

# XSEDE Operations Deployment Plan: XSEDE Information Services Publishing with GLUE2

Software/Service Availability Increment  
SDIACT-178

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Version 1.3



## Table of Contents

A. Document History.....	iv
B. Document Scope.....	v
C. Overview.....	1
D. Resources.....	1
D.1. Human Resources.....	1
D.2. Budget.....	2
E. Coordination and Communication.....	2
F. Deployment.....	2
F.1. XSEDE Enterprise Services.....	2
F.1.1. XSEDE Messaging Service.....	2
F.1.2. Information Services Warehouse.....	2
F.1.3. Nagios.....	3
F.1.4. Inca.....	3
F.2. XSEDE Service Providers.....	3
F.3. XSEDE User Services.....	3
F.4. XSEDE Training.....	4
G. Schedule.....	4

## List of Figures

Figure 1: XSEDE Information Services Infrastructure

page 1

## A. Document History

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Relevant Sections	Version	Date	Changes	Author
Entire Document	1.0	2015-01-27	Initial draft	Shava Smallen
Entire Document	1.1	2015-11-09	Revised for SDIACT-178	JP Navarro
Entire Document	1.2	2015-11-17	TRR suggested changes	JP Navarro
Entire Document	1.3	2016-02-27	Changes to overview, schedule, resources, deployment	Tabitha Samuel, V. Hazlewood

## B. Document Scope

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This document outlines the XSEDE Operations deployment plan for the XSEDE Messaging service and GLUEv2 packages.

## C. Overview

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SDIACT-178 delivers 1) an updated XSEDE information publishing framework (ipf-xsede) component used by SPs to publish software information in GLUE 2.0 format 2) a new sub-component of XSEDE information publish framework for SPs to publish service information in GLUE 2.0 format, 3) a new information services warehouse on info1.dyn.xsede.org that stores all GLUE 2.0 published information, and 4) a new RESTful interface to GLUE 2.0 and other content in the information services warehouse. Information services warehouse content will be used by the user portal, science gateways, and other consumers and be accessible via RESTful APIs at info1.dyn.xsede.org. Information published includes job and load information from level 1 and level 2 SPs, and software and services information for level 1, level 2 and level 3 SPs. Figure 1 below shows the related XSEDE Information Services Infrastructure.

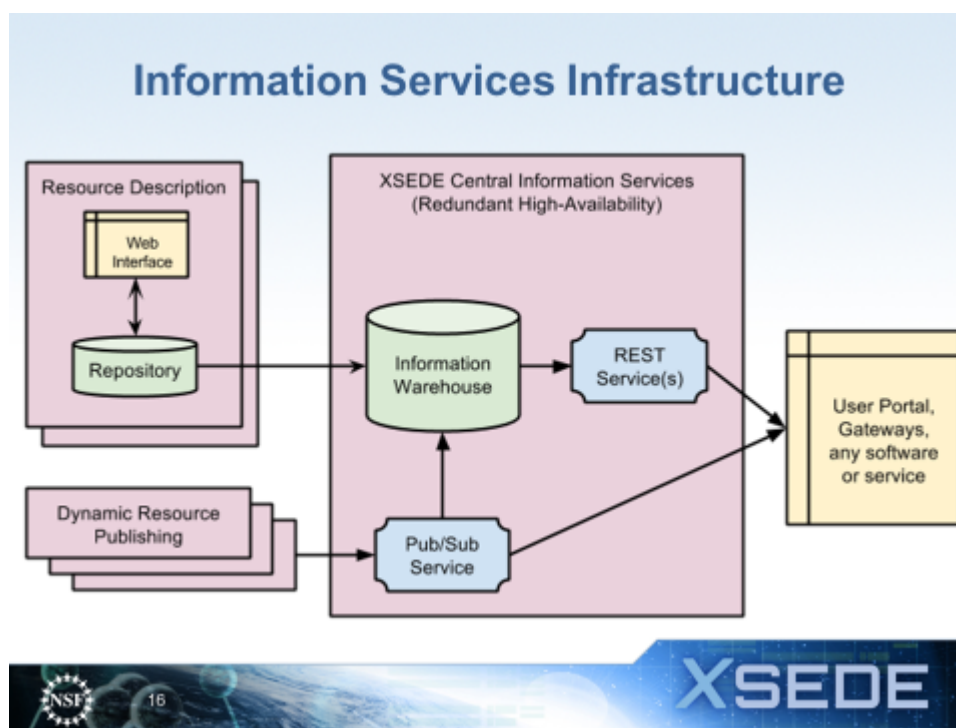


Figure 1: XSEDE Information Services Infrastructure

SDIACT-178 has completed the XSEDE engineering process and has passed both SD&I and Operations testing. It therefore, has been approved for deployment onto relevant XSEDE Enterprise and Service Provider resources.

