Open Science Grid:
Site Functional Tests, SAM(E) and WLCG

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Reporting on behalf of OSG

Background:

- Acceptable for the US to determine the most expedient way to provide accounting and availability information to the wLCG,
- Miron is going to head up for the OSG an internal discussion about what should be reported and how.
- This would then be brought to the GDB in the December meeting. (Oct 23rd meeting between WLCG and US).
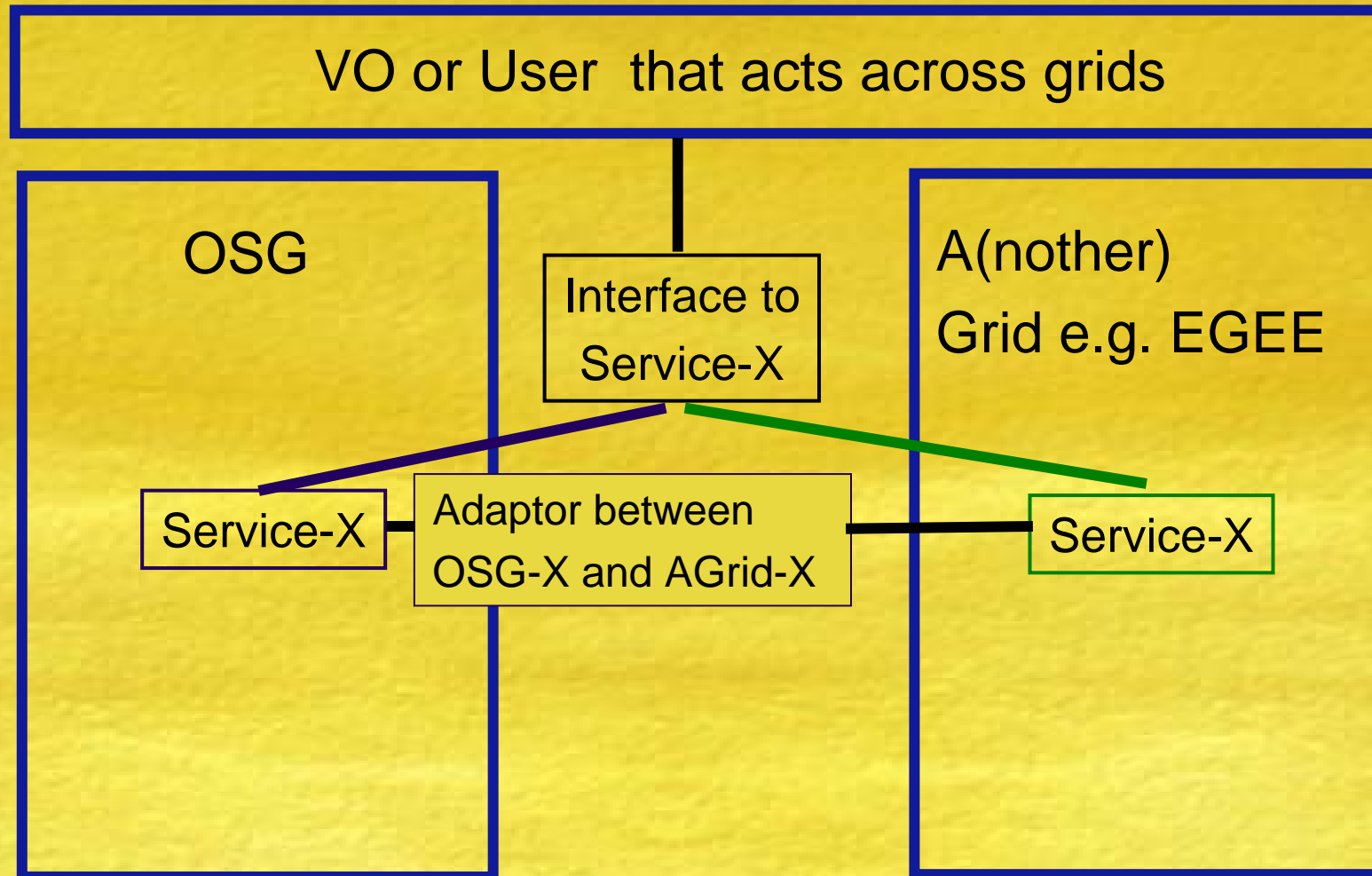
This is a first report since then.

Focus is on Site Validation and Availability

One slide on Accounting …

Accounting

- Gratia for CPU usage will be deployed on "all" OSG sites by end of 3/2007.

- Reports from Gratia for US CMS Tier-1 already being sent (a long time, operationally still occasional hiccups e.g. site name change..).

- Storage Accounting part of deliverables for 6/1/2007.

