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# OSG Status and 0.6.0

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US ATLAS Tier2 Meeting

Harvard University, August 17-18, 2006

# Introduction

- Much of this talk taken from OSG/EGEE and WLCG Tier2 workshops at CERN in June
- To discuss:
  - Description of current OSG release 0.4.1
  - Look ahead at OSG 0.6.0
  - ATLAS requirements



# OSG Service Stack

Applications

**ATLAS  
Services**

**CMS  
Services**

**Other VO  
Services**

Infrastructure

**OSG Release Cache: VDT +  
Configuration, Validation, VO management**

**Virtual Data Toolkit (VDT) Common Services**  
NMI + VOMS, CEMon (common EGEE  
components), MonaLisa, Clarens, AuthZ

**NMI releases (Globus + Condor)**

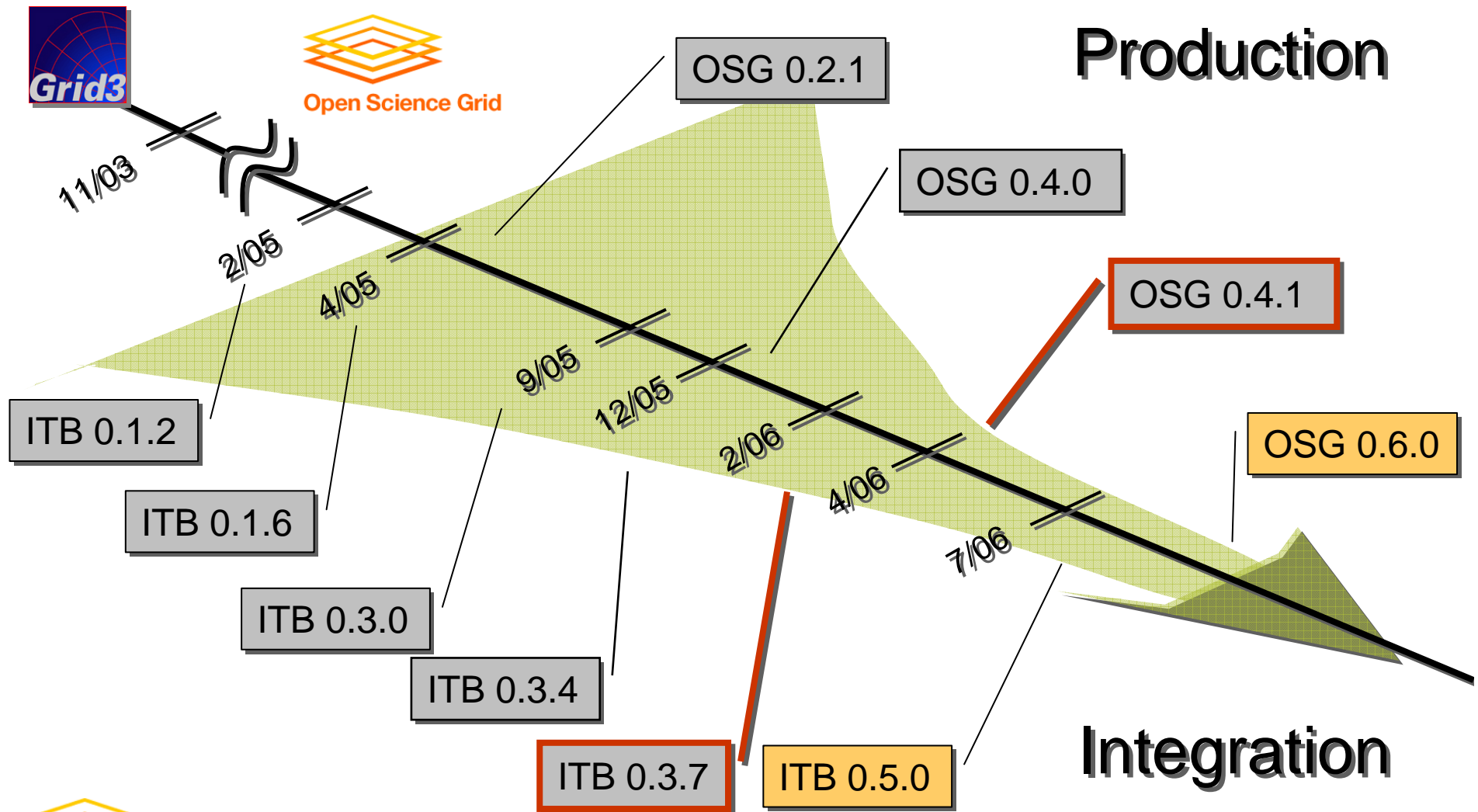


# OSG Service Overview

- Compute elements
  - GRAM, GridFTP, information services (GIP), monitoring, worker node client tools (eg. srmcp)
- Storage elements
  - SRM-drm, SRM-dCache (provided by VOs), v1.1
- Site level services
  - GUMS - for privilege (authorization) mappings
- VO level services
  - VOMS and user role assignments
- VO edge services
  - Semi-persistent services & agents as needed by applications
- Multi-VO, common services
  - Monitoring repositories, Catalogs, BDII index services, etc



# OSG Release Timeline



# Current OSG Release Description

- VDT 1.3.10 based core infrastructure
- Privilege infrastructure
  - VOMS service
  - PRIMA gatekeeper callout for extended role-based proxy
