

Overview of Monitoring and Information Systems in OSG

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Outline

- ▶ Monitoring principles and OSG Monitoring
- ▶ Central monitoring at GOC
- ▶ Systems synergy: CEMon and BDII
- ▶ Systems evolution: VORS and RSV
- ▶ Resource exploration

Monitoring and IS

- ▶ Producer, Consumer, Intermediaries
- ▶ Schema, Presentation, Content
- ▶ Monitoring at the VO level
 - ▶ Panda
- ▶ Monitoring at the Resource level
 - ▶ Ganglia, Cactus, Nagios, Custom systems
- ▶ Monitoring and IS in OSG:
<https://twiki.grid.iu.edu/twiki/bin/view/MonitoringInformation/WebHome>
- ▶ Information scouting

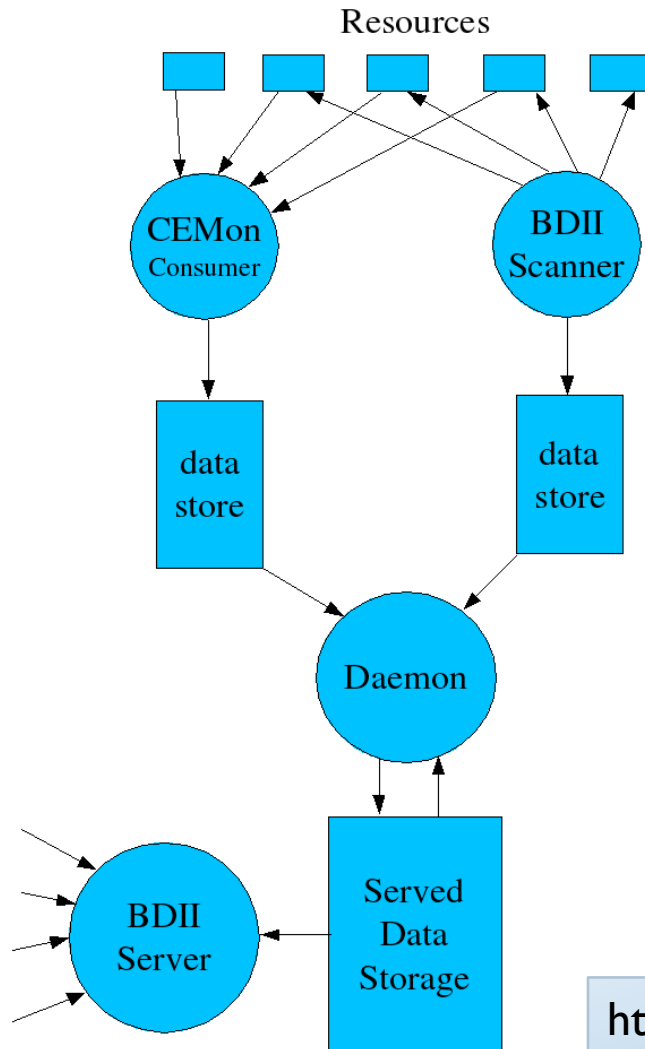
OSG Monitoring

- ▶ Grid Site_Verify Scanner
 - ▶ Test, GOC
- ▶ Virtual Organization Resource Selector (VORS)
 - ▶ IS display (from Site_Verify), GOC
- ▶ Generic Information Provider (GIP) Validation Service
 - ▶ Test, GOC
- ▶ LDAP (CEMon/BDII) information display utility
 - ▶ IS display (from GIP), GOC
- ▶ Gratia Accounting
 - ▶ Accounting, 3rdP
- ▶ Resource and Service Validation
 - ▶ Test, Local+GOC
- ▶ Virtual Organization Membership System (VOMS) Monitor
 - ▶ Test (VOMS servers), GOC

Information Systems

- ▶ OSG Grid Operations Center (GOC) Alerts and RSS Feed
 - ▶ Info (T-Tickets), GOC
- ▶ OSG GOC Ticket Metrics Reports
 - ▶ T-Tickets, GOC
- ▶ OSG Maintenance Scheduling Tool
 - ▶ now OIM
- ▶ OSG Registration DB
 - ▶ now OIM
- ▶ OSG Information Management (OIM) System
 - ▶ Info, Sysadmins
- ▶ OSG Pacman Software Caches
 - ▶ Software packages, OSG

