CILogon 2.0

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CILogon – https://cilogon.org/

- Enables use of federated identities for access to cyberinfrastructure
- Translates across federations and protocols
CILogon IdP Growth

https://groups.google.com/a/cilogon.org/forum/#!forum/idp-updates
CILogon 2.0 Project

- 3 year NSF CICI award
  - January 2016 - December 2018
- Provide an integrated open source Identity and Access Management (IdAM) platform for cyberinfrastructure
  - CILogon: federated identity management
  - COmanage: collaborative organization management
- Support international collaborations
CILogon 2.0 Team Members

- Jim Basney
- Terry Fleury
- Jeff Gaynor
- Venkat Yekkirala
- Heather Flanagan
- Scott Koranda
- Benn Oshrin
- Arlen Johnson
Science Partners

- NANOGrav Physics Frontiers Center
- Laser Interferometer Gravitational-Wave Observatory (LIGO)
- Data Observation Network for Earth (DataONE)
Cyberinfrastructure Partners

- Operational support
- Integration platform
- International use cases

Support for European identities
- Using eduGAIN
Project Deliverables

- CILogon-COmanage Integration
- VO collaboration management
- International Interfederation (eduGAIN)
- Linking ORCID identities
- Supporting Campus Cyberinfrastructure (LDAP and SSH Key Management)
- Multi-factor Authentication and Levels of Assurance
- Web Single Sign-On Gateway (IdPoLR, SAML AA, SAML-OIDC)
CILogon-COmanage Integration

- Combine identity bridging (CILogon) with collaboration management (COmanage)
- Support configurable enrollment flows, roles, groups, identifiers, and expiration
- Issuing assertions and certificates containing VO-specific attributes
International Interfederation

- Exploring two options:
  - International IdPs with US CILogon instance
  - EU CILogon instance linked with GÉANT’s Trusted Certificate Service (TCS)
- Relying on eduGAIN and REFEDS R&S
- Pilot project with AARC underway
Supporting Campus CI

- LDAP interface for campus applications that support LDAP but not SAML or OIDC
  - Linked X.509, SAML, OIDC, and ORCID IDs
  - Application-specific passwords
  - VO-specific user profile and attribute info
- SSH key management
  - SSH public keys linked with federated IDs
  - LDAP lookup for campus compute clusters
MFA and LOA

- Use Multi-Factor Authentication (MFA) and signal its use in our assertions
  - OIDC Authentication Context Class Reference
  - X.509 certificate extension (policy OID)
- Pass along other Level of Assurance (LOA) information provided externally
Web Single Sign-On Gateway

- IdP of Last Resort (IdPoLR)
  - Adopting InCommon-recommended IdPoLR provider(s)
  - Providing additional IdPoLR if needed
- SAML Attribute Authority (AA)
  - Providing VO-specific attributes and group membership info for authorization
  - Using Shibboleth SP capability to query multiple SAML AAs (campus and VO attrs)
Web Single Sign-On Gateway

- SAML to OIDC Gateway
  - Making InCommon authentication available to apps that support OIDC but not SAML
  - Following on success of CILogon’s SAML to OAuth 1.0 gateway
- Linking ORCID Researcher IDs
  - Using ORCID OAuth interface to link ORCID IDs with federated IDs
  - Including ORCID IDs in X.509, LDAP, SAML, and OIDC
Logical Component View

- Science App
- Science App
- Science App
- X.509 CA
- OIDC Provider
- SAML AA
- LDAP
- User Registry Interface
- MFA (OATH)
- SAML SP
- COmanage
  - Identities
  - MFA Tokens
  - SSH Keys
  - Groups
  - Attributes
- InCommon IdP
- eduGAIN IdP
- Google IdP
- ORCID
- OIDC SP
- OAuth SP

CILogon
www.cilogon.org
Next Steps

- Working with the science projects
  - More partners welcome!
- Standardizing our OIDC claims
- Interfederation
  - InCommon will be eduGAIN-ready in February!
- ORCID ID linking
  - 1st CIlogon-COmanage integration driver
Thanks!

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