  - GUMS site account/DN management
- GT4 GridFTP
- GT4 Pre-Web Services and Web Services GRAM
- Information services: GridCat Catalog, MDS + Generic Information Providers (LCG)
- MonALISA, Core-MIS



# VDT 1.3.10 Server Content

CA Certificates v13 (includes IGTF 1.1  
CAs)

EDG CRL Update 1.2.5

EDG Make Gridmap 2.1.0

Fault Tolerant Shell (ftsh) 2.0.12

Generic Information Provider 1.0.15 (Iowa  
15-Feb-2006)

Globus Toolkit, pre web-services, client  
4.0.1

Globus Toolkit, pre web-services, server  
4.0.1

Globus Toolkit, web-services, client 4.0.1

Globus Toolkit, web-services, server 4.0.1

GLUE Schema 1.2 draft 7

GPT 3.2

Java SDK 1.4.2\_10

KX509 20031111

Logrotate 3.7

MonALISA 1.4.12

MyProxy 3.4

MySQL 4.1.11

PPDG Cert Scripts 1.7

PRIMA Authorization Module 0.3

RLS, client 3.0.041021

UberFTP 1.18

Virtual Data System 1.4.4

Several in common with WLCG/EGEE



# Privilege Authorization Services

- Site level services to support fine-grained, role-based access to Tier2 resources:
  - GUMS - Grid User Management System - maps user proxy to local accounts based on role and group
  - Site admins grant access rights and privileges based on accounts
  - PRIMA callout from GRAM gatekeeper - assigns account based on GUMS mapping and submits to local scheduler
  - Roles at Tier2s (eg: usatlas1=production; usatlas2=software; usatlas3=users)
- Receives updates on mappings from VOMS
- Reverse map created periodically for accounting purposes





