

OSG Site Monitoring

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OSG Sites Meeting

In 10 minutes...

- How does monitoring work in the OSG?
- What information services does the OSG CE provide?
- What monitoring-like tools are available?
- Plus a bonus slide!

Resource and Service Validation (RSV)

- RSV is a grid monitoring systems for the OSG.
- It covers primarily “grid-related” functionality; supplements, not replaces, a site monitor such as Nagios.
- Powered by Condor-Cron, periodically runs tests against an OSG CE or SE.
 - Perhaps is most powerful

RSV Web page


- RSV provides a simple local webpage of the latest results and some historical ones.

OSG RSV Status - Main :: 11-19-2009 09:37:45

https://red-mon.unl.edu:8443/rsv/

Most Visited ▾ Getting Started Latest Headlines ▾ Apple ▾ Amazon eBay Yahoo! News ▾

OSG RSV Status - Main :: 11-19-2009 09:37:45


Open Science Grid

OSG RSV Status - Main
11-19-2009 09:37:45

[Archived HTML pages](#)

dcache07.unl.edu

Probe	Metric	Last Executed	Status
srm-ping-probe	org.osg.srm.srmping	2009-11-19T15:33:02Z	OK
srmcp-srm-probe	org.osg.srm.srmcp-readwrite	2009-11-19T15:28:11Z	OK

ff-grid.unl.edu

Probe	Metric	Last Executed	Status
cacert-verify-probe	org.osg.certificates.cacert-expiry	2009-11-19T12:15:02Z	OK
crl-freshness-probe	org.osg.certificates.crl-expiry	2009-11-19T12:30:02Z	WARNING
gram-authentication-probe	org.osg.globus.gram-authentication	2009-11-19T15:31:09Z	OK
jobmanagers-available-probe	org.osg.batch.jobmanagers-available	2009-11-19T10:59:03Z	OK
jobmanagers-status-probe	org.osg.batch.jobmanager-default-status	2009-11-19T14:57:01Z	UNKNOWN
osg-directories-diskspace-probe	org.osg.general.osg-directories-diskspace	2009-11-19T15:27:09Z	UNKNOWN
osg-directories-permissions-ce-probe	org.osg.general.osg-directories-CE-permissions	2009-11-19T15:37:02Z	OK