BDII/CEMon

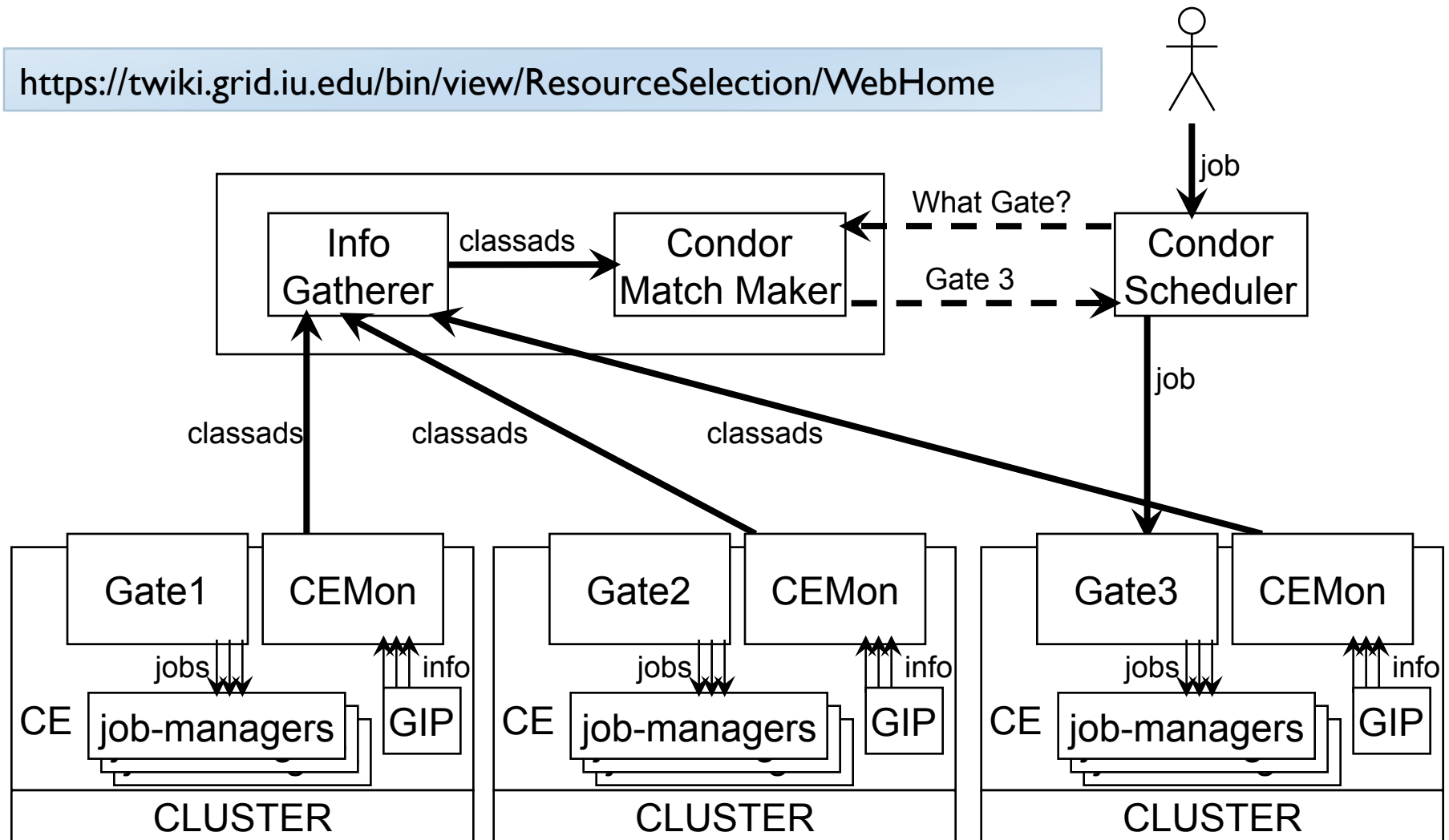


- ▶ Alternative sources (Provider)
 - ▶ CEMon Consumer (passive)
 - ▶ BDII Scanner (active)
- ▶ Data collector, aggregator (Intermediary)
 - ▶ Daemon
- ▶ Storage and Server (Consumer)
 - ▶ Served Data Storage
 - ▶ BDII Server