# Authorization Process

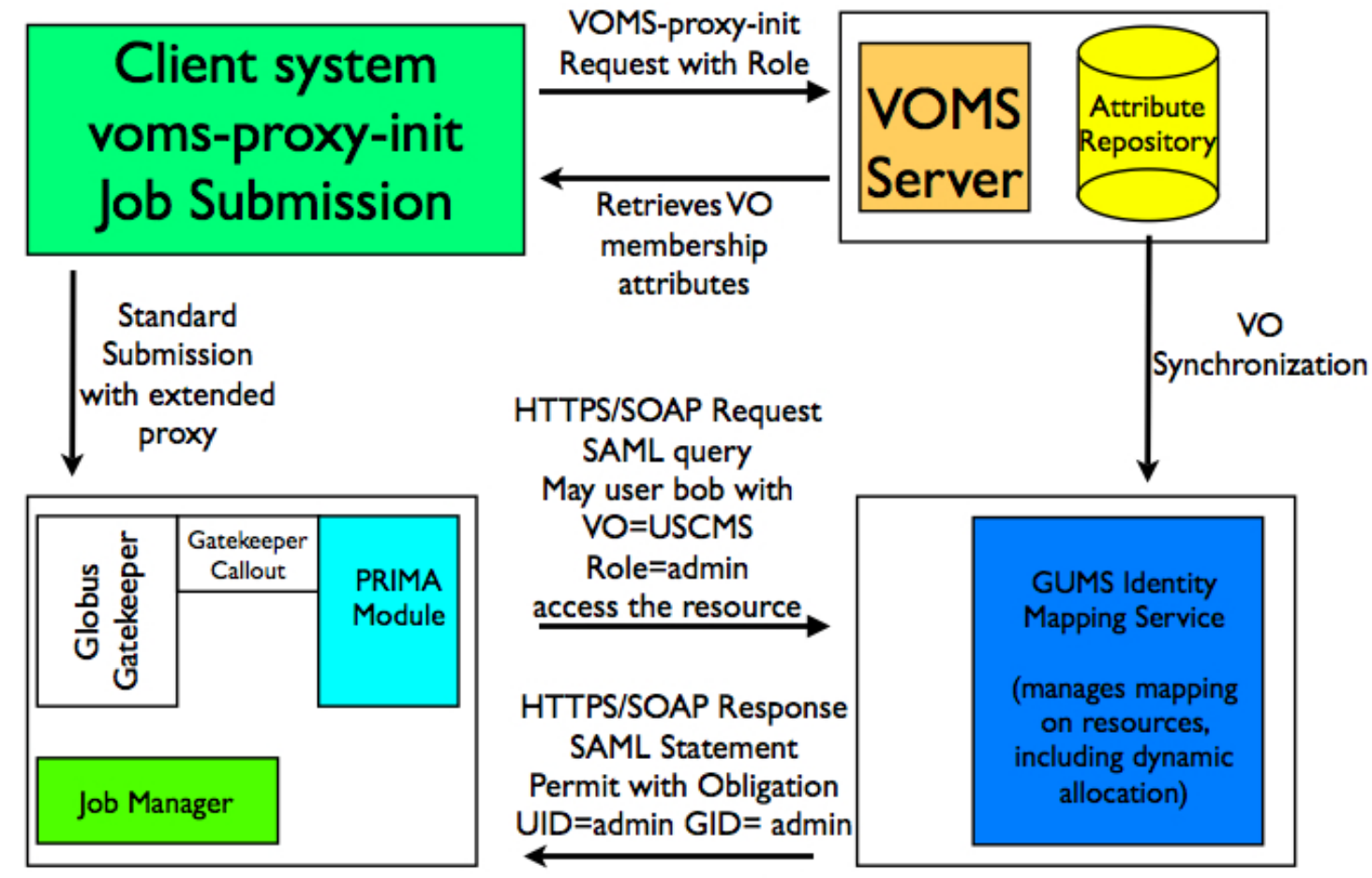


Fig. from I. Fisk



# Information Services

- GIP (Generic Information Provider)
  - ❑ An information service that aggregates static and dynamic resource information
  - ❑ Produces information for use with LDAP-based Grid information systems
  - ❑ Glue 1.2 schema
- GIP use cases
  - ❑ LCG-OSG interoperability
  - ❑ GridCat cross checks
- Site level BDII service
  - ❑ Scalability
  - ❑ Query by LCG RB

\*ITB\*

How to use this page:

