

e-FISCAL 4th Workshop, Amsterdam, The Netherlands 28th – 29th January 2013

<http://www.efiscal.eu/final-workshop>

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The final e-FISCAL workshop was organised during the “Evolving EGI” workshop arranged by EGI.eu, with the goal of presenting the final results of the project and discussing their uptake. The workshop kicked off with a tutorial session presenting different cost assessment methodologies – including the hybrid methodology developed by the e-FISCAL project and their optimal application areas. The tutorial gathered about 35 participants, with the rest of the workshop having more than 50 attendees.

The tutorial presented a comprehensive outline of the basis of the cost assessment and its role in the overall decision-making process that e.g. takes the value of the services provided into consideration. After this foundation, the tutorial presented the well-established standard methodologies (full cost accounting and total cost of ownership analysis) and their limitations when used in assessment of the overall e-Infrastructure costs on pan-European scale. This set the stage for the presentation of the e-FISCAL methodology.

The rest of the first day consisted of two sessions, first focusing on the project results and the second presenting case studies showcasing different approaches and uses of cost assessment methodologies. The project results were covered from several angles:

- The key findings of the project, including the cost per core hour calculated by the project and the breakdown of the cost in different categories.
- Results of the benchmarking exercise and how they were used to complement financial analysis.
- The analysis of emerging business models and their impact on different pay-per-use scenarios.
- The reusable tools and approaches of the project, including cost assessment tools made available on the project website.

During the discussion it was noted that the costs of the in-house infrastructure were – perhaps contrary to the expectations – quite low when compared to the pricing of the current commercial cloud offerings. Especially in high-end computing resources that had a high utilisation rate, the current research e-Infrastructure providers are able to provide a wide range of services with costs that are considerably lower than a basic Cloud IaaS (Infrastructure as a Service) offering that was used for comparison purposes. At the same time, it was noted that verifying these results with follow-up surveys (such as EGI Compendium effort) and a better understanding of the breakdown of the personnel costs between different staff categories are highly important inputs for e-Infrastructure policy formation.

The following session presented three case studies: the global HPC budget map, approaches to cost assessment of digital archiving and a presentation of costing, budgeting and funding models of LifeWatch, a major European research infrastructure. The global HPC budget map triggered considerable interest, since it allowed to contrast the e-FISCAL results presented earlier with results achieved using

quite different methodology. The presentation also clearly illustrated the value of gathering financial data from several years, as identifying trends and their possible explanations becomes feasible. The digital archival presented different challenges, highlighting the need to understand the working processes and value of the data to be stored before any cost assessment can be done. In the case of long-term digital archival, the IT services and equipment are on the average only 7% of the overall budget, with very weak correlation between the costs and the amount of data being stored. The cost assessment was based on the so-called “activity based cost analysis” approach, which necessitates in-depth surveys of the working processes, execution volumes of different tasks, and cost and effort per individual task. Finally, the study of LifeWatch cost assessment showed how the results of the cost assessment were successfully translated into a consensus about the funding model and the level of national contributions to the shared infrastructure. At the same time, the case study also highlighted the importance of preparing for value-based discussions in these kind of collaborative efforts. Even on the European level the cost structures vary considerably, which has an impact on the value/cost relationship of contributions from different sources.

The second day started with a brief summary of the first day’s discussions, which was followed by a number of presentations designed to bridge the cost assessment topics with the rest of the EGI workshop. The analysis of the global HPC spending and the drivers shaping it set the stage for this session, with multi-core technologies, accelerators and so called “big data” starting to shape the global HPC budgets. Presentation of the cost considerations in the EGI service provision highlighted the need to understand both the costs and value propositions from the different points of view. Value of services was also a central theme of the presentation of the business model analysis approach of the FedSM project, which emphasised that in-depth understanding of the value proposition was one of the key requirements for reaching sustainability. The final presentation of the session re-iterated some of the project findings on a more abstract level and provided an outlook of the sustainability of both e-Infrastructure services and the cost assessment activities, highlighting the challenge of managing simultaneous developments on technical, organisational and policy levels.

The final discussion session ended with a consensus opinion that the cost assessment work done by the e-FISCAL project has been an important first step in a process that should continue. The ability to identify and communicate the costs of the e-Infrastructure service provision – both in terms of the overall cost and its structure – is a prerequisite for successful engagement with funding agencies and policy makers. In the end, it is important to be consistent in highlighting that the cost analysis is just one of the inputs in the decision making process when designing the future e-Infrastructure service provision model.

The presentations in the final workshop are available on the project website at <http://www.efiscal.eu/final-workshop> and the agenda of the workshop is attached as [an appendix](#). For more information, please get in touch with the project at <http://www.efiscal.eu/contact>.

Final e-FISCAL workshop at EGI.eu in Amsterdam

The final e-FISCAL workshop was held at EGI.eu premises in Amsterdam on 28-29 January 2013, as part of a series of EGI workshops titled "[Evolving EGI](#)". The objective of the workshop was to present and discuss all the findings of the project and discuss their possible follow-up activities.