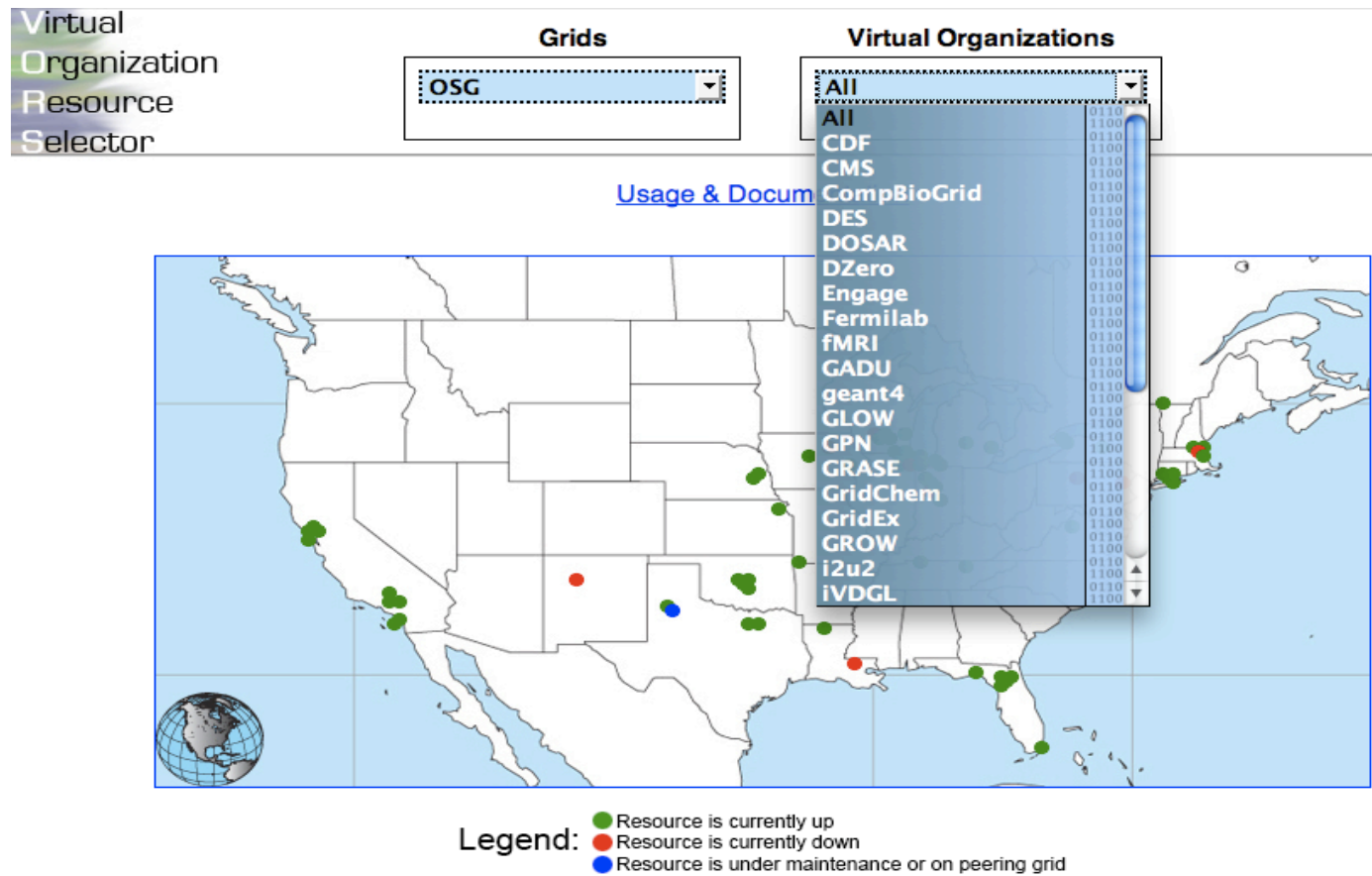
<http://is.grid.iu.edu/documentation.html>

ReSS, alternative Consumer of CEMon

<https://twiki.grid.iu.edu/bin/view/ResourceSelection/WebHome>



VO Resource Selector



From VORS to RSV

- ▶ Involve more information consumers (resource admins, users, VOs)
- ▶ If possible run test locally, allowing still central collection and centralized triggering
- ▶ Reduce reaction loop, removing the need for GOC's intervention.
- ▶ Allow different information and status checks for GOC, VOs, Users, Admins

Status monitors

VORS

- ▶ tests collected in single probe (site_verify)
- ▶ GOC running the test (grid job)
- ▶ local consumers query central display

RSV

- ▶ multiple probes (everyone can add probes)
- ▶ runs locally
- ▶ local display
- ▶ GOC collects information for central display

Resource and Service Validation

OSG Operations Dashboard

Navigation

Home

Grid Status

RSV Status

Resource Group Map

Status Detail

Status Change Graph

Virtual Organization

Matrix

Group

Virtual Organization Matrix

More

Filter By

(All Grid Types)

Compute Element

Resource Name	ATLAS	CDF	CIGI	CMS	CompBioGrid	DES	DOSAR	DZero	Engage	Fermilab	fMRI	geant4	GLOW	GPN	GRASE	GridEx
UCLA_Saxon_Tier3	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
UCColorado_HEP				✓												
UCR-HEP																
UCSDT2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
UCSDT2-B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
UCSDT2-ITB1																
UCSDT2-ITB2																
UC_ATLAS_MWT2	✓															
UC_ITB																
UC_Teraport																
UFlorida-HPC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
UFlorida-IHEPA	✓	✓		✓				✓			✓		✓		✓	✓
UFlorida-PG	✓	✓		✓				✓			✓		✓		✓	✓
UIC_PHYSICS																
umd-cms				✓												
UmissHEP																
UNI-OSGEDU																

rsv.grid.iu.edu/

<http://rsv.grid.iu.edu/>

Information scouting: OSG CE

- ▶ Basic tests with Globus clients
- ▶ Resource exploration
- ▶ Know the resource (=read OSG and Middleware documentation):
 - ▶ <https://twiki.grid.iu.edu/bin/view/ReleaseDocumentation/OverviewOfServicesInOSG>
 - ▶ <https://twiki.grid.iu.edu/bin/view/ReleaseDocumentation/StorageModels>
 - ▶ <https://twiki.grid.iu.edu/bin/view/ReleaseDocumentation/ComputeElementInstall>
- ▶ Informed exploration
 - ▶ OSG, Globus, ...

Other Systems (deprecated)

GridCat



MonALISA

