

XSEDE Capability Delivery Plan

SPI-4 Access resource information from an application

Last revised 2017-02-24

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 SPI-4 describes how applications like portals, gateways, and dashboards can access all available XSEDE resource description and status information for all L1-3 allocated and unallocated resources. Applications require application programming interfaces (APIs) to access information. For this access to be easier, performant, and reliable an integrated API that provides all available RDR, XCDB, SP published (using IPF) software and services, XCDB Outages, and INCA/Nagios testing status information is ideal.

Use case document(s): [Description \(pending review\)](#)

CDP Summary

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

Gap(s) that we currently plan to address:

- None

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

- None

Time and effort summary:

- None

Functionality Gaps

1. None

System Components That Support This Use Case

The following XSEDE operational components currently support this use case:

Component	Supported Functionality
Warehouse REST API	Implements RESTful interfaces to update and search CI resource information and enables the “pull” method for discovery. The remaining components manage, replicate, cross-reference, and warehouse the information available thru the API.
RDR	Resource Description Repository static descriptive information
XCDB	XSEDE Central Database Managed resource identifiers and descriptions
Outages	XSEDE Central Database Managed full and partial outages
IPF	XSEDE SP operated IPF for publishing software and service availability information thru RabbitMQ
RabbitMQ	Implements the AMQP standard for publishing and subscribing to CI resource information and enables the “push” method for discovery
Information Services Warehouse	Provides a central, reliable, fault tolerant, and scalable repository of discoverable resource information. This component is specifically design to support the discovery use case and often contains copies of the authoritative resource information produced or managed by other components.
Information Services Routers	Components that move/route information between publish/subscribe components and update/search components. This enables information that is published (pushed) to be discoverable thru search (pull) interfaces, and information that is updated to be forwarded to subscribers.

References

N/A

- 1.
- 2.