- Monthly meetings between EGEE, TeraGrid, OSG useful. Leading to joint proposal to OSG for Usage Record Extension -- OSG will be writing in support of this.
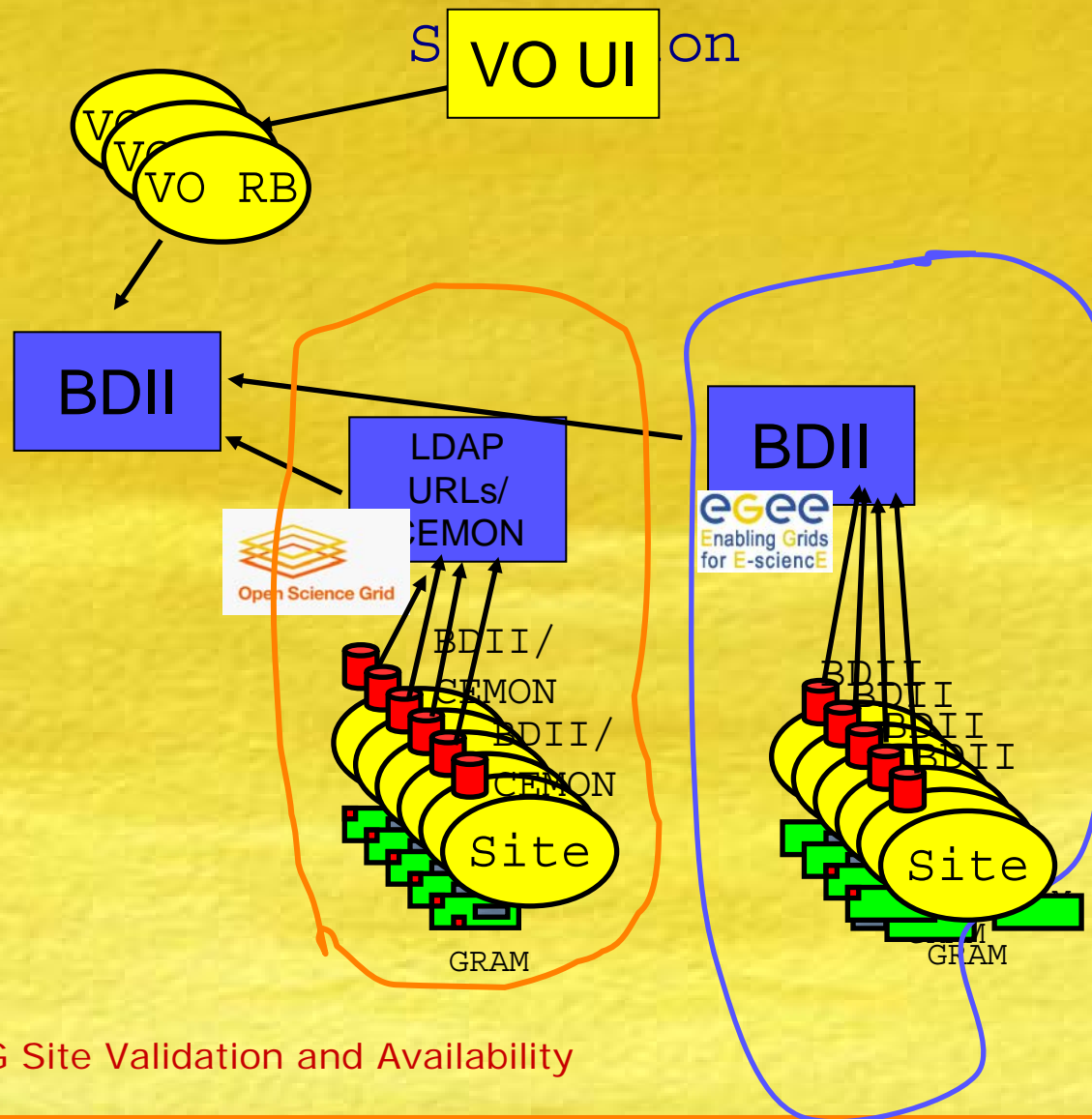
OSG Site Validation and Availability

We all know the OSG Model

Open Science Grid

VO or User that acts across grids

OSG

Interface to Service-X

A(nother) Grid e.g. EGEE

Service-X

Adaptor between OSG-X and AGrid-X

Service-X

We have implemented the Model for CMS/OSG: As I showed it at the WLCG review 6/06: OSG - EGEE Interoperation for WLCG Resource Selection