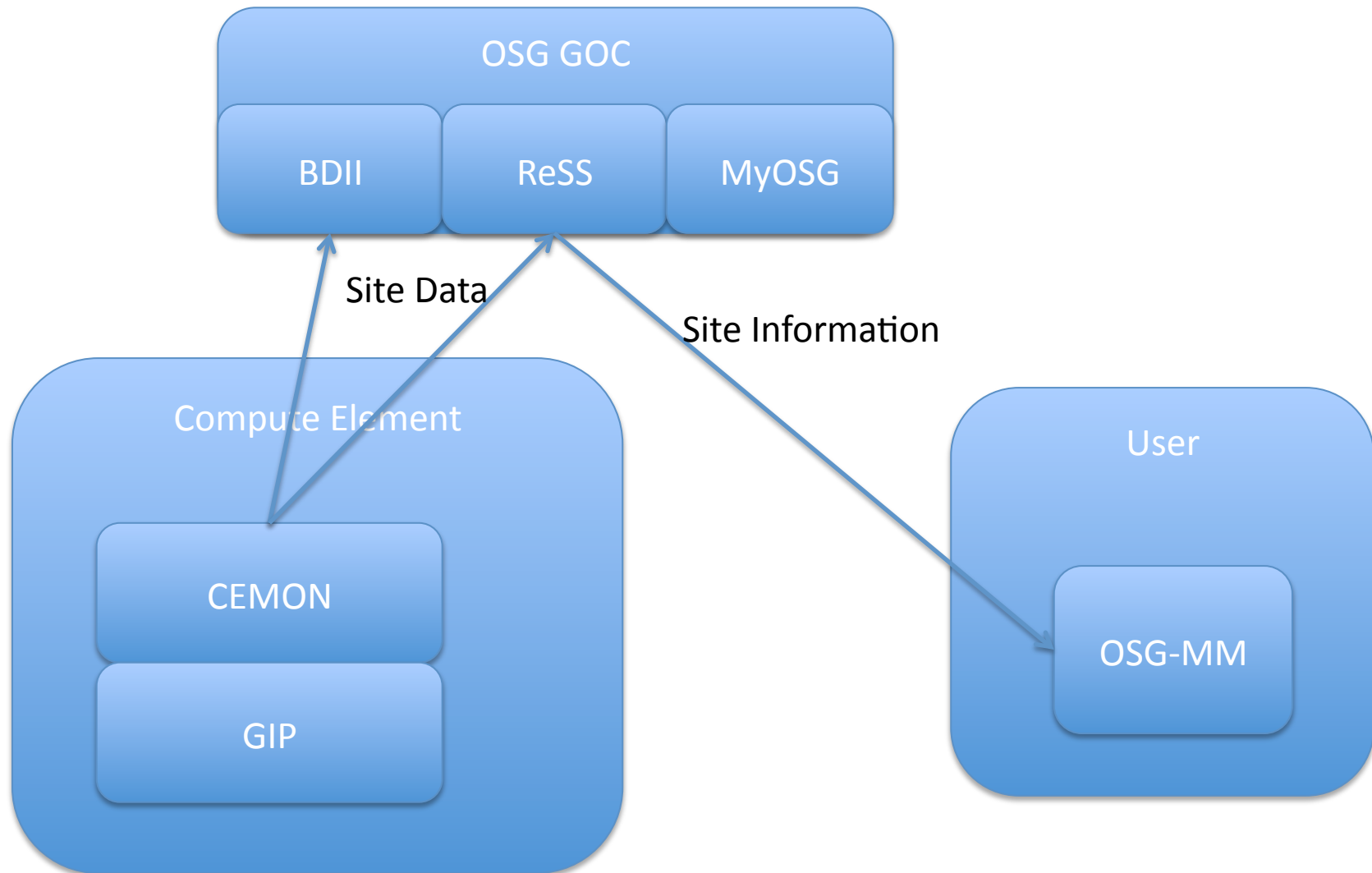
RSV Details

- RSV additionally sends its results using the same transport as Gratia up to the GOC.
 - These results help power the MyOSG pages
- RSV, in its simplest form, runs on just the OSG CE.
 - However, for large sites, it's easier to run a central RSV host testing all your CEs.
 - The Nebraska RSV instance monitors 6 CEs and 5 SRM endpoints; maybe the largest deploy?

OSG Info Services

- The point of information services is to provide site topology and status information from the site to “the world”.
 - On the compute element: GIP, CEMon
 - Centrally at the GOC or FNAL: IG/ReSS, BDII
 - User tools: ldapsearch, OSG-MM, Pegasus, storage discovery tools.

