LCG workshop on Operational Issues
CERN November, 2-4 2004

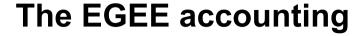**EGEE CIC activities (SA1)**
Accounting: current status
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eGee

Enabling Grids for E-science in Europe

INFN GRID

The EGEE accounting

As part or the CIC activities a document about accounting has been produced.

There was some confusion about:
- responsibilities
- terminology

Responsibilities (stated in the EGEE Technical Annex).
- JRA1

The IT/CZ cluster has the responsibility of re-engineering the accounting system developed in the DataGrid project (DGAS)
- SA1

has the responsibility of acquiring, developing or commissioning tools to perform accounting and reporting on resource usage.
DSA1.3 (at month 9): Accounting and reporting web site publicly available (CCLRC)

The EGEE accounting

Terminology*

Different concepts and services, partially overlapping, (will) exist:

- Accounting service
- Monitoring service
- Auditing, billing and logging service
- Service Level Management service

For the operational (SA1) purposes probably the most appropriate word is "usage metering"

* See GGF OGSA document:
http://www.ggf.org/Public_Comment_Docs/Documents/draft-ggf-ogsa-specv1.pdf)

The EGEE accounting

Existing tools

Currently three different tools could provide resource metering information for the EGEE SA1 needs.

They are:

- The R-GMA Accounting Application
- The DataGrid Accounting System (DGAS)
- The GridICE monitoring system

R-GMA AA has already be briefly described by D. Kant

The GridICE job monitoring will be provided by S. Fantinel.

Some words about the DataGrid Accounting System (DGAS)
(me, on behalf of A. Guarise)

The GridICE Job Monitoring
G. Donvito, S. Fantinel

The EGEE accounting – conclusions

Important issues:

- ➢ tools availability
- ➢ security
- ➢ requirements
- ➢ interoperability
- ➢ standardization

Availability:

- the R-GMA accounting application is being included into the LCG2 release
- the GridICE system is part of the LCG2 release
- the DGAS accounting system is ready to be included into the LCG2 release and it will be part of gLite

The EGEE accounting – conclusions (cont.)

Security:
- information gathering
- information transport
- reporting

Requirements
- which metrics are definitely needed?
  - Storage
  - Network
  - ....

Such a decision is not up to SA1 only.

Issue: How do we have to collect requirements?

Interoperability
- complementarity/convergence

To what extent is it feasible?

The EGEE accounting – conclusions (cont.)

Standardization

Some agreements have been reached so far in order to achieve
interoperability between *LCG-Accounting* and *DGAS* or with other Grid
Accounting infrastructures:

- Adoption of a common schema to publish accounting information to external accounting systems: GGF UsageRecord WG XML schema:
  - http://www.psc.edu/~lfm/grid/ur-wg/

- Some information is essential in order to have a real 'Grid' view of the accounting records, the most important being:
  - Grid unique identifier for the job (Grid Job Id)
  - Grid unique identifier for the user
  - Grid unique identifier for the resource

Standardization (cont.)

- For the Grid Job Id the most suitable is the EdgJobId since it is the one already adopted by all the other middleware components.

- With the current LCG2 middleare it is actually impossible to retrieve the EdgJobId for a job on the CE for accounting purposes;

  however with the INFN-GRID release, based on LCG2, this is actually feasible, since this info is published in the job environment (patch for the Job Wrapper).

- the inclusion of this patch into the LCG2 middleware release should be considered.

The EGEE accounting – conclusions (cont.)

Next steps: a proposal for improving accounting on CE nodes

- Within the JRA1 IT-CZ cluster, the accounting group is defining a service that will be able to collect the usual accounting log elements for PBS or LSF on the Computing Element and integrate them with the information currently unavailable (such as the EdgJobId) or difficult to retrieve (such as the grid user identity).

- In principle all the information available in the job's JDL can be published and unambiguously correlated to the LRMS log records.

- This can be very useful for activities like Grid Accounting and Monitoring.

- The aim is to produce a tool that will provide a service for both LCG-2 and gLite CEs.

- This will also have the advantage of providing a new functionality already being developed for gLite to LCG-2 middleware.