EGI Pay-for-Use Experiment
Survey Summary
January 2013

The EGI Council recently endorsed a thought experiment on how pay-per-use models could be implemented and users billed for their usage of EGI resources [R1].
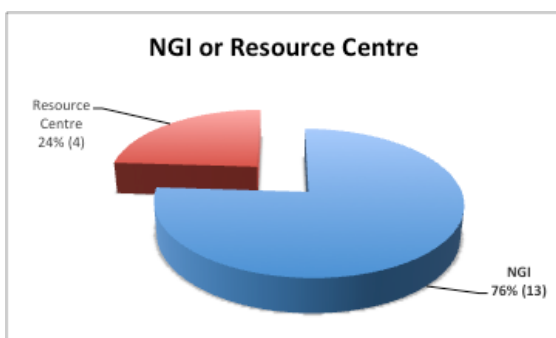
In a distributed environment such as EGI, services are provided by a variety of different organisations spread across Europe. EGI.eu – as federator of resources – can, in this context, provide different degrees of shared services according to different models.

To explore these options, EGI.eu is running a 'proof of concept'-style experiment with NGIs, resource centres and user communities. This will help define areas such as accounting, pricing, invoicing, payments and service level management.

An initial survey was sent to all NGIs and Resource Centres for gauging interest in participating in the experiment. For those who were interested, a series of additional questions were posed for obtaining key information for the experiment itself. The results of this survey are presented in this brief report.

Response Summary

Do you represent?

A total of 17 NGIs and Resources Centres responded to the survey answering at least the first 3 questions - 13 NGIs and 4 Resource Centres. The individual respondents can be found in a summary section at the end of this report.

Would your organisation be willing to participate in the simple experiment about pay-for-use models as described in the EGI Council Report [R1]?

More than half of the total respondents (10) were willing to participate in the experiment.
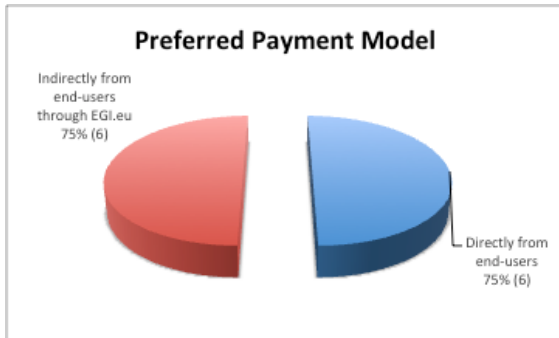
6 NGIs:

- ACC Cyfronet AGH/NGI_PL (PL-GRID)
- France Grilles
- IGI JRU (NGI-IT)
- National Grid Initiative for Germany (NGI-DE)
- The United Institute of Informatics Problems of the National Academy of Sciences of Belarus (UIIP NASB)
- TUBITAK ULAKBIM

4 Resource Centres:

- Albert Einstein Center, University of Bern
- Leibniz Supercomputing Centre
- MASTER-UP Srl.
- SARA

Any respondent answering "No" ended the survey. Therefore, the following questions were answered by the willing participants only and are dedicated to understanding more in-depth information required for participating in the experiment.

What pay-for-use model are you interested in?

Respondents were asked if they preferred to have payments made 'indirectly from end-users through EGI.eu' or 'Directly from end-users'. The preferred model was split evenly 6 to 6. Respondents were able to choose both methods as it may depend on the service provided.
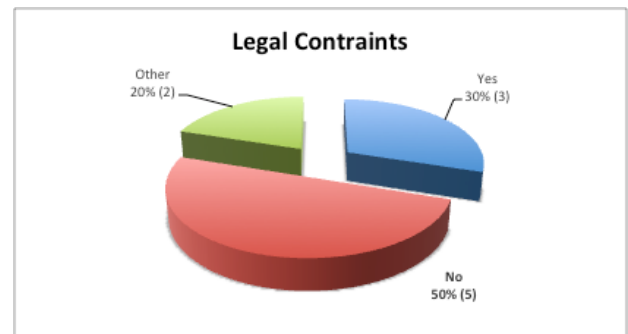
What kind of services/resources, how much capacity and for what price could you contribute to the experiment?