VO UI

VO RB

BDII

LDAP URLs/ CEMON

BDII

BDII/ CEMON

BDII/ CEMON

BDII

BDII

BDII
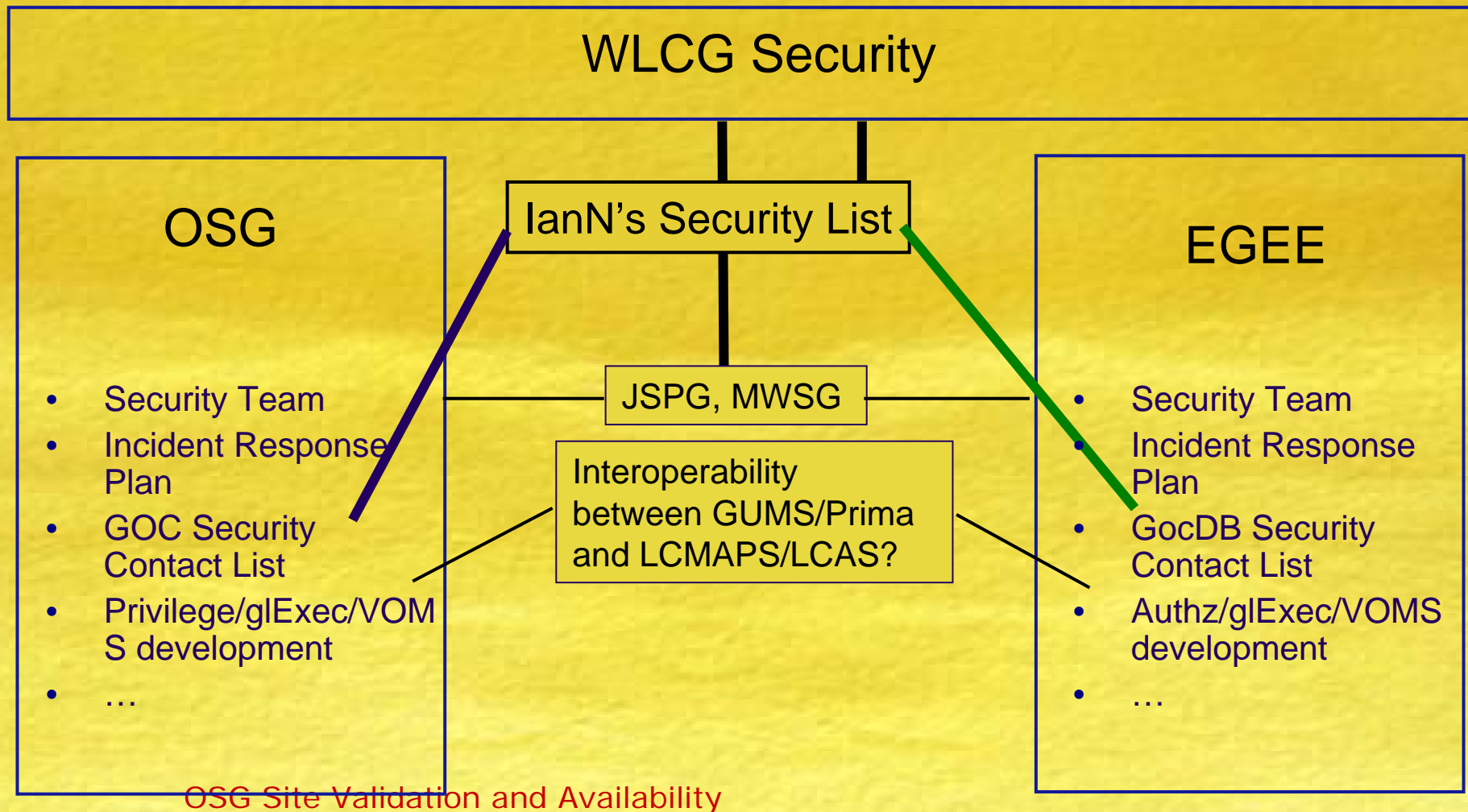
BDII

Site

Site

GRAM

GRAM

OSG Site Validation and Availability

We have implemented the Model for Operations
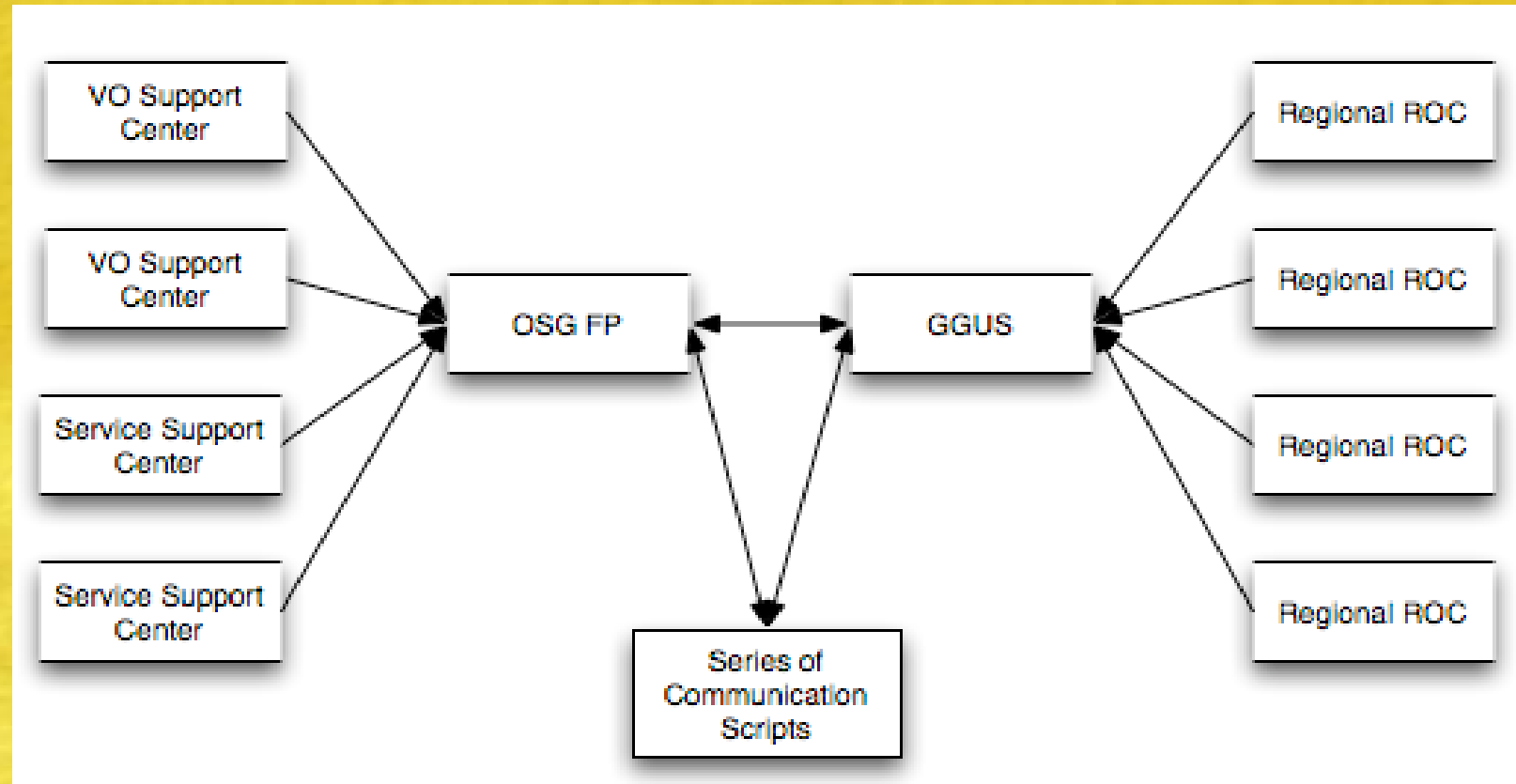
R. Quick, T. Antoni   GGF-18   11 September 2006
"Towards wordwide Grid Support"