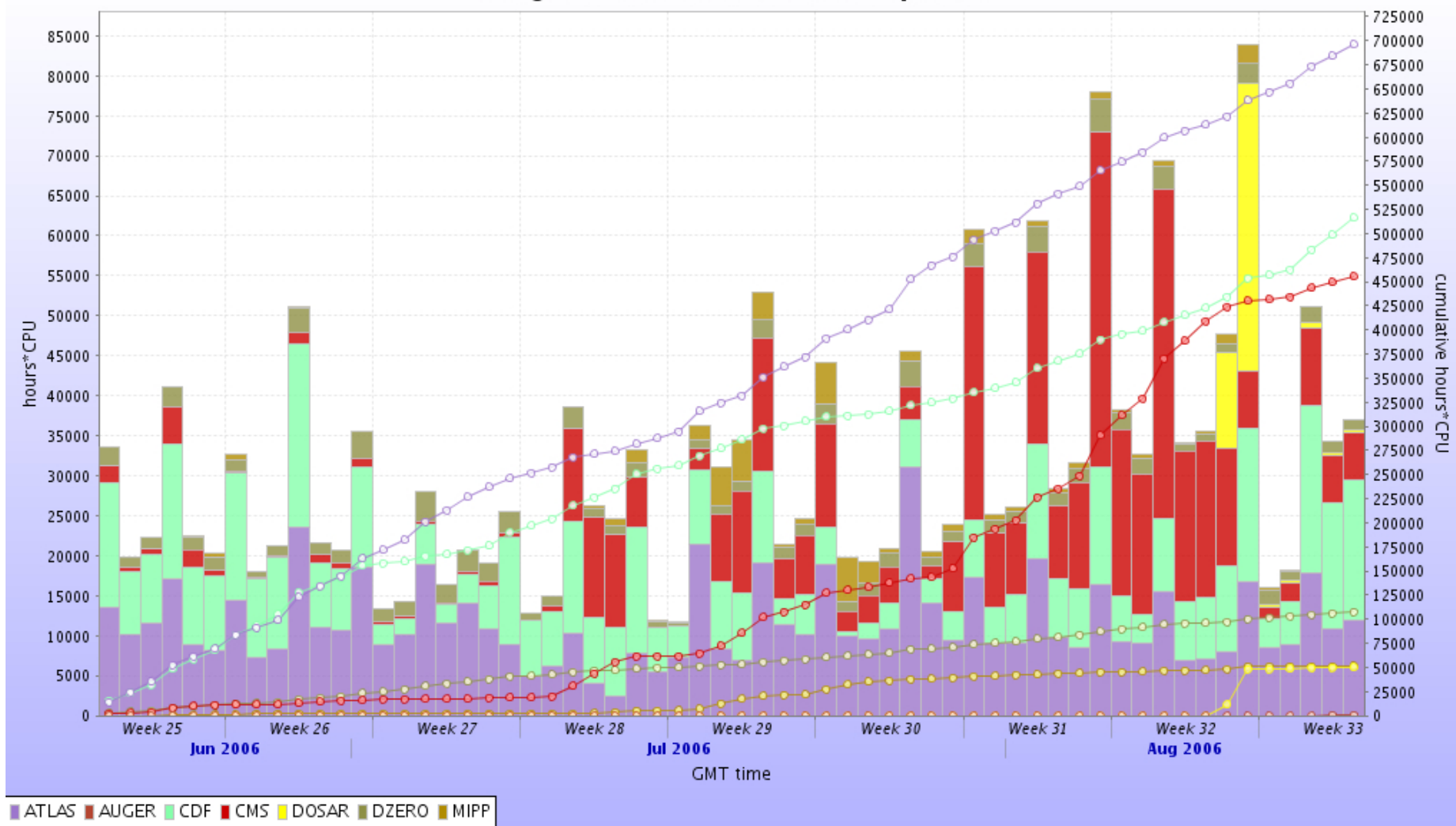
- If your site has a test colored yellow or red, click on the box to get more information and pe
- If your site has a green test with an [i] next to it, click on [i] to see the output generated by the (GIP) Gen
- If your site has white tests, those mean skipped tests because there are no attributes
  - If your site has a grey test, that means it is marked as inactive in Gridcat
- This page is created by GROW ([www.uiowa.edu/~grow](http://www.uiowa.edu/~grow)) to validate OSG GIP. Please send your questions!