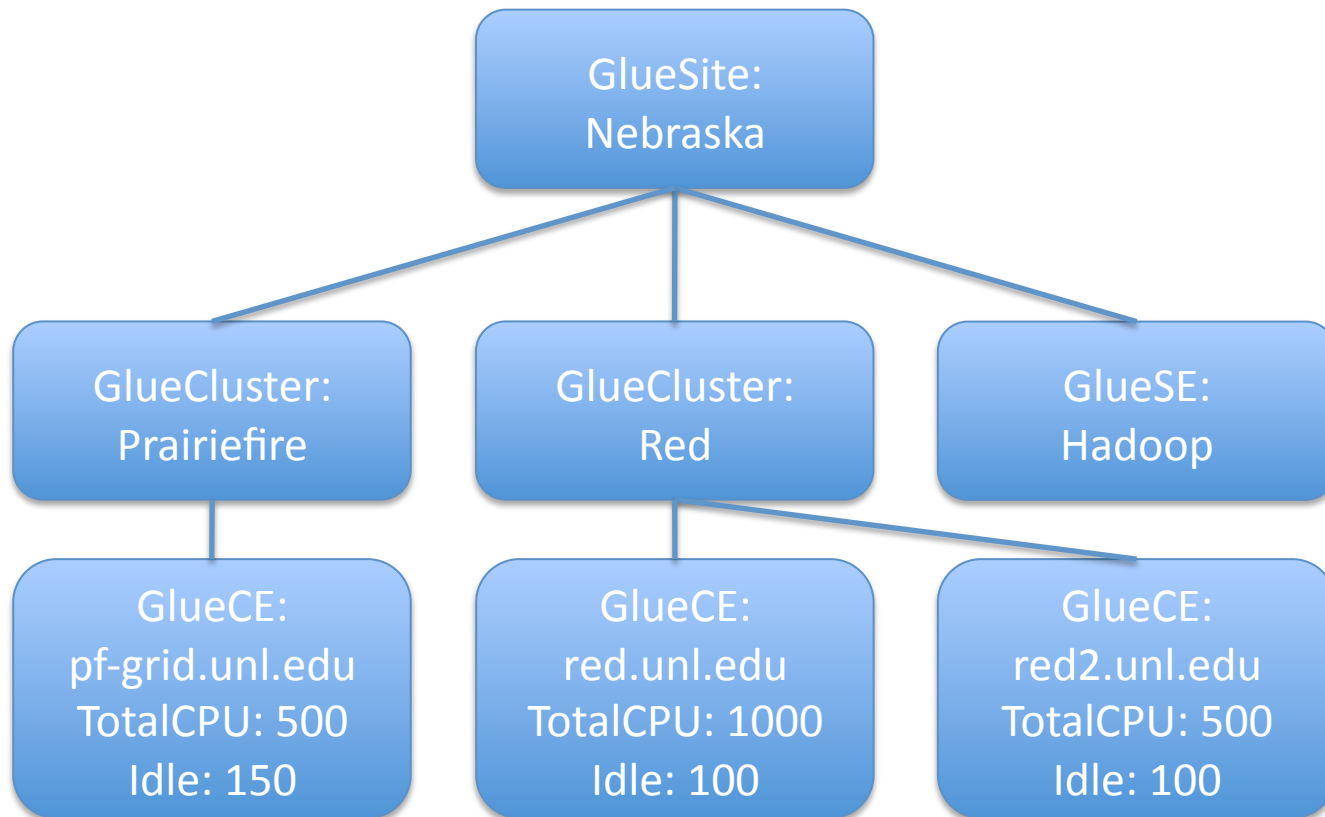
The “Big Picture”



GLUE Schema

- The GLUE schema is the heart of the OSG Information Services.
 - It is a schema that defines the way to describe your cluster.
 - This “description” can be written in several ways – XML and LDAP are most popular.
 - A schema is important; goal is to unambiguously describe a grid site independent of what technology the site is using.

GLUE Example



Real-Life GLUE

dn: GlueCEUniqueID=cit-gatekeeper.ultralight.org:2119/jobmanager-condor-cms_production,mds-vo-name=CIT_CMS_T2,mds-vo-name=local,o=grid