OSG Site Validation and Availability

We have implemented the model for Security

WLCG Security

OSG

IanN's Security List

EGEE

- Security Team
- Incident Response Plan
- GOC Security Contact List
- Privilege/glExec/VOMS development
- ...

JSPG, MWSG

Interoperability between GUMS/Prima and LCMAPS/LCAS?

- Security Team
- Incident Response Plan
- GocDB Security Contact List
- Authz/glExec/VOMS development
- ...

OSG Site Validation and Availability

Though… needs to extend

Open Science Grid

VO & Application Security?

WLCG Security

OSG

EGEE

IanN's Security List

- Security T... | curity Team
- Incident R... Plan | ...dent Response
- GOC Secu... Contact List | ...DB Security Contact List
- Privilege/glExec/VOMS development | Authz/glExec/VOMS development
- … | …

> Vulnerability notification and critical updates.
> "Chain of Trust through VO management to users.
> Application certification/signature.
> Etc.

Interoperability between GUMS/Prima and LCMAPS/LCAS?

OSG Site Validation and Availability

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Now Site Functional/Validation Tests and Availability Monitoring

WLCG Displays and Metrics

OSG

EGEE

SAM Database

- GridScan
- SRM-tester
- GridEx
- Select SFTs?

- SFTs
- GIPs/BDII

Need to agree on:
WLCG VO needs.
Semantics and metrics.

OSG Site Validation and Availability

Tier-1s are running EGEE tests
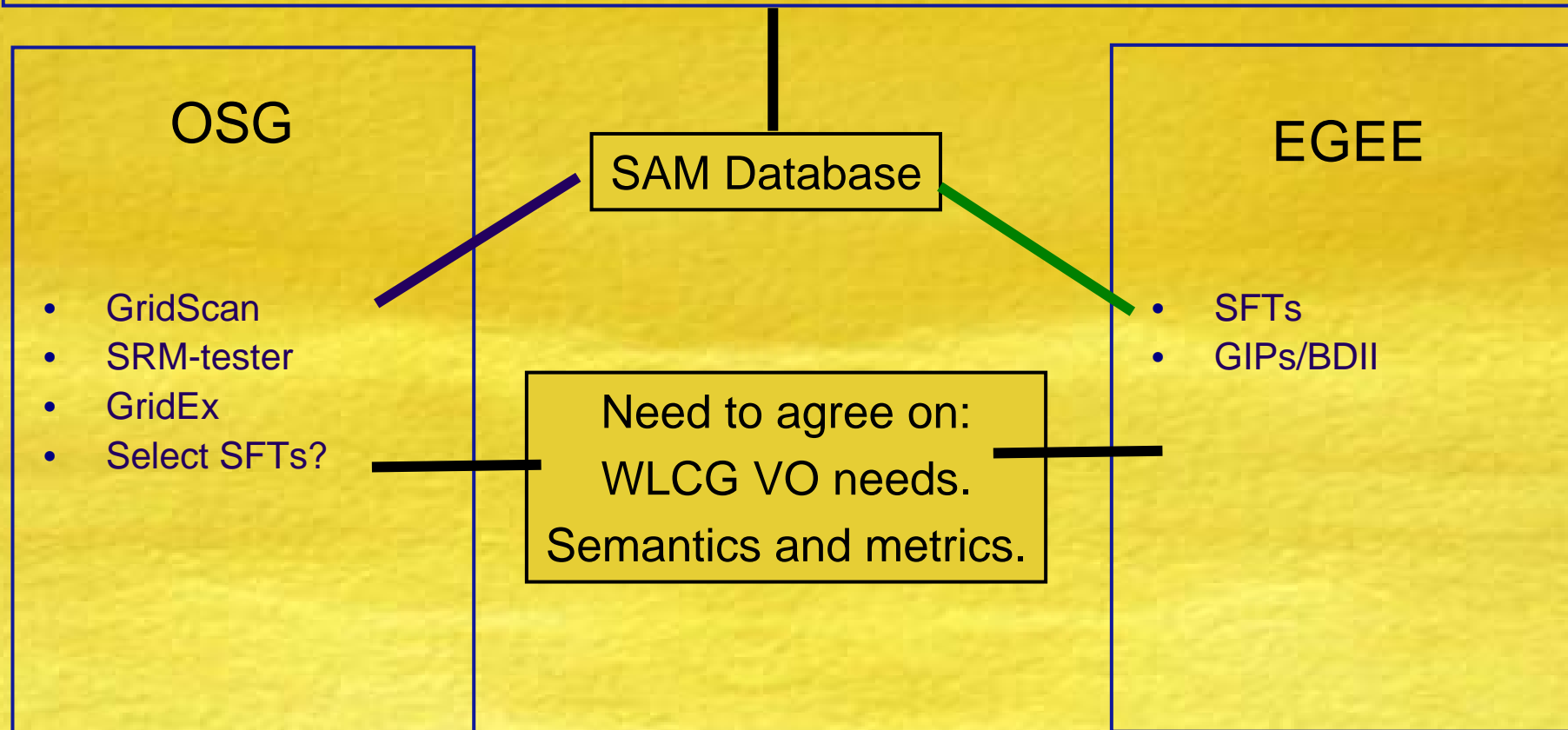
Still Trying to Understand what Granularity the WLCG VOs need

