New Types of Accounting
Beyond CPU

John Gordon, STFC

EGI Technical Forum,

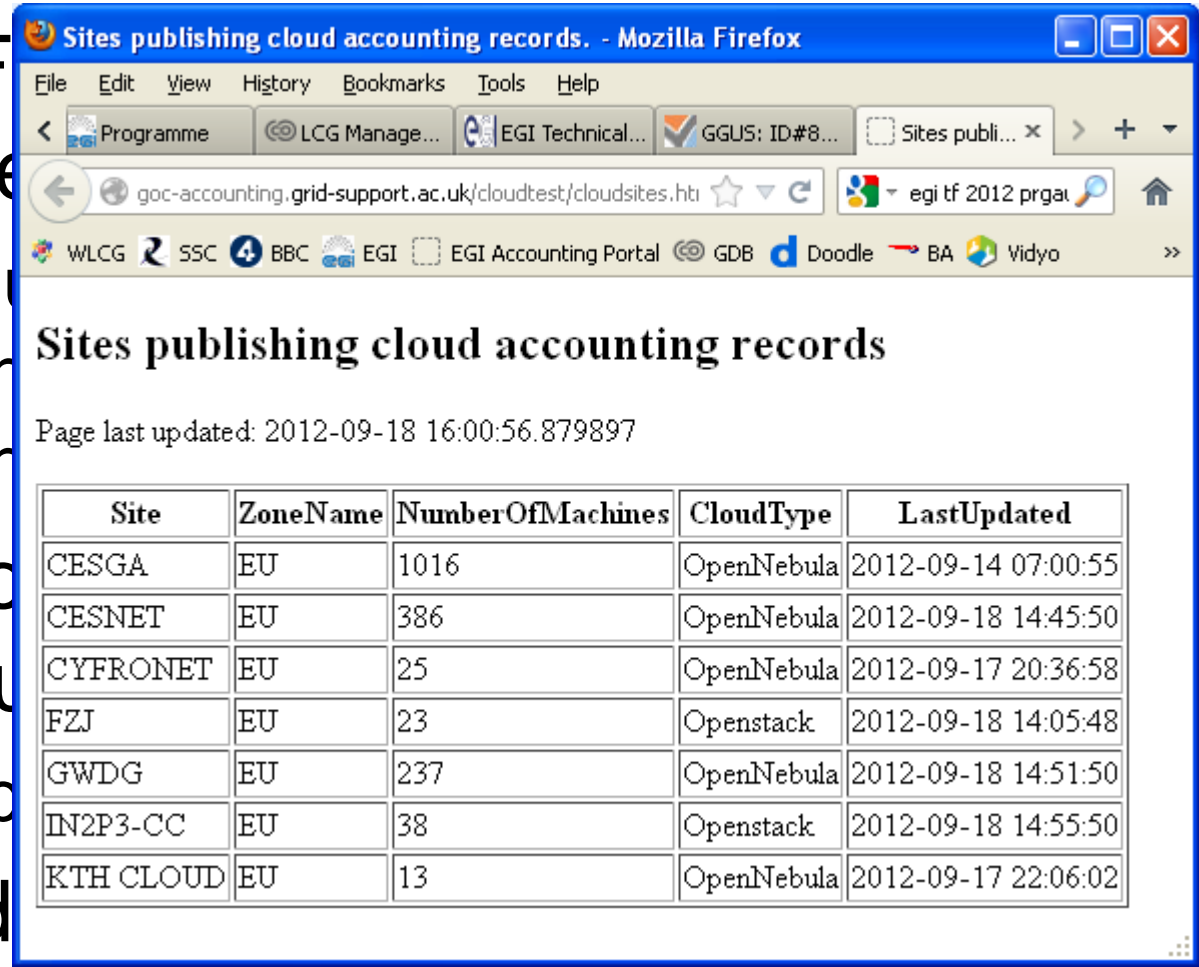Prague, September 2012

e-infrastructure

- Requirements

- Readiness to Receive

- Records under development

- Next Steps

- Storage
- MPI
- Applications
- Cloud/VM
- New versions of cpu UR (CAR)

- The APEL repository is in the middle of a migration but the capability to receive usage records over SSM is already in production for both *Job Records* and *Summary Job Records.* It is being used by Open Science Grid and CERN, with a number of other publishers set to migrate.

