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ELIXIR Finland Stakeholder meeting 2014 - Conclusions

Date and location: 7.2.2014 CSC Keilaranta 14 FI-02101 Espoo

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ELIXIR Finland services hosted at CSC – IT Center for Science is included to the 2014-2020 Finnish Research Infrastructure strategy. <http://www.aka.fi/tutkimusinfrastruktuurit>.

Consequently, CSC has decided to launch the production of the cloud infrastructure services during 2014. <http://research.csc.fi/cloud-computing>.

Over 20 labs and organisations have established cloud service pilots between ELIXIR Finland at CSC and leading biomedical science use cases with the support of the Finnish Research Infrastructure program (FIRI). In this event over 30 technical and administrative contact persons discussed the long-term plans taking into account the practical requirements of the local data analysis. Meeting materials are now published.

<http://www.csc.fi/english/csc/courses/archive/elixir2014>

Presentations introduced ELIXIR and ELIXIR Finland, cloud service technology and usage evolution at CSC 2011-2013 and key technical lessons learned from the biomedical cloud use cases.

Biomedical use case experiences and requirements included FIMM - molecular medicine and genomics, Biocenters: Turku - structural bioinformatics, Oulu - imaging, VTT - biotechnology, Biocomputing Platforms Ltd., ELIXIR Denmark - European bioinformatics tools infrastructure. Some of these use cases will be showcased in the ELIXIR Finland node pages (<http://www.elixir-finland.org>, not published).

Technical infrastructure components of virtualised resources have life-cycle of 4-5 years. Some components procured in 2011-12 will be phased out in 2015-16. This was one of the key messages given by director Pekka Lehtovuori regarding long term sustainability and funding considerations to scale the cloud services. Intention of CSC is to work closely with the biomedical user communities to make sure ICT resource use is optimised.

Please acknowledge CSC !

In order to be able to measure the impact of the CSC cloud IaaS to research made in the ELIXIR Finland context an acknowledgement in your work would be greatly appreciated.

“ELIXIR Finland node hosted at CSC – IT Center for Science for ICT resources”

You may also cite the full reference: dl.acm.org/citation.cfm?id=236200

Tommi Henrik Nyrönen, Jarno Laitinen, Olli Tourunen, Danny Sternkopf, Risto Laurikainen, Per Öster, Pekka T. Lehtovuori, Timo A. Miettinen, Tomi Simonen, Teemu Perheentupa, Imre Västrik, Olli Kallioniemi, Andrew Lyall, and Janet Thornton. 2012. Delivering ICT infrastructure for biomedical research. In Proceedings of the

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Actions and conclusions

- At the Viikki Biocenter IaaS cloud uptake has been a bit slow. The current resource has several servers and some NFS space. The resource can scale up if the user needs grow. As an action, an announcement to local PI's should be published: CSC Biomedinfra cloud (BMI) is considered to be a sustained resource. Contact is local IT admin (Heli Koskimäki, designated cloud tech contact) to discuss different lab needs and try out if the cloud service serves the lab. The local technical contact will then contact CSC about resources needed. CSC technical contact person designated for the organisation will support the process.
- CSC www is upgraded to include available CSC cloud services, how to apply for more resources, and how to start new initiatives and pilots. More information: <http://research.csc.fi/cloud-computing>.
- VTT Biotechnology cloud pilot has been successful and continues and with the aim to provide support for CSC-VTT framework negotiations for collaborative ICT capacity solutions for sector research.
- BioComputing (BC) platforms Ltd. provides scientific software for labs in Finland. In the piloted cloud collaboration model CSC virtual servers run BC software. These servers can then be provided as a service from the CSC cloud when a lab has agreed on the licensing with BC. This seems a good model for public-private collaboration the benefits all parties and is will continued and developed further, also involving other interested SMEs and parties.
- Nordic ELIXIR IaaS pilots, especially ELIXIR Denmark and Norway will be supported as part of the Tryggve project (2014-2016) supported by Nordic e-Infrastructure Collaborative (NeIC).
- CSC's roadshow in Turku (and other Biocenters upon request) will include ELIXIR Cloud IaaS presentation. Focus will be given to showcase possibilities of virtualisation to build biomedical lab ICT and on face to face discussions with local principal scientists. Local technical contact (like Jukka Lehtonen in Turku) is expected to collaborate with CSC staff to get attention from possible local user groups.

Wishlist for CSC cloud services for biomedical community

- Reliability and predictability of service, Service uptime, IO and CPU performance, Long term continuity
- Data security, especially patient data security
- Cloud extensibility, easy to scale up resources
- Support, troubleshooting, benchmarking: how to improve code performance?
- Linking resources to CSC for calculation and for storage (Big Data, backups etc.) or the whole system installed on a virtual server? Fast database storage, slow bulk file storage and archives.
- Certification for human data, make differences between clinical and genomic data
- Make clear how to apply for resources. Who gets and what? What type of application process? How much can be requested (e.g. typical request for computable storage space is 50-100 Terabytes)? For how long?
- Take into account different types of customers: Academic research groups, academic research groups with international collaboration, EU projects, projects with a commercial partner

Overall service aims

- Trusted partner. Biomedical organisations should have more resources to specialise in massive biological data challenges by having a trusted cloud infrastructure service to build on.
- Communication. ELIXIR Finland @ CSC increases visibility to stakeholders and provides channel for feedback and criticism
- Collaboration. Process for setting up organisational (B2B) collaboration with CSC is straightforward
- Wide community impact. Besides Finnish research companies and international users have a mechanism for service access

Registered participants (32)

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