show	stat	description	sum
☑	NA	no status available	0
☑	OK	normal status	62
☑	INFO	useful information	0
☑	NOTE	important information	0
☑	WARN	subject may fail soon	0
☑	ERROR	subject has failed and problem is localized	2
☑	CRIT	subject has failed and problem is fatal	0
☑	MAINT	subject is under maintenance	0

testname	desc	crit
js	Job submission	CT
ver	Software Version (WN)	CT
ca	CA certs version	CT
bi	BrokerInfo	CT
csh	CSH test	CT
rm	Replica Management	CT

ops tests

OSG Site Validation and Availability

And again..

Open Science Grid

VO tests, robots, test harnesses

WLCG Displays and Metrics

OSG

SAM Database

EGEE

- GridScan
- VORS
- SRM-tester
- GridEx
- Select SFTs?

Need to agree on:

WLCG VO needs.

Semantics and metrics.

- Site SFTs
- GIPs/BDII
- Service Sensors

OSG Site Validation and Availability

If this is the picture..
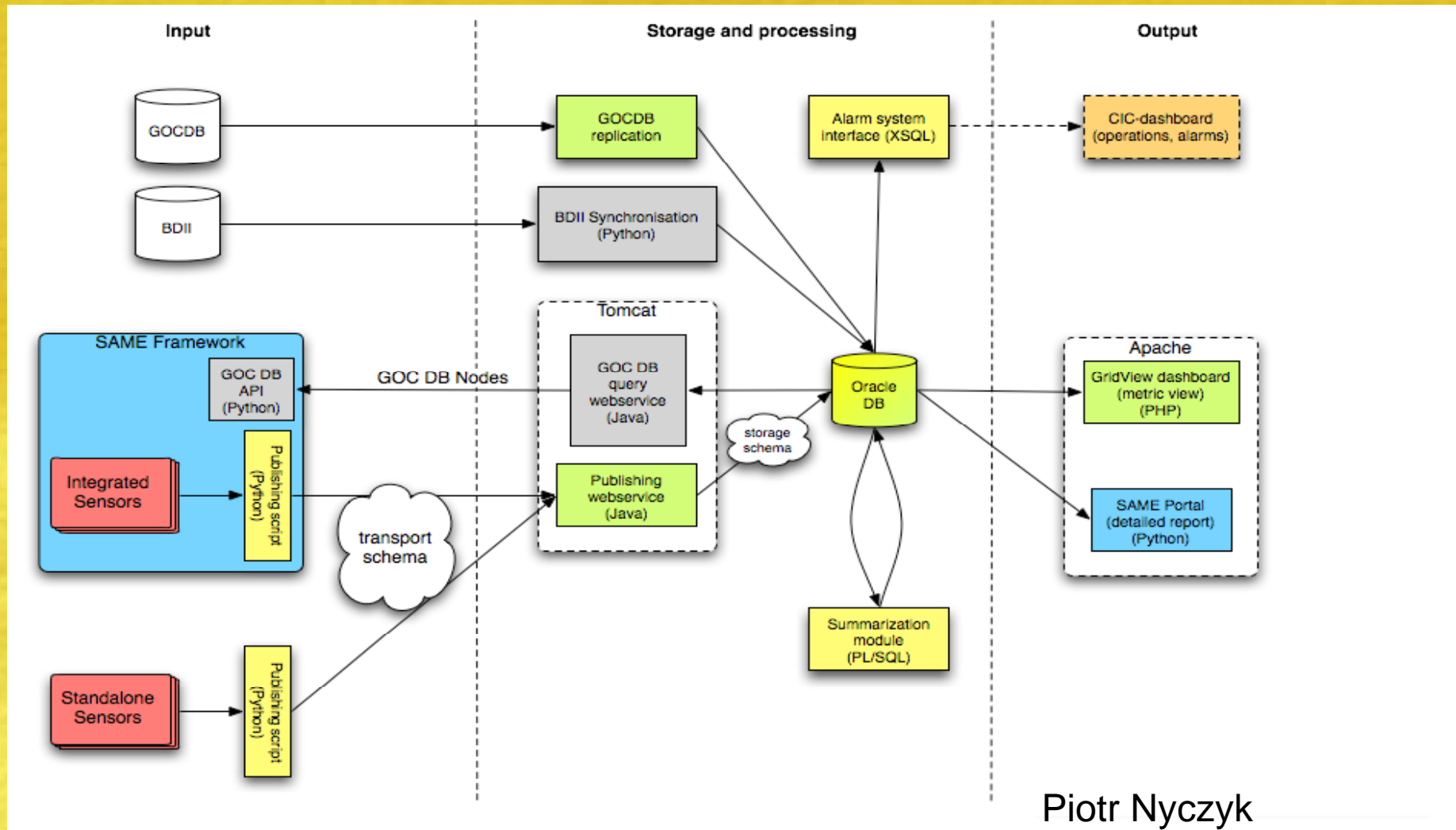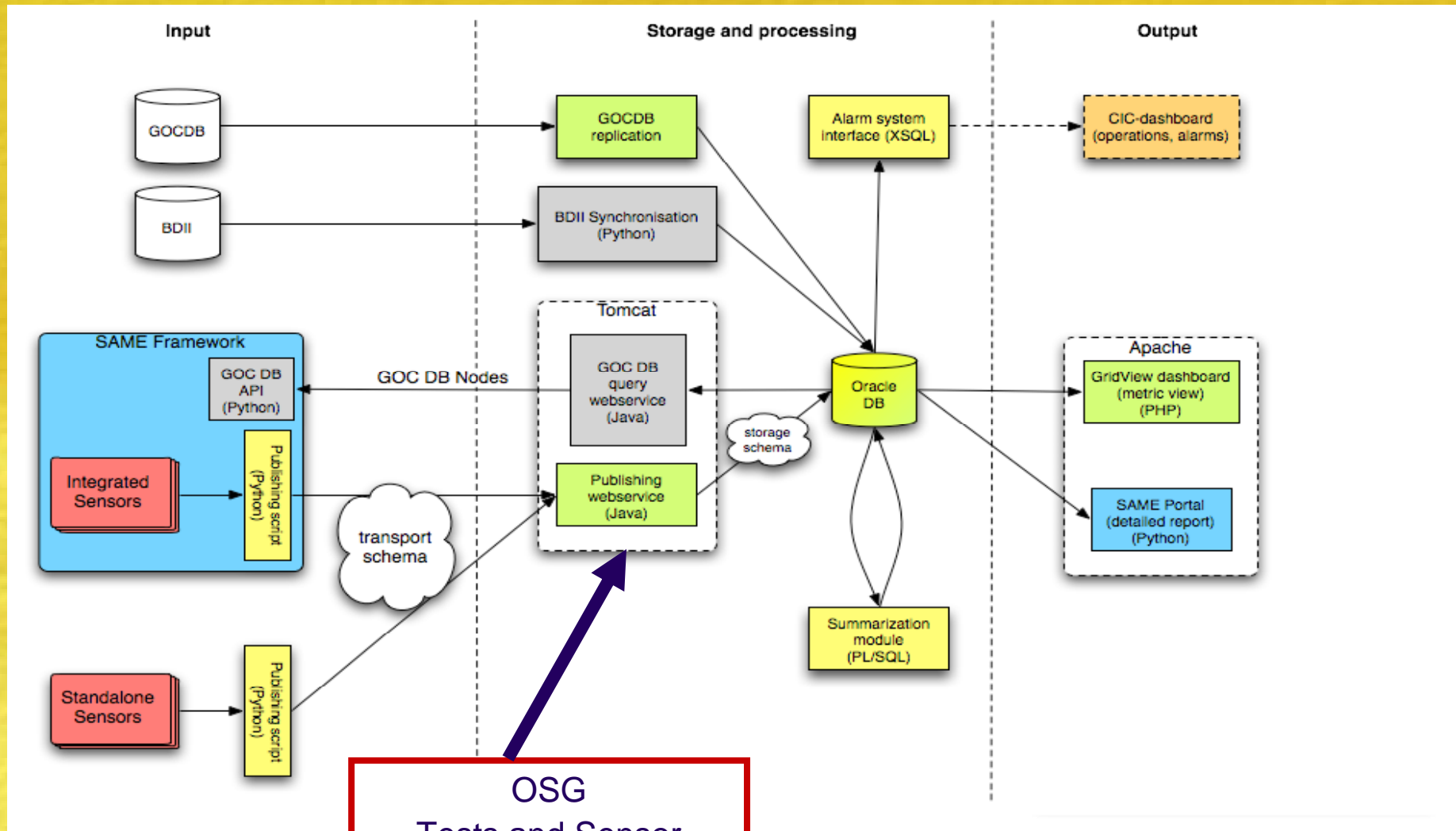
Piotr Nyczyk

