April 15, 2017

"Login with XSEDE"

Globus Auth on Jetstream and XSEDE

XSEDE

Extreme Science and Engineering
Discovery Environment

NSF

XSEDE and Jetstream

- XSEDE is NSF's front door/lobby for its national computing services (HPC, cloud, data)
  - User sign-up/registration
  - Allocation requests
  - System information and user support
- Jetstream is one of NSF's Infrastructure-as-a-Service providers, and the first to have a browser-based user interface
  - Use is allocated via XSEDE
  - Self-service VMs and storage volumes
  - Sized for scientific applications
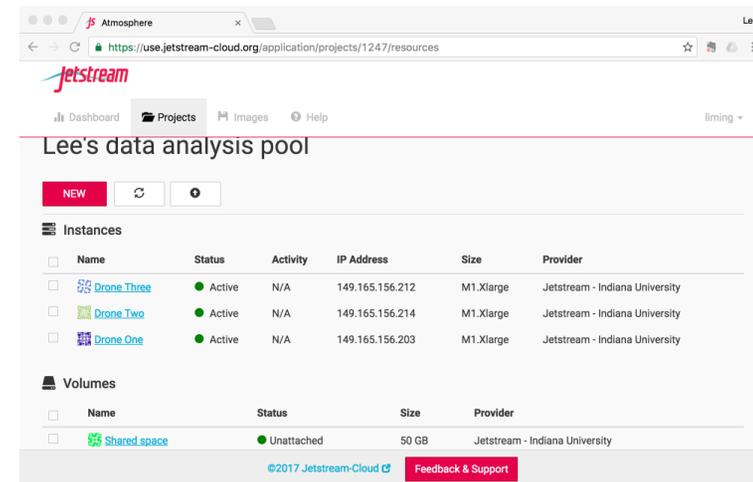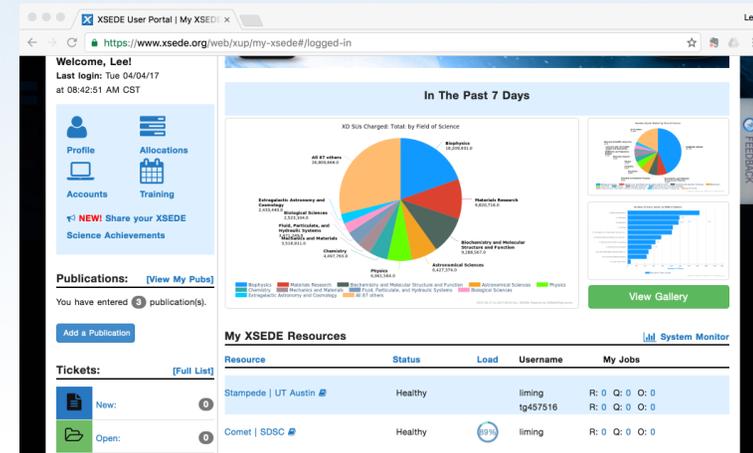
XSEDE is an identity provider (IDP)

- XSEDE has a user database that's been around for more than a decade and has >30,000 registered users
  - SQL user database + Kerberos auth realm
  - High visibility -> rigorous security
- First step was to add an XSEDE OIDC service
  - Provides OAuth2/OpenID Connect interface between XSEDE and Globus
  - *Intended solely for use by Globus*

XSEDE and Jetstream are both resource providers

- More than a dozen unique systems (for users or for staff) that require authentication

  Examples: User portal, community software repository, single sign-on hub, Confluence, JIRA, Qualtrics, financial portal, etc.

- More than a dozen federated services (managed by others) that are required to recognize XSEDE identities

  Examples: Jetstream, Stampede, Bridges, Comet, Wrangler, XStream, SuperMIC, etc.

Globus-enabled logins

- ## XSEDE's public sites
  - XSEDE user portal (www.xsede.org)
  - Jetstream cloud services (use.jetstream cloud.org)
  - Community Software Repository (CSR)
  - Training sites

