

CI Logon

Our Current Vision for
Trustworthy Long-Term CI Logon Operations

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IAM for Research Collaborations

CILogon: 15+ year sustained effort to enable secure logon to scientific cyberinfrastructure (CI)

for seamless identity and access management (IAM)

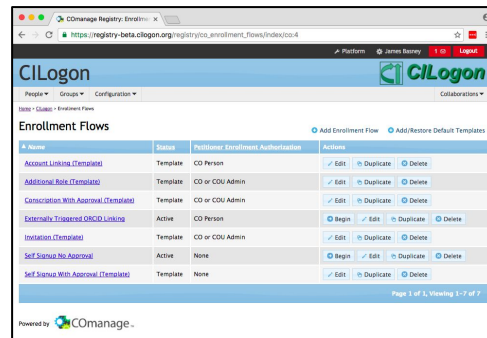
using federated identities (SAML, OIDC, OAuth, JWT)

so researchers log on with their existing credentials

supporting 50,000+ active users from 700+

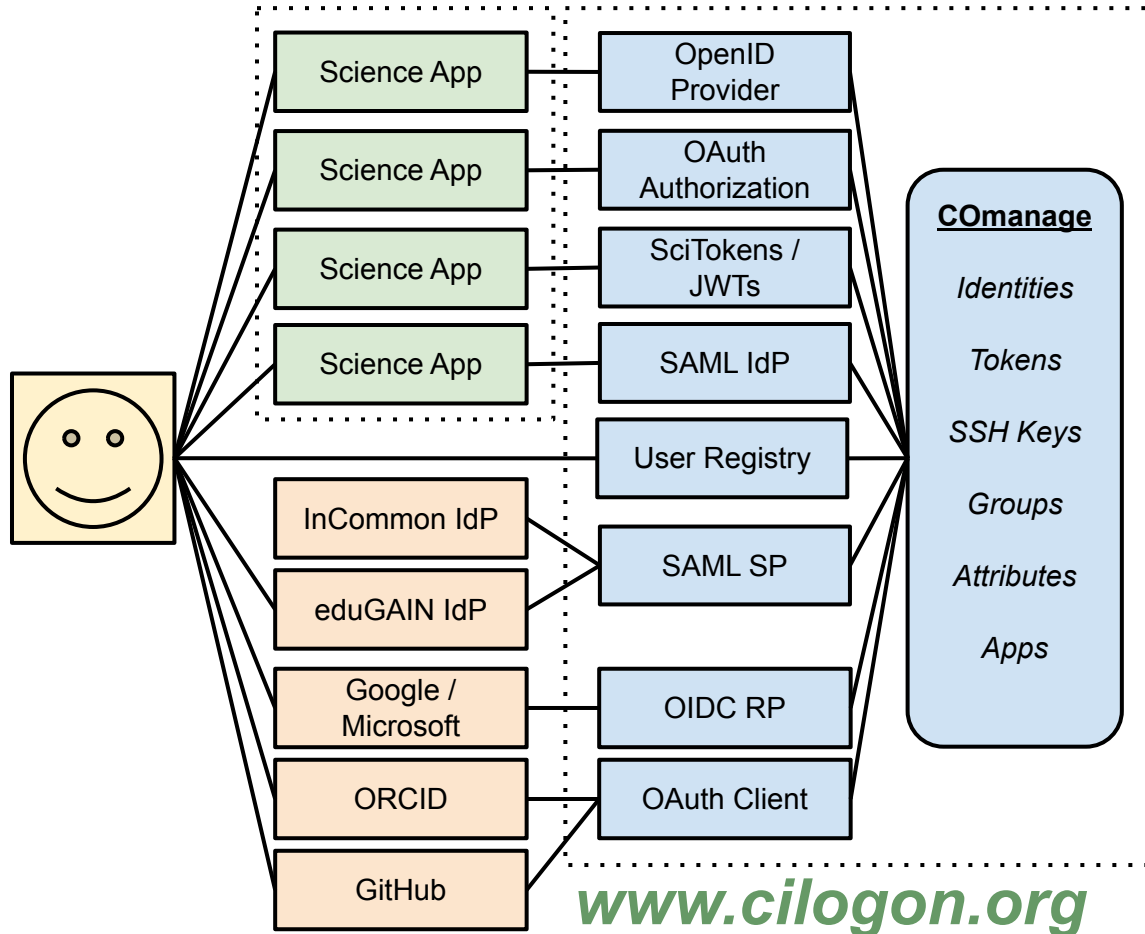
organizations around the world

with onboarding/offboarding/attributes/groups/roles managed consistently across multiple applications



