

ELIXIR Cloud Analysis Platform for EOSC

Wednesday, 10 October 2018 17:00 (15 minutes)

The aim of the ELIXIR Cloud Analysis Platform is to co-develop and implement an integrated cloud platform that is compliant with relevant global standards/specifications, such as those coming out of the Global Alliance for Genomics and Health (GA4GH). To date, six national nodes (EMBL-EBI, ELIXIR-FI, ELIXIR-DE, ELIXIR-CH, ELIXIR-UK and ELIXIR-IT) have committed resources to develop and implement standards compliant cloud federation service. The project will leverage multiple emerging specifications from GA4GH's different work stream areas, namely Cloud (TRS, DOS, WES and TES), Discovery (Search, Service Registry), DURi (DUO, BonaFide), LSG (htsget, RefSeq) and Data Security (AAI).

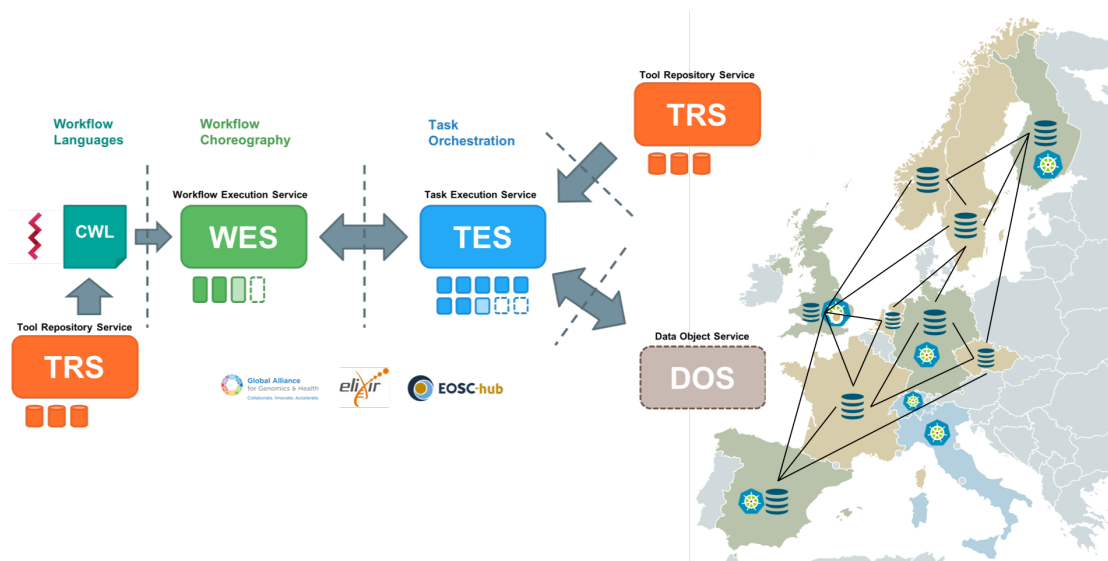


Figure 1: ELIXIR Cloud Analysis Platform

This presentation will showcase the technical AAI integration between EOSC and ELIXIR AAI to deploy a federated GA4GH compliant workflow analysis service. The service once provisioned using EOSC credentials can subsequently be used by life science researchers to submit standardised workflow descriptions (CWL) to be executed by a Workflow Execution Service which can further leverage Europe-wide distributed task execution services stationed in a number of ELIXIR national nodes. The presentation will also showcase the distributed Reference Dataset Distribution Service developed within the EOSC-Hub project to allow bulk site-to-site transfer for large reference datasets for analysis by computational pipelines. This prototype integration between these two key technical infrastructures is hoped to provide dynamic data-locality based optimisation of workflow task distribution in a federated environment like ELIXIR and EOSC.

The specific scientific drivers for this ELIXIR EOSC collaboration is to address the large-scale challenges in analysing Marine Metagenomics/Transcriptomics, distributed computational services to address workflow access to sensitive data (EGA, Local EGA) and support for large scale on-demand industry-driven research workflow execution for Protein homology/analogy recognition As A Service.

Type of abstract

Presentation

Summary

A presentation of a science-driven an ELIXIR Cloud Analysis Platform to deliver standardised, federated workflow analysis platform leveraging pan-European EOSC-compliant cloud infrastructures.

Primary author: VARMA, Susheel (EMBL EBI)

Co-authors: Mrs NIEWIELSKA, Ania (EMBL); VAN DEN BERGH, Erik (EMBL); Mr DALLA TORRE, Gianni (EMBL); Mr LEINONEN, Jaakko (EMBL); CHIEN, Jinny (EMBL); Mr TÖRNROOS, Juha (EMBL); RUIZ SAFONT, Pau (EMBL); Mr LAURIKAINEN, Risto Laurikainen (CSC); Mr KAPOOR, Shubham (EMBL); NEWHOUSE, Steven (EMBL); NYRONEN, Tommi (CSC)

Presenter: VARMA, Susheel (EMBL EBI)

Session Classification: EOSC from Theory to Practice

Track Classification: Area 5. Digital Infrastructures for EOSC and/or EDI