



# ELIXIR Cloud TF

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May 2014



*European Life Sciences Infrastructure for Biological Information*  
[www.elixir-europe.org](http://www.elixir-europe.org)

# *Elixir Task Forces*

- 9+ groups
- Address IT related topics
  - cloud, storage, AAI, monitoring, web ...
  - training (portal, e-learning)
- Just started
  - First meetings in April
  - Work plan for this year

## Cloud TF - Initial Mandate

- Recognise the cloud will be important for Elixir research community
- Short-term Activities
  - Identifying available cloud resources
    - Including training, documentation and consultancy needed to fully exploit them
  - Stimulating demand by raising the visibility and availability of resources
  - Identifying gaps in both supply and demand
    - Experiments, pilots
    - Propose mechanisms to fill them these gaps
- Medium-term Activities
  - Develop a cloud strategy for Elixir for HoN discussion
  - Explore possibilities to federate resources

## Ongoing Activity

- Identify cloud sites linked to Elixir nodes
  - So far 8 sites in FI, NL, FR, CZ, CH and EMBL-EBI
  - VMWare, OpenNebula, OpenStack, StratusLab
- Identify cloud use cases
  - Across IaaS, PaaS & other services (more later)
- Identify liaison activities
  - Between other Elixir TFs
  - With EGI: this meeting in Helsinki, possibility to establish DCC
  - With GEANT: Enlighten Your Research

# Scenarios

- Infrastructure as a Service (IaaS)
  - Establishing virtual clusters for expanding local resources
  - Running data analysis pipelines near pre-existing large data sets
  - Secure environment for analysis of sensitive data
- Platform as a Service (PaaS)
  - Scalable web service hosting frameworks
  - Managed analysis environments
- Providing standard VMs to run on IaaS
  - Shared development environments
  - Appliances with environment or product
  - Environment for training and teaching
  - For testing software in different environments

## *Elixir Pilots (Related to EGI)*

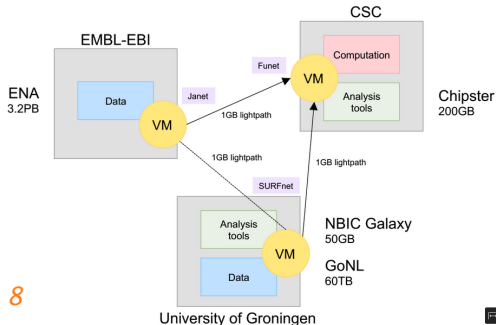
- Cloud computing “Embassy cloud”: Access reference data in a virtual environment
  - Work as though you are at EMBL-EBI or SIB
  - presented by Niclas Blomberg on EGI TF
- Authentication & Authorisation Improved methods and processes for access to clinical data
  - Haka federation
    - collaboration with eduGAIN in next phase
  - REMS - Resource Entitlement Management System
    - Access to sensitive data (genomics) granted by a Data Access Committee (DAC)
    - Agreements to be applied to other domains: FI-CLARIN & FI-CESSDA
  - lead by CSC

## *Elixir Pilots (Related to EGI)*

- High-Performance Computing “Lightpath”:  
Connections for on-demand reference data to remote HPC centres
  - To explore the routine replication of large scale (PB scale) archives to remote sites
  - To create a separate source of data files for challenging DataIO projects
  - Selection of pilot data transfer technology between EMBL-EBI and CSC
  - Established a dedicated light path between datacenters in London and Kajaani

# Elixir Pilots (Related to EGI)

- Cross-site VM Operation
  - Perform analysis via cloud infrastructures and VMs
  - Transfer VMs between computing centers to allow researchers to perform analyses that they could not otherwise do locally





## *Overlap/Cooperation with EGI*

- Partial personal overlap with FedCloud
- Some sites from Elixir TF also in FedCloud
  - Some planning to join later
  - Possibilities to federate Elixir resources will be explored later
- Proposed pilot-like activities with EGI
  - VM migration pilot extended to EGI site
  - Repeat Lightpath pilot with EGI site
- Similar set of cloud middleware
  - Missing support for VMWare in FedCloud - possibly addressed by support in rOCCI
- Access to data, AAI - other task-forces

# Questions?

