EGI VT ELIXIR report

Pavel Fibich (CESNET, The Czech Republic) and VT members

- ELIXIR is ESFRI infrastructure for life science
- IT nature – collecting and processing the huge amount of data
- need to ensure that EGI members work well with ELIXIR in the member states in order to develop an appropriate infrastructure for ELIXIR
- EGI community can offer experience from distributed and storage systems
- to share information and experience gain in the individual countries
  - we expect that some interaction or even collaboration between NGIs and ELIXIR communities is already ongoing in some countries
- helping EGI to prepare a concise and acceptable approach towards ELIXIR

- representatives from 13 countries (Armenia, Czech Republic, Denmark, Finland, France, Greece, Italy, Netherlands, Poland, Portugal, Spain, Turkey and the United Kingdom) and EGI
- 11 webex meetings
- gained info from 9 countries (not from Denmark, Greece, Italy and Poland)

15 countries signed ELIXIR MoU

(not having representatives from Estonia, Israel, Norway, Slovenia, Sweeden, Switzerland)

	Czech republic
	Denmark
	Estonia
	Finland
	Greece
	Israel
	Italy
	Netherlands
	Norway
	Portugal
	Slovenia
	Spain
	Sweden
	Switzerland
	United Kingdom

For each country we were asking about

- national coordination and involved organisations
- NGI involved and provides resources
- planned resources (e.g. grid or cloud)
- ELIXIR themes focus
- contact persons

Armenia

Mostly beginning phase of coordination

- did not sign MoU yet
- coordination will be under National Academy of Science, where are interested partners (IT and life science sections)
- NGI (ArmGrid) involved
- apply grid and cloud resources in plan
- expected focus on biology
- contact: **Hrachya Astsatryan** (National Academy of Sciences of the Republic of Armenia)

Coordination by ELIXIR_CZ consorcium (regular meetings of IT and life science representatives)

- signed MoU
- NGI (MetaCentrum), NREN (CESNET), PRACE and life science partners involved
- resources through all partners (dedicated small computate and storage node by NGI)
- apply grid and cloud resources
- wide range of life science themes
- contact: **Jan Vondrášek** (Institute of Organic Chemistry and Biochemistry AS CR)

Coordination by Biomedinfra.fi

- signed MoU
- CSC (NGI, NREN and non-profit organisations) and life science involved
- NGI (FGI) does not provide explicit resources
- mostly apply cloud resources
- wide range of life science themes
- contact: **Kalle Happonen** (CSC)

Coordination by UMS IFB (French National Bioinformatics Institute)

- signed MoU
- France Grilles (NGI), other e-infrastructers and bioinformatics (RENABI) involved
- NGI and others provide resources through GRISBI infrastructure (EGI vo.renabi.fr)
- apply grid (glite) and cloud resources
- focus on genomics (plant, animal, viral, microbial, medical), phylogeny, non coding RNA
- contact: **Tiphaine Martin** (CNRS-University of Cambridge)

The Netherlands

Coordination by DTL (Dutch Tech Centre for Life Science)

- signed MoU
- SURF (NREN, HPC, ...), BigGrid (NGI), other e-infrastructers and life science involved
- NGI provides life science grid and specific life science support (e-BioGrid)
- apply grid and cloud resources
- wide range of life science themes
- contact: **Irene Nooren** (SURF sara)

Coordination by IBN (Spanish National Bioinformatics Institute, INAB consortium)

- signed MoU
- Spanish Supercomputing infrastructure (PRACE) and life science involved
- Spanish NGI serving ELIXIR node through VOs
- apply grid and cloud resources
- focus on biology, medicine and training
- contact: **Ignacio Blanquer** (UPVLC - Spanish NGI)

Coordination by Instituto Gulbenkian de Ciencia (consortium BioData.pt)

- signed MoU
- mostly life science partners and linkage with industry
- no computational resources, potential synergy with IBERGRID
- focus on woody plants
- contact: **Ignacio Blanquer** (UPVLC - Spanish NGI)

Beginning phase of coordination, looking for ELIXIR community and their needs (national bioinformatics survey and round table meeting were performed)

- did not sign MoU yet
- TRUBA (NGI, NREN) and life science involved
- NGI will provide resources
- wide range of potential life science partners
- contact: **Burcu Ortakaya** (TUBITAK ULAKBIM)

Coordination by Oxford university

- signed MoU
- mostly universities involved (provide resources and life science expertise)
- sustained contact with NGI
- focus on training
- wide range of life science themes
- contact: **David Wallom** (University of Oxford)

Common IT issues of ELIXIR

User oriented

- small communites that do not cooperate with others
- different levels of IT skills $\Rightarrow$ web services preferred, training is necessary, grid looks too complicated

Issues and implications

- users are used to/need their environments and settings $\Rightarrow$ own images on cloud
- computations are memory and data (storage) intensive (cpus are less important) $\Rightarrow$ more memory per core, big and persistent data repositories available close to computational node
- in one computation, there is big amount of tools (applications) applied together and users need to control them $\Rightarrow$ own images on cloud

Based on previous issues

- users (life science people, bioinformatics) mostly with different IT skills, in small non cooperating communities
  - prefer lightweight solutions $\Rightarrow$ cloud approach (with own user's images) seems to be more suitable than grid approach
  - prefer web services
  - need IT training (ideally on site)
- computations are memory and data oriented, more than preference of cpus
- necessary to work together on a new architecture for the infrastructure, the batch-grid oriented approach is too restrictive

- final report
- redo survey after some time?
- start new VT on ELIXIR cloud pilots?

Proposal for EGI

- to suggest and discuss suitable architecture where ELIXIR requirements and EGI meet
  - develop web based approches (portals)
  - work on cloud applicability, define and run cloud pilots

Questions or comments?