- ## XSEDE's staff services
  - Staff wiki
  - Staff activity tracking & planning
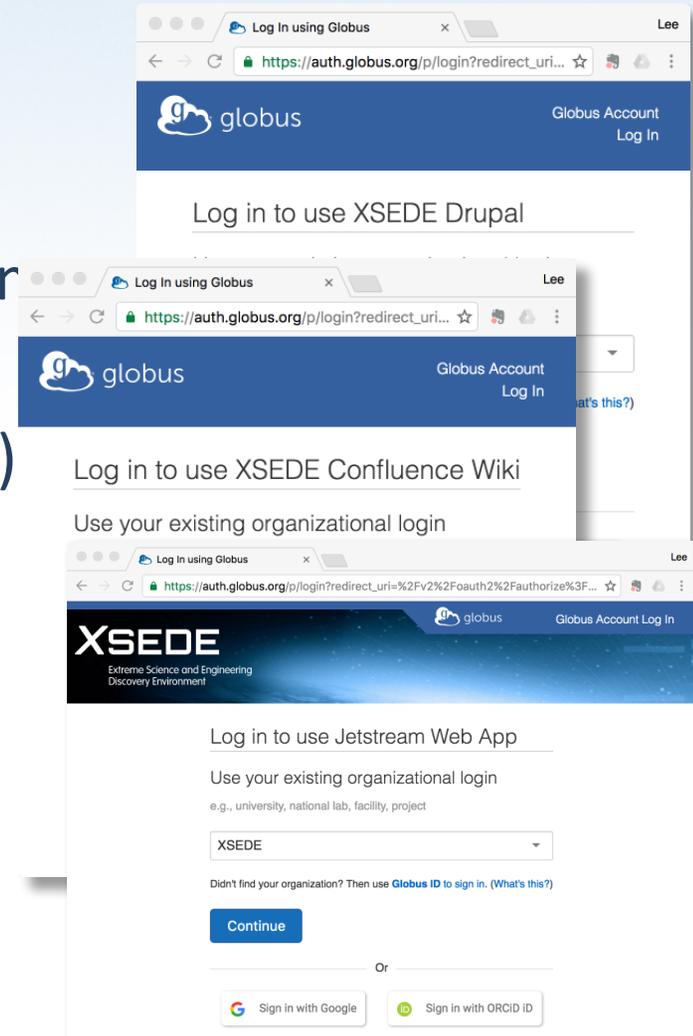
OAuth & OIDC plugins and modules are plentiful!

Service	How does it access Globus Auth?
XSEDE user portal	Java portlet for Liferay Portal, based on Nimbus JOSE+JWT for tokens
Jetstream	Python oauth2client module with customizations for Django and CyVerse (~200 lines of code)
JIRA & Confluence	OpenID Authentication for JIRA v. 3.0.5; OpenID Authentication for Confluence v. 3.0.5 (by Pawel Niewiadomski)
Community software repository	OAuth2 - OpenID Connect plugin for Drupal (openid_connect) 7.x-1.0-beta6
Training site	OpenID Connect plugin for Moodle

Globus Auth client configuration

- Most XSEDE clients require an XSEDE identity
  - People can use any identity to login, but to succeed, an XSEDE identity must be linked
  - If there isn't a linked XSEDE identity, Globus prompts to link or create an XSEDE identity
  - If the XSEDE identity hasn't been seen before by Globus, Globus automatically creates an identity
- XSEDE clients see the XSEDE identity as primary
  - XSEDE clients always see the username@xsede.org identity as primary
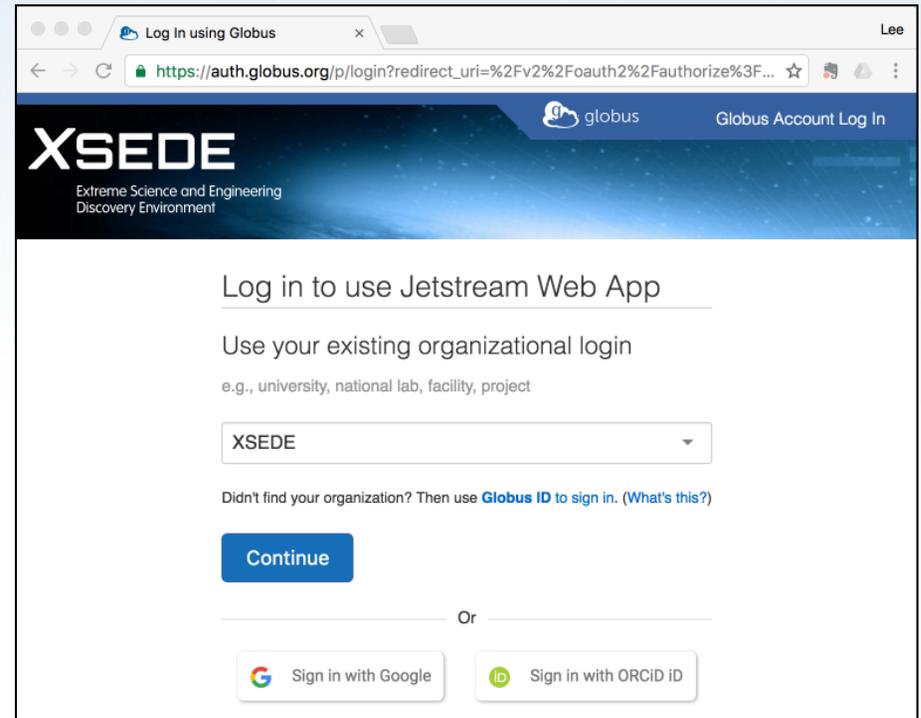 - Keeps things simple for client-side accounting

Jetstream and Globus Auth

Globus Auth made it *really* easy to enable XSEDE logins to Jetstream's web UI. (*)

- Much simpler than XSEDE's older methods
- Python Oauth2client module available
- Campus, Google, ORCID logins came for free!

* Still need to map to a Jetstream/XSEDE "allocation" (project)

XSEDE and Globus Auth – more, more, more!

- We're working on documentation and support for science gateways
    - Allow gateways to offer "Login with XSEDE"
- We're reaching out to other public XSEDE services
    - XD Metrics on Demand (XDMoD)
    - Two other user training services
- We'll update more staff services as needed

Our reach will forever

exceed our grasp, but,

in stretching our horizon,

we forever improve our world.

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