.. Or Maybe
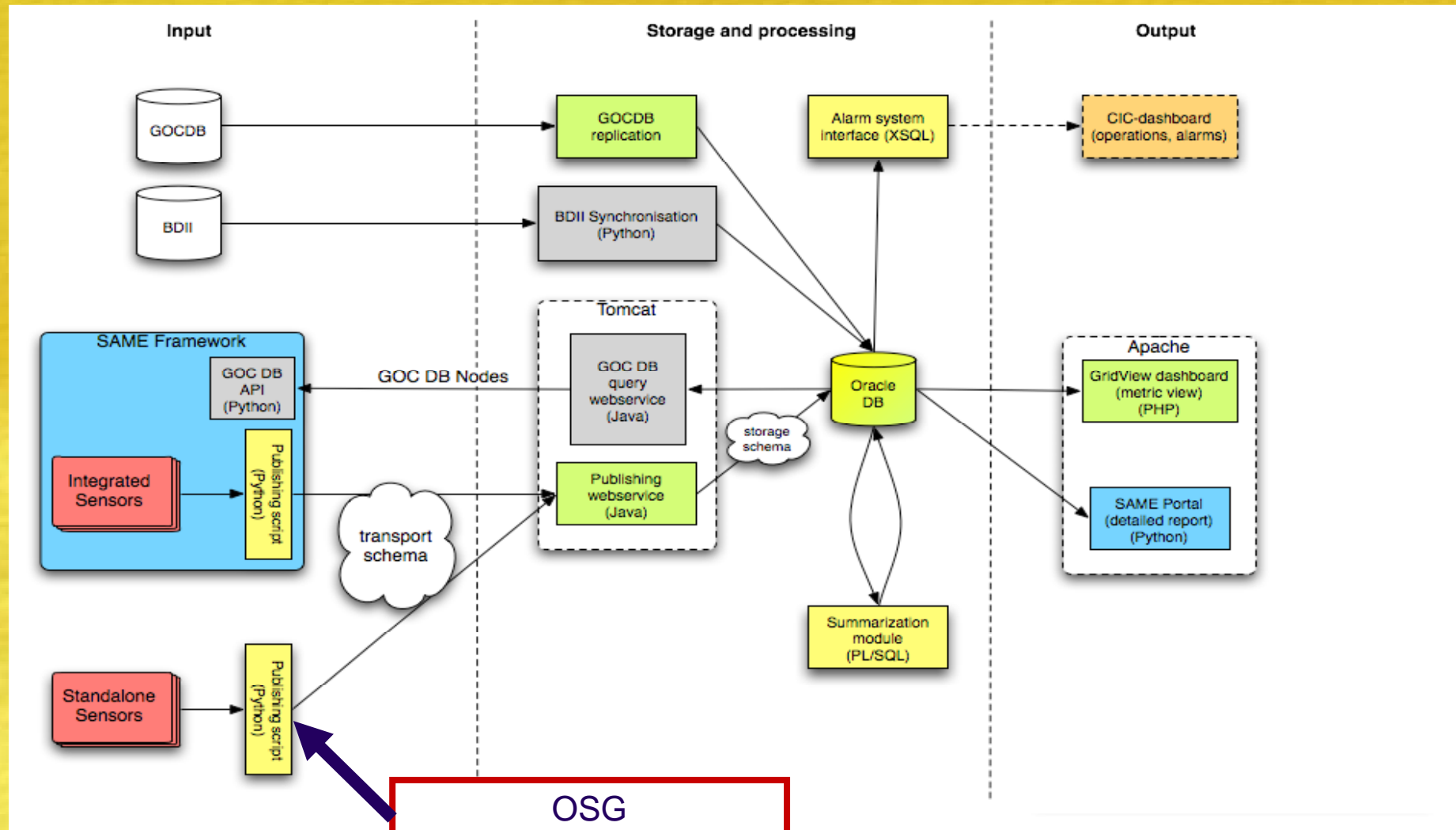
US ATLAS Input

- All EGEE CE and SE tests interesting.
- The edg-brokerinfo test isn't interesting.
- The lcg-* tools for replica management and the SRM tests are interesting.
- Other tests of interest may or may not be appropriate to this common test suite; we do our own testing as well:
  - outbound network connectivity in particular for http(s),
  - curl presence/usability,
  - g-u-cinbound and outbound,
  - uberftp outbound.
- would be useful if sites published http proxy address via glue/info service in cases where outbound httpis supported but only via a proxy.

OSG Site Validation and Availability

US CMS Input

- Advice to use the same SAM set as the LCG uses for declaring asite operational, that is js, ver, ca, bi, csh, and rm.
  - The rm (replicamanagement) is the most commonly failed test, and it is often due to the remote site.
  - The rm suite needs to be improved so it can better localizeproblems rather than always assuming it is 1 site that is bad.
- OSG proposes to work to take the remote site out of the picture entirely.

OSG Site Validation and Availability

SFT/SAM(E) Tests

Workload Management

- CE
  - transition period: current SFT publishing both to MySQL/R-GMA and Oracle, future: CE sensor in SAME but doing identical kind of tests
  - availability of CE and client software on batch farms: job submission, data management tools, R-GMA ...