objectClass: GlueCE

objectClass: GlueCEAccessControlBase

objectClass: GlueCEInfo

objectClass: GlueCEPolicy

objectClass: GlueCEState

objectClass: GlueCETop

objectClass: GlueInformationService

objectClass: GlueKey

objectClass: GlueSchemaVersion

GlueCEInfoDataDir: /raid2/osg-data

GlueCEPolicyMaxObtainableCPUTime: 1440

GlueCEStateRunningJobs: 140

GlueSchemaVersionMajor: 1

GlueCEInfoTotalCPUs: 350

GlueCEStateFreeJobSlots: 2

GlueCEPolicyMaxWaitingJobs: 99999

GlueCEStateWorstResponseTime: 261651

GlueCEPolicyMaxTotalJobs: 99999

GlueCEPolicyMaxObtainableWallClockTime: 1440

GlueCEStateTotalJobs: 567

GlueCEStateStatus: Production

GlueForeignKey: GlueClusterUniqueID=caltech-cms-t2

GlueCECapability: CPUScalingReferenceSI00=2000

GlueCEAccessControlBaseRule: VO:cms

GlueCEInfoLRMSType: condor

GlueCEPolicyMaxRunningJobs: 2000

GlueCEPolicyAssignedJobSlots: 350

GlueCEInfoApplicationDir: /raid1/osg-app

GlueCEPolicyPreemption: 0

GlueCEStateFreeCPUs: 2

GlueCEInfoGRAMVersion: 2.0

GlueCEImplementationName: Globus

GlueSchemaVersionMinor: 3

GlueCEStateEstimatedResponseTime: 40992

GlueCEHostingCluster: cit-gatekeeper.ultralight.org

GlueCEInfoHostName: cit-gatekeeper.ultralight.org

GlueCEInfoDefaultSE: cit-se.ultralight.org

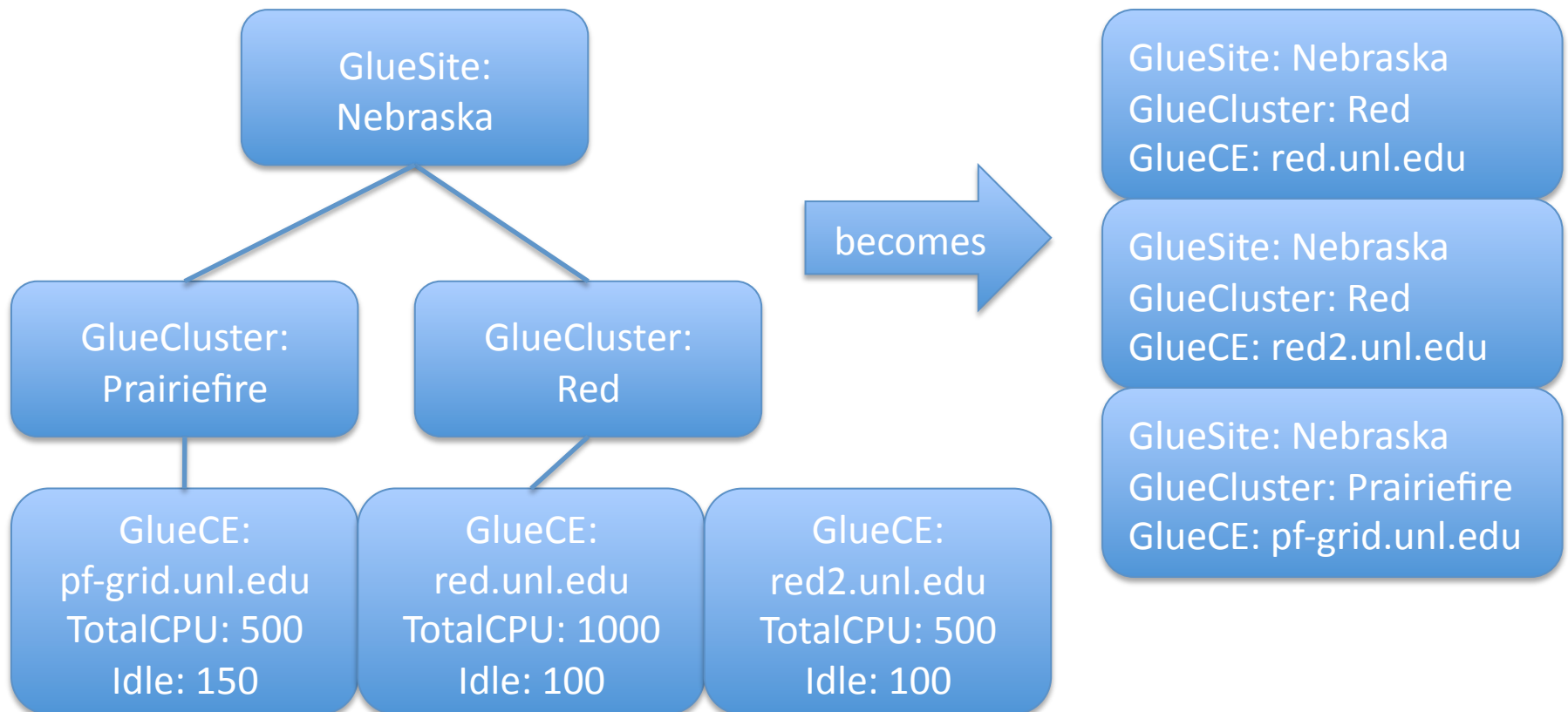
GlueCEImplementationVersion: 4.0.6

GlueCEInfoLRMSVersion: 7.2.0 Dec 19 2008 BuildID: 121001 \$

- These abstract ideas are often represented using LDAP. Here's part of an example GlueCE; you'll see why it's not user-friendly.

