Identity Management Challenges
Middleware And Grid Interagency Coordination

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Presentation Topics

• What problem space does CILogon address?
• What identity management issues are not addressed by CILogon?
CILogon Project Goal

• Enable campus logon to CyberInfrastructure (CI)
  – Use researchers’ existing security credentials at their home institution
  – Ease credential management for researchers and CI providers
CILogon Service
(https://cilogon.org)

- Supports InCommon and OpenID authentication
- Delivers certificates to desktop, browser, and portals
- Available certificate lifetimes: from 1 hour to 13 months
- Supports close integration with CI projects
- Available now!
- See also:
  http://www.cilogon.org/faq
  http://www.cilogon.org/news
  http://ca.cilogon.org
CILogon Portal Delegation

- Grid Portals and Science Gateways provide web interfaces to CI
  - Portals/Gateways need certificates to access CI on researchers’ behalf
- CILogon Delegation Service allows researchers to approve certificate issuance to portals (via OAuth)
- www.cilogon.org/portal-delegation
Levels of Assurance

• LOA requirements differ across scientific collaborations
  – 2-factor authentication
  – IGTF accreditation
  – Open access with usage reporting

• CILogon LOA options:
  – InCommon Silver: US Gov’t ICAM Level 2
  – OpenID OIX: US Gov’t ICAM Level 1
  – InCommon “Basic”
  – 2\textsuperscript{nd} factor authentication (coming soon)
Adding a 2nd Factor

Google Authenticator Registration

Step 1
Download the Google Authenticator app specific to your device.
- Android OS (2.1 and higher) (QR Code Link)
- Apple iOS (3.1.3 and higher) (QR Code Link)
- BlackBerry OS (4.5-6.0) (QR Code Link)

Step 2
Launch the Google Authenticator app and add your token by scanning the QR code or by entering the account information shown below.

- Account Name: A534@cilogon.org
- Key: R63YBJNYDGVB3KH
- Type of Key: Time based

Step 3
Click the "Verify" button to log in with a one-time password generated by the Google Authenticator app.

Google Authenticator Login

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.

Account: A534@cilogon.org
Passcode: 177799
Enter

Don't have your phone with you?

For questions about this site, please see the FAQs or send email to help@cilogon.org. Know your responsibilities for using the CiLogon Service. See acknowledgements of support for this site.
CILogon and IGTF

- CILogon CA operations, key management, and certificate profiles meet IGTF standards
- Issue: subscriber ID vetting & authentication
  - Goal: rely on campuses for this
  - Need minimum standards for campus practices
  - Approach: rely on InCommon Identity Assurance
- Status:
  - CILogon Silver CA accredited (October 2010)
  - Virginia Tech certified InCommon Silver (October 2012)
  - Virginia Tech members use CILogon Silver certificates to access Open Science Grid services (October 2012)
  - CILogon Basic & OpenID CAs being actively used w/o IGTF accreditation
Support for Non-Browser Apps

• Option #1:
  – Use browser-based authentication (SAML, OpenID)
  – Get URL for certificate download (wget/curl)
    • Or use Java Web Start, etc.
  – Use certificate for non-browser authentication
  – *Still requires a browser for initial authentication*

• Option #2
  – Use SAML Enhanced Client or Proxy (ECP) authentication *outside the browser* to download certificate
  – ECP adoption by InCommon campuses beginning
    • Successfully tested with U Washington, U Chicago, U Wisconsin-Madison, LIGO, LTER, and ProtectNetwork
  – For more info: http://www.cilogon.org/ecp
ECP Example

$ curl -sSO https://cilogon.org/ecp.pl

$ perl ecp.pl --get cert -c create -k userkey.pem -o usercert.pem -t 12

Select an Identity Provider (IdP):

1> LTER Network
2> ProtectNetwork
3> University of Chicago
4> University of Washington
5> Specify the URL of another IdP

Choose [2]: 2

Enter a username for the Identity Provider: jbasney
Enter a password for the Identity Provider: ************

$ grid-proxy-init -cert usercert.pem -key userkey.pem -hours 4

Your identity: /DC=org/DC=cilogon/C=US/O=ProtectNetwork/CN=Jim Basney A685
Creating proxy ......................... Done

$ gsissh citest.example.edu
[jbasney@citest ~]$
Lessons Learned

• InCommon today supports **browser** SSO
  – SAML->X.509 bridges are common for non-web apps (CILogon, TERENA Certificate Service, etc.)
  – SAML ECP adopted by ~5 InCommon IdPs so far (http://www.cilogon.org/ecp)

• Attribute release is a challenge today for SPs that want to support many IdPs
  – New InCommon effort is addressing this challenge: https://spaces.internet2.edu/display/InCCollaborate/Research+and+Scholarship+Category

• Google OpenID is a popular “catch-all” IdP
  – US ICAM LOA 1 certified (http://openidentityexchange.org/certified-providers)
Out of Scope for CILogon

(CILogon depends on others to address these issues)

- Initial identity vetting
- Linking multiple identities
- Name, email address, and IdP changes
- Authorization
- Group memberships
- Roles
- Credentialing users outside USA
Thanks!

For more information:

www.cilogon.org

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