Last run: 2/12/2006 20:00:25

sitename	hostname	search	glue	Site	Cluster	SubCluster	CE	VOView	SE
BNL_ITB_Test1	gridtest01.racf.bnl.gov	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>
BNL_ITB_Test1:srm_v1	dcsrm.usatlas.bnl.gov	<span style="background-color: red;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>
CERN-CIC	lxn1184.cern.ch	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>
CIT_CMS_OPT	tier2d.cacr.caltech.edu	<span style="background-color: red;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>
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FNAL_CMST1_TEST	cmsitbsrv01.fnal.gov	<span style="background-color: grey;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>
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FSU-OSGDEV	osgdev.hep.fsu.edu	<span style="background-color: green;">[i]</span>	<span style="background-color: red;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>
IPAS_OSG	gk.phys.sinica.edu.tw	<span style="background-color: green;">[i]</span>	<span style="background-color: red;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>
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IU_umatlas	iuatlas.physics.indiana.edu	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>
IUPUI-ITB	feynman.uits.iupui.edu	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>	<span style="background-color: green;">[i]</span>
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### Integrated CPU time consumed per VO



# Middleware Release Roadmap

## OSG 0.6.0 Fall 2006

- Accounting: Gratia project
- Squid (Web caching in support of s/w distribution + database information)
- SRM V2+AuthZ
- CEMon-ClassAd based Resource Selection service
- Support for MDS-4
- Possible requirement to use WS-GRAM
- Edge Services framework
- gLexec - use DN packaged with workload and GUMS for authorization

## OSG 0.8.0 Spring 2007

- Just in time job scheduling, Pull-Mode Condor-C,
- Support for sites to run Pilot jobs and/or Glide-ins using glexec for identity changes.

## OSG1.0 End of 2007



# Edge Services Framework

- Goal is to support deployment of VO services
- Based on XEN virtual machines and service images
- Site supports a XEN server and VO loads images
- FNAL recently implemented their LCG CE using a virtual machine