Condor ClassAds

- Instead of having a hierarchy of LDIF stanzas to analyze, CEMon creates one stanza per combo

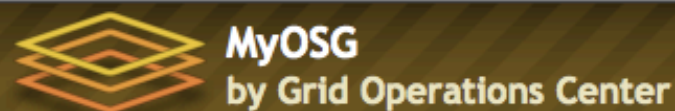


CEMon

- CEMon runs the GIP; the GIP generates the GLUE information from interacting with the CE/SE.
- CEMon sends the raw BDII to the GOC.
 - The destination CEMon at GOC feeds this into LDAP servers.
- CEMon sends the Condor ClassAds to FNAL.
 - This destination CEMon places them into a central Condor scheduler.

MyOSG

- MyOSG is an easy-to-use web interface to a lot of the OSG information.
 - It is the official record of OSG topology
 - It reports the results of RSV, the OSG's testing tool. This provides health information for sites.
- MyOSG *does* provide machine-readable information about CE/SE status.
- It *does not* provide machine-readable to submit to Globus or use a SE.
 - Yet, it is one of my favorite tools because it allows you to explore the various services easily.



About MyOSG

MyOSG is designed with the primary goal of providing users, administrators, VO managers, and everyone else, a one-stop location for various pieces of OSG related information.

MyOSG allows you to quickly select and filter information you are looking for. Most pages also allow you to export the selected/filtered data in their preferred format HTML, Netvibes, Google, etc. and XML for programmatic interfaces.

Quick Links



Resource Summary

Current status summary from all production OSG resources ([ITB Resource Summary](#)).



Current RSV Status

Current RSV-based status for all production resources ([Current RSV Status for ITB resources](#)).



Gratia Accounting

Gratia Accounting based CPU usage information grouped by username for the last 30 days for all production resources ([Gratia Accounting graph for ITB resources](#)).



RSV Status History

Last 7 days worth of RSV-based status history for all production resources. You can click on any point (in time) on the graph to display the metric details at that time instant ([ITB RSV Status History](#)).



GIP Validation Results

Current GIP validation status for all production resources that provide the CE service ([GIP validation results for ITB resources](#)).



Status Map

"Status Map" shows the current overall site status on a Google Maps based world map ([Status Map for ITB sites](#)).

External Links

OSG Information



virtual organization

GOC Overview



OSG Tools



and mailing
are open
area com

**MyOSG**
by Grid Operations Center[Home](#) [Resource Group](#) [Support Center](#) [Virtual Organization](#) [Status Map](#) [Miscellaneous](#)

Resource Group Summary

AGLT2

OSG Production Resource Group

GIP Validation



At least one test is failing

[Validation Detail](#)

AGLT2

Services

Compute Element

gate01.aglt2.org:2119

VOMS Server

gate01.aglt2.org:8443

RSV Status



This resource is currently under maintenance.

Maintenance Summary:

We are planning on being down for all services at AGLT2 on Thursday, 10/22, from 8am-4pm EDT while we migrate critical machines around in preparation for the imminent arrival of new equipment. During this time we will also: 1. bring up a new NFS file server for the home directories of all VO. 2. migrate to dCache version 1.9.5-3 from 1.9.4-3 3. re-address our IP space

Internal status:

service is in UNKNOWN status.

[Status Detail](#) [Status History](#)



CIT_CMS_T2B

Compute Element



Clemson-Birdnest

OSG Production Resource Group

Clemson-Birdnest

Compute Element



Wed, 21 Oct 2009 09:50:58 GMT

SRM V2 Storage Element



Clemson-ciTeam

OSG Production Resource Group

Clemson-ciTeam

Compute Element



CLEMSON-Palmetto

OSG Production Resource Group

CLEMSON-Palmetto

Compute Element



CNIC-CIGI-OSG

OSG Production Resource Group

Links

- OSG-MM: <http://osgmm.sourceforge.net/>
- MyOSG: <https://myosg.grid.iu.edu/>
- GLUE Working Group:
<http://forge.gridforum.org/sf/projects/glue-wg> (all the technical details about GLUE)
- Questions about grid services? You can find us at [osg-gip at opensciencegrid.org](http://osg-gip.opensciencegrid.org)