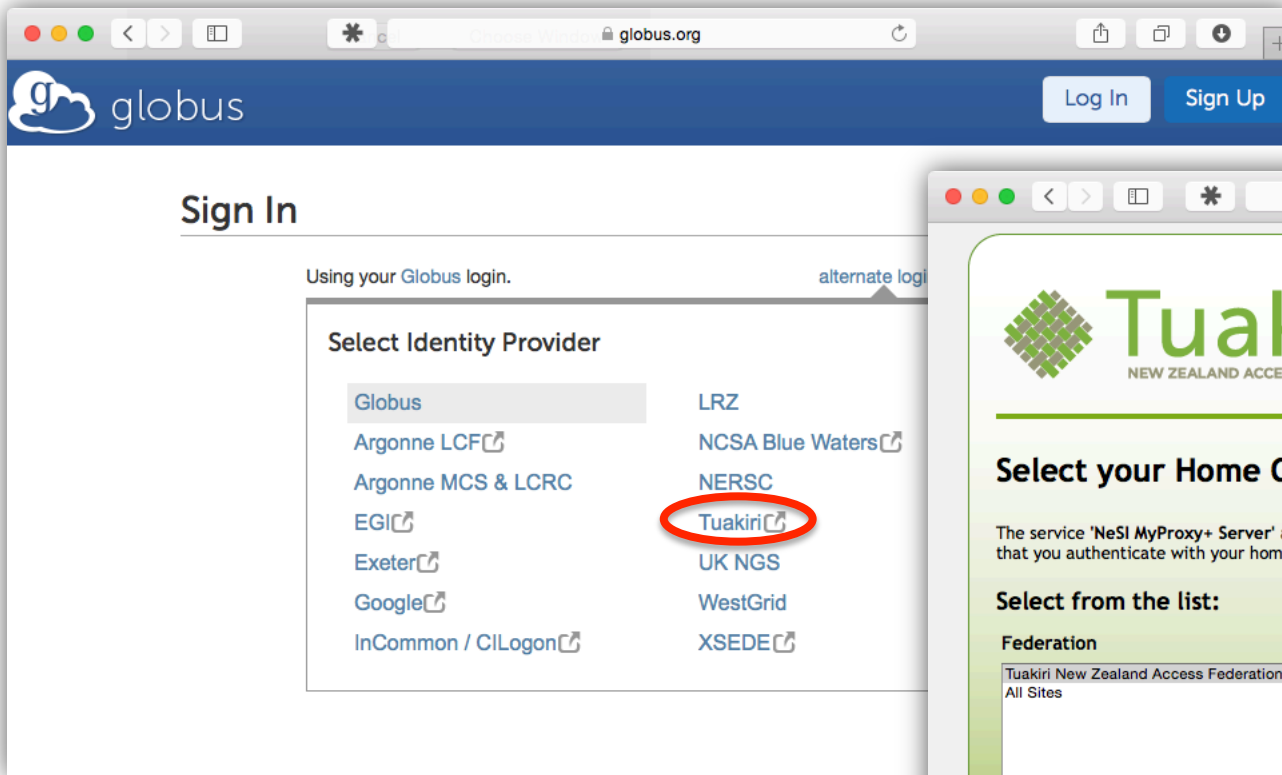
At the bottom left, there is a circular InCommon Participant logo. To its right, the text reads: "This InCommon registered service is owned by: [University of Illinois at Urbana-Champaign](#)". At the bottom right, the text reads: "Questions? Visit our [FAQ](#) or contact <info at incommon dot org>".







# Replicating CILogon Internationally



# Thanks!

[jbasney@ncsa.illinois.edu](mailto:jbasney@ncsa.illinois.edu)

[www.cilogon.org](http://www.cilogon.org)