XSEDE Capability Delivery Plan
SGW-06 - Estimate when a submitted job
is likely to be finished
Last revised 2017-11-17

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 the current gaps in our support for a use case, current plans to fill those gaps with new or enhanced capabilities, and the operational components that currently support the use case.

Use case summary

Use case SGW-06 describes how science gateway developers need a way to let gateway users know when to expect their computation tasks will finish. (These tasks are being submitted to XSEDE resources where either the gateway operator or the researcher using the gateway has an allocation. Tasks will likely not begin immediately due to competing uses of the system and scheduling policies.). The full description of this use case is available in the CSR's use case registry.

CDP summary

This use case is fully supported by the current XSEDE system, notably by the components listed in the last section of this document.

Gap(s) that we currently plan to address:
- None

Gap(s) that will <u>not</u> be addressed <u>at this time</u>:
- None

Time and effort summary:
- **None**

Functionality gaps

None.

System components that support this use case

The following XSEDE operational components currently support this use case.

Component	Supported Functionality
Local queueing and scheduling systems on SP resources	The job queueing and scheduling systems provided by every SP HPC and HTC resource. These systems accept new computation tasks from users and determine when and how to execute them based on local authorization and scheduling policies.
Karnak	Karnak, XSEDE's queue prediction mechanism, provides an API that software developers can use to obtain queue performance and task completion estimates. Karnak includes components installed on each SP HPC/HTC system (to interface to the local queueing and scheduling system) and a centrally hosted service that provides the access interface.