

A Resource Provider View

NGI-CH and the EGI Pay-for-Use Experiment

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(NGI-CH = Swiss National Grid Association)



Why would NGL-CH participate ?

- Some degree of market may optimize costs and funding schemes for scientific computing



Name	Certification Status	Production Status
CSCS-LCG2	Certified	Production
SWITCH	Certified	Test
T3_CH_PSI	Certified	Production
UNIBE-ID	Certified	Production
UNIBE-LHEP	Certified	Production
UNIGE-DPNC	Certified	Production
UZH	Certified	Test

One GOCDB NGL-CH cluster volunteers

- HW funding based on national strategy (CSCS), scientific projects (LCG2, UNIBE-LHEP, UNIBE-DPNC, UZH), institutional strategy (UNIBE-ID). Operational costs billed or provided by institution.
- Where do you fit in ? Maybe you don't at all.

Why would NGL-CH participate ?

- Ease access to computing resources for “small” sciences

Do very much like the (side) effect :
Establishment of a trusted “one-stop-shop” for smaller and medium sized projects
Less funding applications for servers to be put in some basement or some office

- Additional way of funding local infrastructure (benefit from local subventions) ?

Immediate questions and concerns

- **Can you just bill other (academic) institutions for CPU and TB ?**
 - **Sometimes we bill for hardware, consulting etc among institutions, so why not.**
- **The prices are not market prices ?**
 - **Also not for other bills we make**
- **The private actors will say it is not fair ?**
 - **It is not fair that they didn't cover the electricity infrastructure in the first place ...**
- **And so on ...**

Investigate the legal constraints is part of the process.

How could the experiment happen ?

It is just another application for which we send a bill !

- **EGL.eu finds a customer that can run on our resource**
- **EGL.eu negotiates the deal and the price (orally is fine)**
- **EGL.eu makes the application run on our resource (in contact with sys admin)**
- **EGL.eu supports the customer in production (in contact with sys admin)**
- **EGL.eu makes sure that the customer is reasonably happy and we issue the bill**

As resource provider, would rather have one larger deal than several small !

Available NCI-CH Resources and technical constraints

- **One ~ 500 core cluster with CentOS 5. Exposed by ARC Computing Element.**

152 2.3 GHz AMD Opteron 2376 Worker Cores (19 Nodes) with 2GB RAM per core.
304 2.3 GHz AMD Opteron 8356 Worker Cores (19 Nodes) with 2GB RAM per core.
12TB Lustre FS (7 nodes).

- **About 200 TB on DPM Storage Element. Exposed with SRM.**
- **One ~ 1000 cores cluster being setup, same storage element**
- **10 Gb link to cluster**

... for the experiment

- **Can provide ~500 cores for ~ two months (integrated) within a year. No MPI.**
- **Order of 10 TB temporary storage on storage element**

Access to the NGL-CH resource

- VO based or a couple of grid certificates
- May offer VOMS if needed (hopefully not)
- ARC Client for job submission and Storage Element manipulation

Application installation

- If compilation of code needed, can provide worker node and some assistance
- Libs can be sent with job (will be kept in cache) or taken from Storage Element