# Accounting

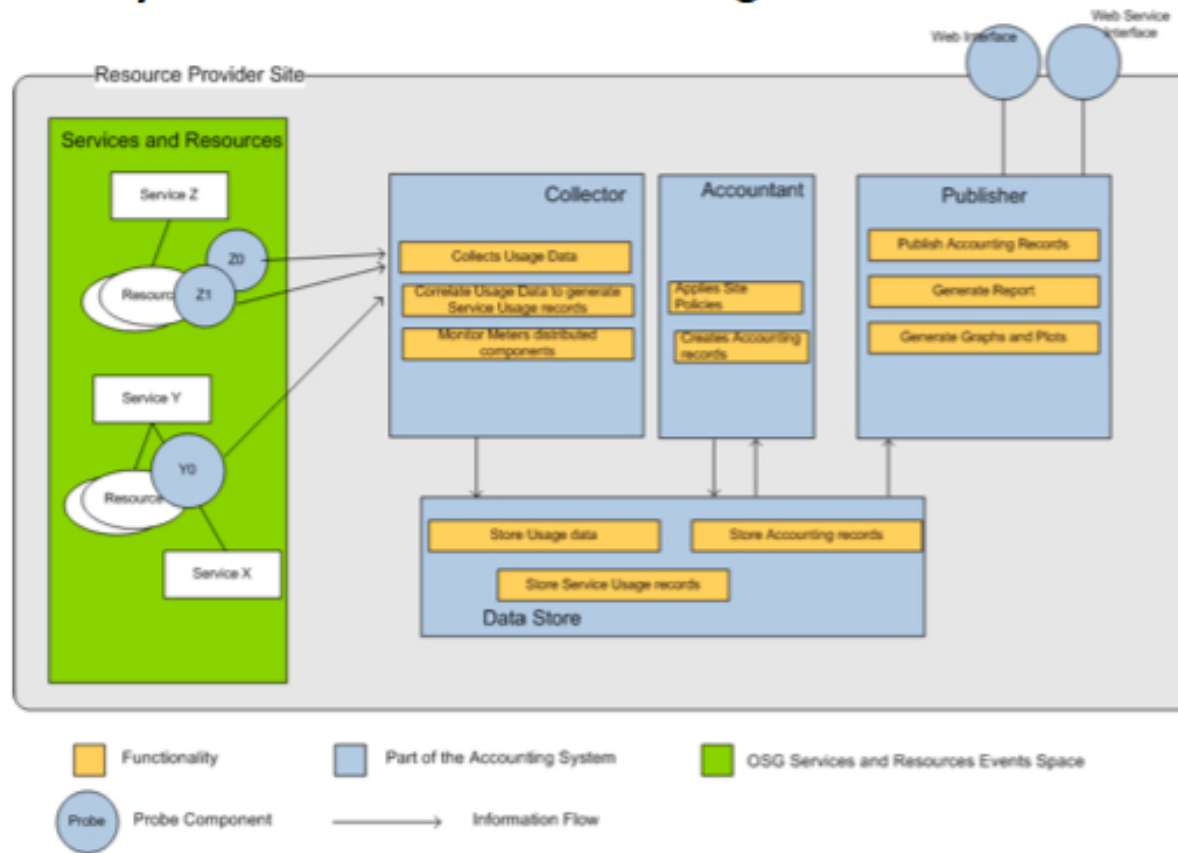
- Probes produce GGF Usage Record information.
- Collectors on sites or grid-wide.
- Publishers for reports and querying.
- Will include data protection and integrity of information - include information of “what has been missed”.
- Currently in test on several OSG sites.



# Accounting Architecture

Bases on probes, collectors, and publishers

- ➔ They have thought about data integrity and information protection because they are interested in accounting