This was an open-ended question. Each response is as follows:

- Approx. $0.077 (to be discussed) per Hour for one Core on the following resources: Intel Xeon E5472 (3,0 GHz, 4 Cores) [50 nodes / 100 physical CPUs / 400 virtual CPUs], [400 Gb memory], [8 Tb Disk storage], [9 + 12 Tb Storage servers], [Infiniband DDR 20Gbit/sec].
- Infiniband connected Linux computing resources. Virtualised resources over Open Nebula. Nearly 0.15 Euro/hour for an 8 core 24 GB instance.
- About 500 cores for about 2 months in 2013. The consumption preferably happens in one go, but distributed in time also possible. About 20 TB disk space on local SE for consumption period. Price: 0.03 EUR/hour. Storage free. Negotiation possible.
- A cluster for 16 cent/hr and plus 19% VAT.
- Linux Cluster through Globus: GRAM5, GridFTP, Gsissh - Price and capacity have to be detailed later.
- Computing power, storage, and human support. Capacity and price are a subject to negotiation.
- During a first experimental phase, a small of CPU/storage resource + central services (BDII, WMS etc.), if needed.
- There is a planned increase of the 200 cores and 4TB storage supporting EGI. The price related to the use and the modalities to access them will be evaluated after the workshop.
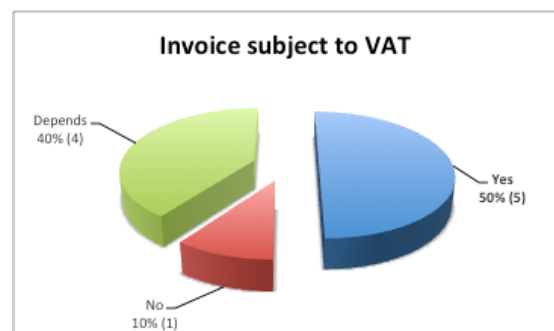- To be discussed (x2).

Almost half were able to provide a price with specific specifications. Others were able to provide what resource was able to be given, but with the price to be defined later. Only one did not provide any information. Further details will be finalised once the minimum requirements are defined. This will also depend on the demand that is requested for users who participate in the experiment.

Are there any legal constraints around your organisation issuing invoices for the consumed services?

Half (5) responded that there were no legal constraints around issuing invoices. An "other" option was selected twice, one stated 'to be discussed' and the other 'under investigation'. One aim of the experiment will be to understand what are the legal constraints and potential solutions.

Is the invoice subject to VAT?

The majority stated the invoices are subject to VAT with only one stating 'No'. Two respondents did not know the response at the time of completing the survey or needed to be discussed with the other stating that this would depend on the type of institution – Universities and research institutions mostly not.

Can you suggest potential user communities who would be willing to participate in the experiment as interested in pay-for-use models?

This was an open-ended question designed to understand if there are any specific communities that

are already known to be interested in pay-for-use models that could be contacted. The responses are aggregated as follows:

- Chemistry (x2)
- Bio
- Willing to contribute in finding users (x2)
- To be discussed
- Unaware (x3)

One organisation is already providing invoiced services to national computational chemistry users (e.g. dedicated server, GPU accelerated server).

EGI.eu is holding a workshop on 28-30 January 2013 in Amsterdam [R2] that includes a dedicated session on pay-for-use models (Tues 29 Jan 11:00-12:30). What are the most important questions for your organisation to be addressed?

This was an open-ended question to understand what questions could be answered during the presentation sessions and others to focus discussions. The individual responses are as follows:

- Do you foresee any issues invoicing for services provided and redistributing them to the resource provider as a means of cost recovery? It needs trust in the accounting system.
- Local laws concerning public funds. How to operate in this perspective?
- Resource provisioning policy and job management to be discussed.
- Is there a real intent from user communities to use pay-for-use models and what kind of services do they need?
- What business models and costs models should be developed for pay per use?
- How can users acquire funds to pay for use?
- Should pay per use give the user freedom to choose the resource provider of choice, and if so, how will the user be supported to make their best choice?
- Agree on how consumers will access our resource. We provide ARC CE, DPM SE and VO based access. Which application software will we have to provide? What should be the support level 8/5, 24/7?
- More specifics regarding the experiment.
- Details about the foreseen business model should be given.
- What is the business model behind the project? Private companies that are not in EGI have to provide a fee?

Conclusions

The main points are:

- Define minimum resource requirements.
- Negotiate pricing with remaining providers.
- Identify the specific legal constraints around invoicing on an individual basis.
- Obtain contact points in Chemistry and Bio communities for participation and any others.
- Follow up on questions posed within the context of the Workshop.

References

[1] EGI Pay for Use Models – Council Report http://go.egi.eu/1391

[2] Evolving EGI Workshop - 28-30 Jan - Amsterdam http://go.egi.eu/Evolving-EGI-WS-2013

Survey Respondents

1. ACC Cyfronet AGH/NGI_PL PL-GRID
2. Albert Einstein Center, University of Bern
3. France Grilles
4. IGI JRU – NGI_IT
5. IUCC
6. Leibniz Supercomputing Centre
7. MASTER-UP Srl.
8. National Grid Initiative for Germany (NGI-DE)
9. NGI_BA
10. NGI_CZ
11. NGI_ME (Montenegro)
12. Portuguese NGI
13. RENAM - NGI_MD
14. SARA
15. SRCE
16. The United Institute of Informatics Problems of the National Academy of Sciences of Belarus (UIIP NASB)
17. TUBITAK ULAKBIM