- Consumers are in place on the test service for CAR and StAR.

- Adding others is a lightweight process. Much simpler than defining the record schema.

CAR

- CAR is an EMI revision of the OGF UR v1.0 rationalising some issues and including some common extensions deployed in a number of implementations.
- Not UR 2.0 which is a bigger revision started by OGF UR-WG
- XML document
- CAR v1.0 was agreed but now some issues have arisen.
- APEL new schema incorporates CAR
  - But there might be some tweaking.

- The EGI F...
  has adopte...
  - Many valu...
    defined i...
    implemen...
- Sensors to...
  construct u...
  - OpenNeb...
- SSM used...

Sites publishing cloud accounting records. - Mozilla Firefox

goc-accounting.grid-support.ac.uk/cloudtest/cloudsites.ht

Sites publishing cloud accounting records

Page last updated: 2012-09-18 16:00:56.879897

Site	ZoneName	NumberOfMachines	CloudType	LastUpdated
CESGA	EU	1016	OpenNebula	2012-09-14 07:00:55
CESNET	EU	386	OpenNebula	2012-09-18 14:45:50
CYFRONET	EU	25	OpenNebula	2012-09-17 20:36:58
FZJ	EU	23	Openstack	2012-09-18 14:05:48
GWDG	EU	237	OpenNebula	2012-09-18 14:51:50
IN2P3-CC	EU	38	Openstack	2012-09-18 14:55:50
KTH CLOUD	EU	13	OpenNebula	2012-09-17 22:06:02

Storage

- StAR (Storage Accounting Record) is a version of the OGF UR 1.0 adapted for accounting of storage utilisation

- Developed by EMI, submitted as a public document to OGF, revised in the light of public comments.
  - Added Sitename, allocated space, and revised time definitions.

- Status – being implemented by EMI storage providers (dCache, StoRM, DPM) in EMI-3

EMI StAR timeline

- May 2011: StAR definition agreement

- May 2012: Each SE provided an implementation plan

- June 2012: Each SE to implement accounting sensors using SSM to publish

- June 2012: Accounting repository (APEL) ready to receive storage records

- September 2012: Each SE to test and deploy their accounting sensors (for EMI 3 release)

- January-April 2013: Bug-fixing in EMI 3 RC's

- April 2013: Accounting sensors released in EMI 3

Storage Solutions

- dCache (EMI)
- StoRM (EMI)
- DPM (EMI)
- Castor
- EOS
- ~~BestMan~~
- Gratia (already collecting)
- xrootd
- hadoop
- Gstat
- Cloud Storage
- (Unicore)
- (ARC)
- iRods
- ?????

- The middleware in scope for EGI and WLCG

- Anything that collects storage information could also publish usage records

- eg Julia Andreeva talk at CHEP

MPI

- EGI Virtual Team on MPI has just reported.
- Agreed that UR nodecount and ncpus(ncores) are sufficient.
  - Not in production APEL. Will be in CAR and emi3 client.
- Asked for a flag that a job is deliberately parallel, rather than just accidentally.
  - This will allow visualisation of the parallel subset.
  - RT ticket slipped through the net. Will need CAR addition.

- Little progress recently.
- CESGA produced a plan for VOMS attributes for specific application.
- Hannover have a local prototype based on process accounting.
- No UR proposal drafted yet.

- StAR is about storage allocated and used.

- What about who used the data? And how often?

- What would the big sites like to see about the use made of their data centre?

  - Bandwidth?
  - Source/destination?
  - Identity of users?

- CAR
  - Ready for direct testing today
  - Apel client in EMI-3
- Storage
  - Records for testing
  - Visualisation strawman
  - Engage other storage suppliers
- Cloud
  - Extend range of infrastructures
  - Visualisation strawman

- MPI
  - Test data today from DGAS
  - Visualisation strawman
  - Parallel flag in CAR?
  - Apel client in EMI-3
- Applications
  - Kickstart
- Data Centres
  - Requirement Gathering
  - EU-DAT?
  - Resource Centre Forum