supporting access to
science applications on
HPC clusters, in Jupyter
notebooks, using Globus,
via REST APIs, and many
other interfaces

using Google, GitHub,
InCommon/eduGAIN,
Microsoft, OneID, and
ORCID credentials



trustworthy long-term operations

reliability

scalability

sustainability

operational security

managing technical debt

managing dependencies

preparing for transitions

community engagement



our team

NCSA Team

Jeff Gaynor, Jim Basney, Richelle Lu-Rivera, Robin Blair, Scott Koranda, Shayna Atkinson, Terry Fleury, and Yan Zhan

Partners

Australian Access Federation, InCommon, and SCG Collaboration Group



www.cilogon.org

our subscription model

Basic Authentication

best effort support for academic research projects using manually approved OIDC clients

Essential Service

multi-tenant CManage Registry, OAuth dynamic client registration, cloud integrations, custom configurations, SLA

Full Service

dedicated CManage Registry, custom JWTs, OAuth dynamic client registration, cloud integrations, custom configurations, SLA

<https://www.cilogon.org/subscribe>

our 15+ year history (1 of 2)

2009 Federated login to TeraGrid. NSF ARRA award.

2010 CILogon operations begin. IGTF X.509 CAs operational.

2011 NSF SDCI award. OAuth support. InCommon Silver support.

2012 DOE ASCR award. Globus identity linking. InCommon R&S.

2013 XSEDE operations support. LIGO Data Grid use.

2016 NSF CICI award. eduGAIN support. OIDC support.

2017 COnanage support. AWS deployment.

2019 Transition to subscription funding model with 5 subscribers.

our 15+ year history (2 of 2)

2020 AWS, Azure, GCP, and IBM Cloud integration for NSF CloudBank.

2021 SciTokens and WLCG JWT support.

2022 COmanage Registry deployed for NSF ACCESS.

2023 AWS Sydney deployment for Australian Access Federation. IPv6 support.

2024 25 subscribers. WCAG 2.2 AA conformance. DynamoDB migration.

2025 Federation with DOE OneID. X.509 CAs retired.

Next: COmanage Registry v5

X.509 CA retirement

MAY 2023	CILogon X.509 certificate retirement plan announced.
JUNE 2023	CILogon X.509 certificate OAuth endpoint deprecated.
JANUARY 2024	CILogon X.509 certificate OAuth endpoint disabled.
MAY 2025	All certificate issuance disabled.
JUNE 2025	CILogon X.509 CAs withdrawn from IGTF distribution.
JULY 2025	CILogon X.509 certificate services fully retired.

tokens for science

OpenID Connect (OIDC) ID Tokens (e.g., ACCESS)
containing user attributes and group memberships
from the research community (via COnmanage Registry)
and from the researcher's home institution (via InCommon)



SciTokens (e.g., LIGO)
containing authorization scope values
determined by per client/subscriber policy



WLCG Tokens (e.g., Fermilab)
support for wlcg.groups and storage.*|compute.* scopes



GA4GH Passports (e.g., Australian BioCommons)
support for AffiliationAndRole, AcceptedTermsAndPolicies, ResearcherStatus,
ControlledAccessGrants, and LinkedIdentities



Global Alliance
for Genomics & Health
Collaborate. Innovate. Accelerate.



CILogon

<https://www.cilogon.org/jwt>

www.cilogon.org

COnmanage Registry v5

major web application framework upgrade, addressing technical debt

UI/UX redesign focused on usability, accessibility, and workflow

UI/UX streamline and simplification for end user

improved customization of Enrollment Flows

<https://spaces.at.internet2.edu/display/COnmanage/COnmanage+Product+Roadmap>



Thanks!

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