## D. Resources

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### D.1. Human Resources

The deployment of ipf-xsede requires installation at each of the SPs. The following human resources have been identified:

Resource	SP Site/XSEDE Group/Other Resource
Staff	NICS (Darter)
Staff	PSC (Greenfield, Bridges)
Staff	TACC (Stampede, Maverick, Lonestar)
Staff	NCAR
Staff	OSG
Staff	SDSC (Gordon, Comet)
Staff	Purdue (Steele)
Staff	Indiana (Mason, JetStream)
Staff	LSU (SuperMIC)
Staff	Stanford (XStream)
Staff	XSEDE Level 3 SPs
SD&I Staff	XSEDE Information Services Warehouse
User Services staff	XSEDE User Services

## D.2. Budget

SD&I will continue to operate the messaging service on XSEDE's Information Server machines, the new GLUE 2.0 information services warehouse and the components that that store published information in the warehouse, and the new RESTful interfaces to the information services warehouse. Service Providers already provide service nodes on their systems for the GLUE2 services that interface with the site compute resources. No additional resources are required.

## E. Coordination and Communication

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As part of the overall XSEDE Information services, this capability is part of the integrated set of the following activities: [SDIACT-117](#) Resource Description Repository (RDR), [SDIACT-107](#) Information Services Glue2 for Job and Load information and this activity [SDIACT-178](#) Information Services Publishing with Glue2.

## F. Deployment

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### F.1. XSEDE Enterprise Services (this section is not for SPs)

#### F.1.1. XSEDE Messaging Service

This is a [RabbitMQ](#) XSEDE Enterprise service deployed and operated by SD&I on info1.dyn.xsede.org and info2.dyn.xsede.org. This deliverable will expand use of this services which was originally delivered into production with SDIACT-107.

#### F.1.2. Information Services Warehouse

This is a services running on info1.dyn.xsede.org composed of:

1. A local PostgreSQL database (which is only available to local running services),
2. Collector/router processes that subscribe to messaging service queues and store published information in the PostgreSQL database,
3. An Apache managed RESTful API that providing public access to warehouse information written in Django.

### F.1.3. Nagios

A HTTP get on <https://info1.dyn.xsede.org/wh1/glue2-views-api/v1/services/> should run every 5 minutes. Failures should be sent to [info-serv-admin@xsede.org](mailto:info-serv-admin@xsede.org).

### F.1.4. Inca

Inca will access information about which software/service elements are required at each type of SP from:

- <https://info1.dyn.xsede.org:443/wh1/xcsr-db/v1/componentsrequirement/>

ComponentNames should match the *InterfaceName* from <https://info1.dyn.xsede.org:443/wh1/glue2-views-api/v1/services/> and the *AppName* from <https://info1.dyn.xsede.org:443/wh1/glue2-views-api/v1/software/>

Three new Inca tests will be added:

1. Certification expiration test against <https://info1.dyn.xsede.org/> and <https://info2.dyn.xsede.org/> will be run once a day.
2. A “current data” check will be added for each Level 1, 2, and 3 SP to verify GLUE2 software and services data is being collected at expected intervals.  
<https://info1.dyn.xsede.org:443/wh1/glue2-views-api/v1/software/ResourceID/{ResourceID}/>  
<https://info1.dyn.xsede.org:443/wh1/glue2-views-api/v1/services/ResourceID/{ResourceID}/>

Errors on all tests will be sent to [info-serv-admin@xsede.org](mailto:info-serv-admin@xsede.org) and SD&I will contact SPs as needed to start.

## F.2. XSEDE Service Providers

Service providers will need to install RPM packages via the XSEDE Production Yum repository. Please see instructions at <http://software.xsede.org/production/Glue2/latest/INSTALL> Any issues during deployment should be reported to [help@xsede.org](mailto:help@xsede.org).

## F.3. XSEDE User Services



New user documentation should be added to the XSEDE User Portal. A draft is available at: <http://software.xsede.org/production/Glue2/latest/SDIAC-178InformationServicesWarehouse-UserGuide-v0.9.pdf>.

## F.4. XSEDE Training

Since this is not software that end users will see (i.e., more targeted to science gateway developers), it is out of scope for Training at this time.

## G. Schedule

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The schedule for deployment involves installation and configuration of the {title} software and testing by the SPs.

Task #	Task	Start Date	End Date	Resource
1.	SPs install/upgrade ipf-xsede-1.2-6. This includes all SP Levels 1-3	3/1/16	4/15/16	SP admins
2.	SPs test/make production ipf-xsede. This includes all SP Levels 1-3	4/15/16	6/30/16	SP admins
3.	SD&I places information services warehouse into production	4/15/16	4/30/16	SD&I
4.	SD&I places glue2 message routing to the warehouse into production	4/15/16	4/30/16	SD&I
5.	Operations updates software baseline replacing Globus MDS and stopgap with ipf-xsede	4/15/16	4/30/16	Operations SP Coordination
6.	Operations updates Inca testing	4/21/16	4/30/16	Operations Inca team
7.	deployment complete		6/30/16	