- RB - active sensor
  - simple test job to check if RB is working
  - time to match-make JDL

- RB - passive sensor
  - analysis of RB events for real jobs
  - metrics and thresholds being worked out by Sergio

Data Management

- SRM
  - simple tests based on three operations: *put, get, advisory-delete* simple availability

- LFC
  - several simple operations taken from high level Lemon sensors: list directory, create entry, remove entry,

- FTS
  - simple availability checks: connect to service, check if responds. submit a simple transfer job, check if succeeds

- Top-level BDII, Site BDII
  - Sensor in production for long time - *GStat*
  - Checks for information system: availability of BDII + performance (response time) sanity checks of published information (consistency)

- MyProxy
  - availability checks: create proxy, renew, destroy

- VOMS (but not VOMRS)
  - availability checks: create proxy, ...
  - waiting for confirmation from the developer...

- R-GMA
 - availability of service as a whole: Registry, Schema

OSG Site Validation and Availability

CE tests

	SFT	OSG?
Job Submission	The result of test job submission and output retrieval. Succeeds only if the job finished successfully and the output was retrieved.	GridExerciser will provide
Software Version	Detect the version of software that is really installed on the WN. To detect the version *lcg-version* command is used and if the command is not available (very old versions of LCG) the test script checks only the version number of GFAL-client RPM.	Will provide the VDT version
CA Certs Version	Check the version of CA RPMs that are installed on the WN and compare them with the reference ones. If for any reason RPM check fails (other installation method) fall back to physical files test (MD5 checksum comparison for all CE certs with the reference list).	Will compare to VDT
Broker Info	Try to execute *edg-brokerinfo -v getCE*.	NA
CSH Test	Try to create and execute a very simple CSH script which dumps environment to a file. Fails if CSH script is unable to execute and the dump file is missing.	Part of GridScan
Replica Management	This is a super-test that succeeds only if all of the following tests succeed.	Look at the EGEE implementation and understand whether can be run only for the WLCG VOs in a VO context.

OSG Site Validation and Availability

CE SFTs

OSG Site Validation and Availability
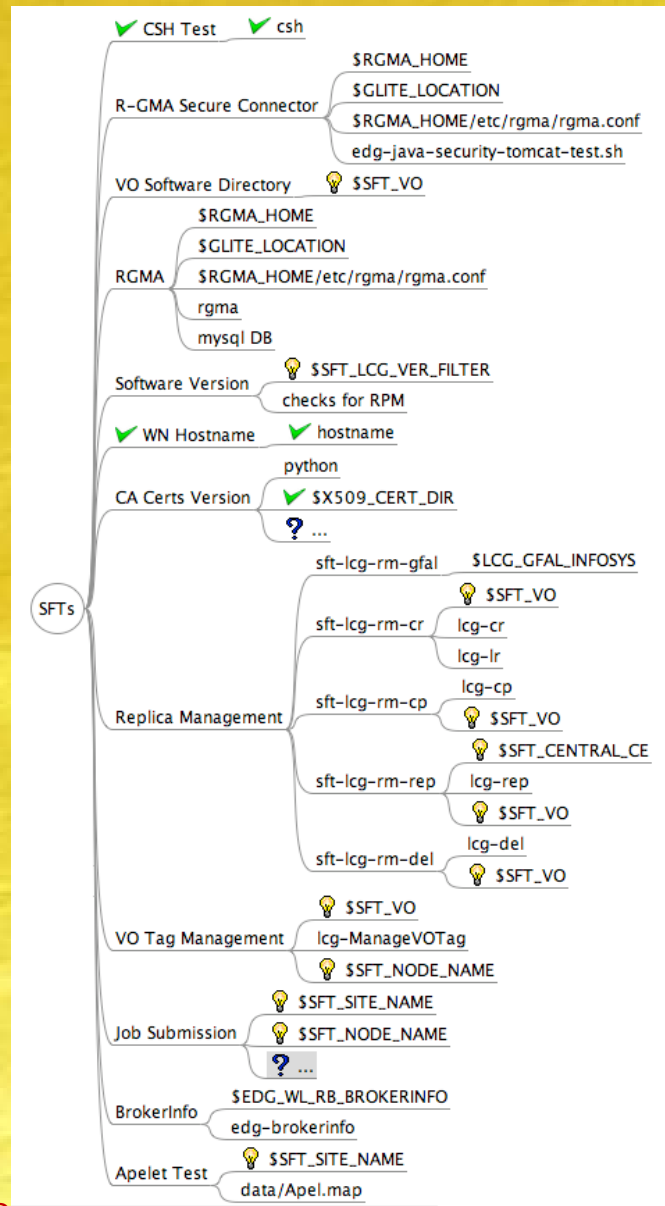
OSG Needs:

	US ATLAS needs	US CMS needs	OSG Has or Will Provide
SRM	Y	Y	Y, SRM-Tester
LFC	Y	N	?
FTS	Y	Y	?
CE	Y	Y	Y, GridScan+SFTs
RB	N	N	N
RB-pasv	N	N	N
Site BDII	N	N	N
Myproxy	N	N	N
R-GMA	N	N	N

OSG Site Validation and Availability

Next Steps

- Get understanding of precise information used to calculate Status and Availability and

- Solid Interface to WLCG Validation and Availability Repository -- exactly what it is.

- Test existing EGEE SFTs/SAM(E) framework in OSG Environment (Rob Quick).

- Choose one test (e.g. SRM?) and go through the end to end of test on OSG -> Publish to WLCG -> Display in Availability Monitoring.

- Understand more precise output needed.

OSG Site Validation and Availability