

XSEDE Capability Delivery Plan

SGW-1 Science Gateway Identity Management

Last revised 2016-11-22

Background

Use cases describe community needs, requirements, and recommendations for improvements to cyberinfrastructure “CI” resources and services. A Capability Delivery Plan “CDP” is an executive summary of use case support gaps, of plans to fill those gaps with new or enhanced capabilities, and of existing operational components that already support aspects of a use case.

Use Case Summary

Use case SGW-1 describes how an approved science gateway authenticates users using a mechanism of its choice and generates or acquires credentials as needed to perform needed tasks (e.g., job execution, file transfer) on and with XSEDE resources.

Use case document(s): <http://hdl.handle.net/2142/43883>

CDP Summary

The functionality described in this use case is 80% supported by the operational components listed below.

Gap(s) that we currently plan to address:

- Documentation on use of XSEDE IDM by Science Gateways is lacking
- Process for registering a Science Gateway with XSEDE is too complex

Gap(s) that will not be addressed at this time:

- None

Time and effort summary:

- 11 person-weeks of effort in two activities

Functionality Gaps

1. Documentation on use of XSEDE IDM by Science Gateways is lacking (suggested priority: high)

This use case is supported by XSEDE’s “community credential” mechanism and by Globus Auth. (Both mechanisms are described in the XSEDE1 architectural response to this use case.)

The community credential mechanism requires significant implementation effort on the part of science gateway developers and the trust of XSEDE service providers that gateway operators will honor certain practices and behaviors to ensure system security. Globus Auth capabilities are new to science gateway developers, and their relationship with the community credential mechanism is not well understood. We need to document and prepare training materials on the use of XSEDE identity management (i.e., Globus Auth) by science gateways.

Plans: [XCI-2](#) Document how Science Gateways can use XSEDE Identity Management
Best available effort and time estimate: 1 week

2. Process for registering a Science Gateway with XSEDE is too complex

(suggested priority: high)

The process of establishing a relationship between a science gateway and XSEDE - a relationship that allows scientific end users of the gateway to benefit from XSEDE resources without interacting directly with them - is currently a moderately technical, un-automated process. Gateway operators must learn a fair deal about XSEDE's identity and authentication interfaces and modify or develop new code in their own systems to interface with XSEDE. Any user-friendly, automated, fully integration interface, ideally accessible via a web browser, would benefit scientific communities by reducing their need to find and employ expertise toward managing the XSEDE relationship. A "science gateway developer's dashboard" that offered commonly used services (establishing a community credential, managing end user registration and authentication, monitoring end user usage and associating it with XSEDE resource utilization, setting up a shared data repository, etc.) would be helpful.

Plans: [XCI-31](#) Provide a science gateway developer's dashboard.
Best available effort and time estimate: 10 weeks

System Components That Support This Use Case

The following XSEDE operational components currently support this use case:

(Hyperlink the component <Name> to the XCSR Component Description Repository)

Component	Supported Functionality
Globus Auth	Globus Auth provides an OAuth (OpenID Connect) interface for integration of XSEDE identity management capabilities with science gateways.
XSEDE User Portal	The XSEDE User Portal (XUP) provides the ability for science gateway developers to register server certificate DNs with community accounts.
AMIE	The AMIE system associates DNs with community accounts at XSEDE SPs.