Application testing

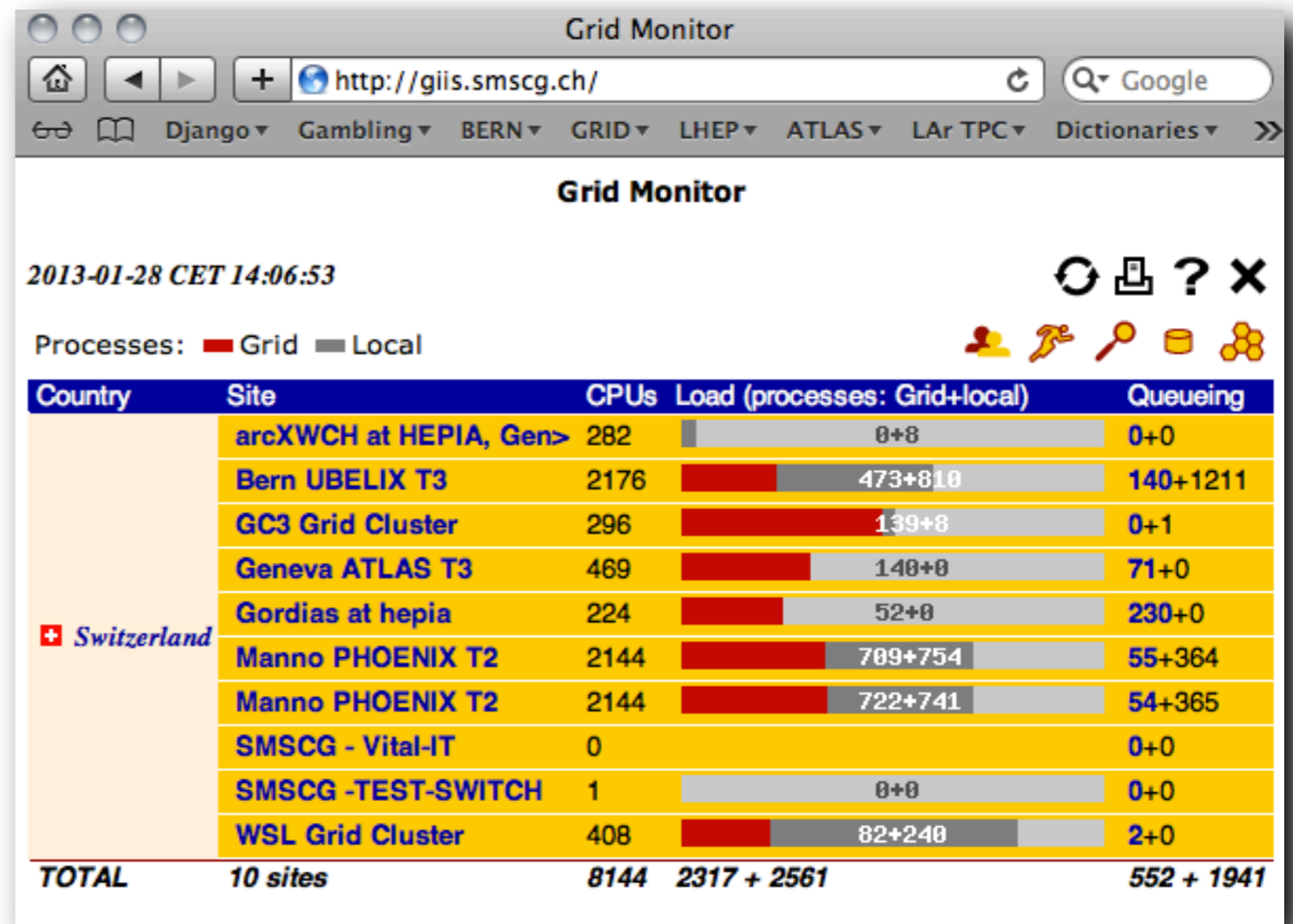
- **An expert from EGI.eu should make sure the application runs ok before production starts**

Service Level

- **So that the customer pays. Only CPU hours delivering results to be charged (will have to monitor). Bad results due to bad application to be charged.**
- **EGI.eu may use experience to gradually work out a SLA. Not work we want to do.**

Application running

- In an experiment we may provide direct contact to the submitter, in a long term model just to some central EGI.eu operation expert
- Jobs can be monitored for example on <http://giis.smscg.ch>
- Prioritized support from us during working hours



The accounting and the bill (still experiment)

- **For us CPU time from batch system ok, if not too far off wall-time (~10%)**
- **Can also use APEL numbers if available and about consistent with local numbers.**
- **No up-front invoice needed. No preparations (EGI.eu may charge that).**
- **Can send bill (typically to be paid 30 days upon delivery) to customer or EGI.eu. The latter preferred as this is a partner we trust. May share risk with EGI.eu (50/50) for the case customer doesn't pay.**

If possible, avoid VAT (for some organizations this works, also internationally)

The price

We use the “market” to define the price (no cost model, no value estimation etc)

- **We offer to charge only CPU hours that actually deliver results. Bad results due to bad application to be charged.**
- **Intermediate (~3 months) storage within 10 TB for free**
- **EUR/CPUh = 0.0X ?**

Something that makes both sides happy. From our point of view it must be defensible “at home”.

In a test case few hours are acceptable. After that amounts below, let’s say 5k EUR, makes little sense to us.

Summary

- **NGI-CH would like to participate with one site in the experiment**
- **Our effort should be minimal, i.e.**
 - **Access via current our front-ends (ARC CE, SRM SE, VOMS based, CentOS 5 operating system). May offer alternative access and VMs in future.**
 - **EGL.eu needs to provide customer, application, application testing**
 - **Ideally EGL.eu also provides customer/application support during production**
 - **For our sys admin less than some days preparation**
- **Would bill just like we bill other services (like consulting, hardware etc), would prefer to bill EGL.eu which we trust.**