Monday 28 January 2013 - morning

e-FISCAL tutorial: methodologies and their uses - Turingzaal (11:00-12:30)

Session Chair - Fotis Karagiannis

The goal of this session is to give the audience an overview of the basic skills needed to initiate, execute and analyse the results of simple cost assessment exercises. The session covers the key aspects of the different cost assessment methodologies and their optimal application areas. The end of the session has been reserved for a tutorial on how e-FISCAL costing model works in practice as well as on basic cost consideration related to cloud adoption.

11:00 Setting the scene: Distinguishing costs from prices and value - Uses of costing information, Sandra Cohen, Athens University of Economics and Business (AUEB), Greece – 20'

11:20 Cost Assessment Methodologies: FCA, TCO, e-FISCAL - Where do they fit best, Sandra Cohen - 25'

11:45 e-FISCAL costing model and basic cost considerations related to cloud (avoidable costs and savings), Sandra Cohen

[Tutorial slides](#)

Lunch (next room) - 12:30-13:30

Monday 28 January 2013 - afternoon

e-FISCAL Workshop - Project Findings - Turingzaal (13:30-15:30)

Session Chair - Owen Appleton

Over the past two years, the e-FISCAL project has been assessing the overall cost of computing service provision for research in Europe. This session of the final project workshop will present the key findings of the project including a state of the art review, cost models and analysis, and results on benchmarking EGI and mid-sized HPC installations with the comparable services available from Amazon EC2. Participants will gain a better understanding of the kind of cost assessment issues for high-utilisation rate ICT services that should be considered when choosing between different infrastructure options.

13:30 Welcome Message, Steven Newhouse, EGI.eu- 5'

13:35 [e-FISCAL Key Findings](#), Fotis Karagiannis, e-FISCAL project director, AUEB - 20'

13:55 [Benchmarking Results: HTC & HPC vs. Amazon EC2](#), Kashif Iqbal, Irish Center for High End Computing, National University Galway, Ireland, 20'

14:15 [Business and Pricing Models](#), Sergio Andreozzi, EGI.eu, 20'

14:35 [e-FISCAL Reusable Tools and Approaches](#), Matti Heikkurinen, Emergence Tech Limited (ETL), UK, 20'

14:55 Q&A

Coffee/Tea - 15:30-16:00

e-FISCAL Workshop - Case studies - Turingzaal (16:00-17:30)

Session Chair - Matti Heikkurinen

An important aspect of the work carried out by e-FISCAL will be the application of the results. The case studies presented will offer participants concrete examples on how the outputs of e-FISCAL can be applied across the e-Infrastructure community and commercially.

16:00 Introduction, Matti Heikkurinen - 5'

16:05 Case Study Presentations - 60'

Presentations will cover concrete examples of cost issues from both e-Infrastructure and Industry perspectives such as cost analysis and cost sharing models, covering different computing and data management services. Case study presentations:

- [Global HPC budget map](#) - Addison Snell, [Intersect360 Research](#)
- [Costs of Digital Archiving](#) - Anna Palaiologk, [Charles Beagrie Ltd.](#)
- [LifeWatch costing and Funding](#), the LifeWatch e-infrastructure financial construction - Jacco Konijn, Project Manager, [LifeWatch project](#)

17:05 Panel Discussion - 25'

End of day 1 - 17:30

Tuesday 29 January 2013 - morning

Coffee, discussion and demonstrations of e-FISCAL tools (08:30-09:00)

e-FISCAL Workshop: Sustainable e-Infrastructures for Research - Turingzaal (09:00-10:30)

Session Chair - Matti Heikkurinen

The final session of the e-FISCAL workshop focuses on moving towards the future beyond the project, which finishes at the end of January 2013. Participants will hear different future scenarios from various e-Infrastructure providers as well as industry. This session also serves as a bridge to the EGI dedicated sessions by focusing on specific interests of the e-Infrastructure community.

09:00 [Summary of the previous day's discussions & setting the stage](#), Matti Heikkurinen, Emergence Tech Ltd - 5'

09:05 [Global of view of e-Infrastructure budgets](#) - 15', Addison Snell, [Intersect360 Research](#)

09:20 [EGI: Cost considerations of HTC service provision](#) - the EGI.eu model - Steven Newhouse, EGI.eu - 15'

09:35 [Business models for federated infrastructures](#) - FedSM model, Owen Appleton, Emergence Tech Ltd - 15'

09:50 [e-FISCAL: Sustainability and Business models - Lessons Learned and Way Forward](#)

Fotis Karagiannis, AUEB, GR - 15'

10:05 Wrap-up Panel Discussion: Issues to discuss, Actions and Recommendations

- What cost assessment tells us, what are the limits?
- Business models - knowing the costs as the first step towards enabling pay-per-use
- Linking the costs with value - excellent science
- Moving beyond €/core hour - mapping costs with service portfolio