# Storage Authorization

- gPlazma callout for SRM-dCache SEs

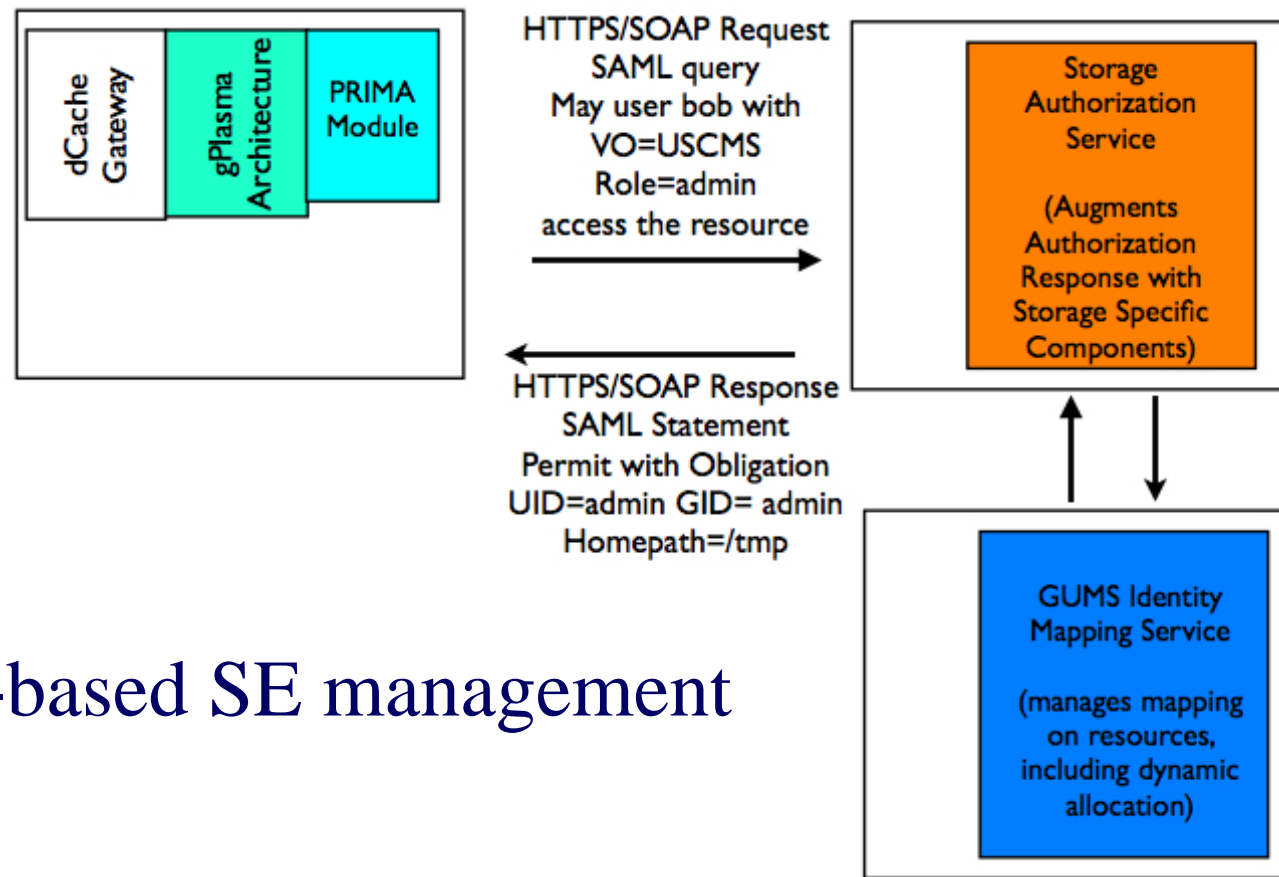


Fig. from I. Fisk

- Role-based SE management





# Resource Selection Service

- Information Gatherer collecting distributed information and match making using ClassAds.
- The distributed collection implemented using CEMon service from gLite
- Primarily for D0
- Installed by default, but not started
- Now being tested in the ITB



# ATLAS requirements - specifics

- Main issue is opportunistic access to non-ATLAS sites without DQ2 servers
  - Ueberftp on compute nodes - done in OSG 0.5.0
- Improving DQ2 installations - Add g-lite transfer utilities
  - glite-data-transfer-cli-3.2.2-1.i386.rpm -- contains glite-transfer-submit
  - glite-data-transfer-api-c-3.1.0-2.i386.rpm
  - glite-data-util-c-1.2.0-2.i386.rpm
  - glite-service-discovery-api-c-2.2.0-3.i386.rpm
  - glite-service-discovery-file-c-2.1.1-1.i386.rpm
  - gridsite-1.1.14-1.i386.rpm
  - CGSI\_gSOAP\_2.6-1.1.15-6.i386.rpm + plus vdt\_globus\_essentials-VDT1.2.2rh9\_LCG-1.i386.rpm
  - edg-gridftp-client-1.2.5-1.i386.rpm -- contains edg-gridftp-mkdir



# ATLAS wish list?

- Accounting - can OSG provide a service suitable for US ATLAS RAC accounting?
  - To be deployed on USCMS Tier2
  - Test in the ITB
  - Compare with Panda-collected statistics
    - <http://gridui02.usatlas.bnl.gov:25880/server/pandamon/query?overview=usage>
  - Need to collect and report non-Panda usage of resources
- Managed storage within SRM/dCache SEs?
- ...



# More information on whats coming..

- See ITB release description - draft curretly
  - <http://osg.ivdgl.org/twiki/bin/view/Integration/ItbRel050>
- ATLAS VO page in OSG
  - <http://osg.ivdgl.org/twiki/bin/view/VO/ATLAS>
- Next week's OSG consortium meeting will have technical roadmap session
  - <http://www.opensciencegrid.org/events/meetings/consmeeting0806/agenda.html>

