Making data and cloud resources interoperable using EUDAT and EGI services

FINAL PROGRAMME | **REGISTRATION** | **POSTERS & DEMOS** | **VENUE & ACCOMMODATION**

Making data and cloud resources interoperable using EUDAT and EGI services

Let's meet at: 11:00 - 12:30, Room: Bragança | 24 Jan 2018

Session Chair: Michaela Barth, KTH

Objectives:
Present the result of the joint pilots as outcome of the collaboration between EGI and EUDAT and future opportunities.

More on the session:
The EGI-EUDAT collaboration started in March 2015 to lay the ground for a production cross-infrastructure offering that pairs data and high-throughput computing resources together with perceived seamless access by the end user. The activities in this task have been performed in an end user driven approach with huge time investments from the user communities to provide the two e-infrastructures with valuable feedback in their efforts of growing together.

Within the EGI-EUDAT collaborative work very valuable feedback on the development and improvement of the EGI data service offerings has been brought forward by the early adopter use cases. This feedback covered i.e. the data-handling support within the EGI DataHub, data transfer tests between virtual machines (VMs) and EUDAT B2STAGE instances using both OneData and EGI DataHub to access the VMs' common storage, or more generally requiring and testing automatic submission to the EGI FedCloud. This short demo shows the current working of the resulting EGI OneData solution and the current and future roadmap for it.

In the ICOS use case a new web-based service is offered on the ICOS Carbon Portal. The services is called the "footprint tool" and performs 3-dimensional Stochastic Time-Inverted Lagrangian Transport (STILT) atmospheric transport model calculations and afterwards visualises the model output using EGI on-demand computing facilities. The input data consists of meteorological air transport data (from ECMWF), data on greenhouse gas emissions (from EDGAR), and atmospheric observations (from ICOS and other sources) and the output shows time series of climate change indicator concentrations of greenhouse gases and their resulting footprints at selected locations, such as measurement stations. Input and output can be handled via a combination of EUDAT B2STAGE and B2SAFE services and other network file management systems.

The ENES use case considers the tremendously large increase in the federated climate data archive volume by employing the EUDAT General Execution Framework Workflow API (GEF) in combination with EUDAT B2 services to interface with the EGI Federated Cloud. Post-processing results (e.g. data on carbon gas emissions) are sent back to be displayed and further processed at the IS-ENES climate4impact.eu platform. They can also be downloaded in different (more) common data formats as tailored products via a simple website interface. The input data - typically Coupled Model Intercomparison Project phase 5/6 (CMIP5/CMIP6) data - is not downloaded locally by climate impact researchers, enabling a more sustainable data workflow with hindsight to the tremendously large increase in the federated climate data archive volume we've seen recently. The demo demonstrates the details of the working prototype and explains the missings steps towards the full production service.

Agenda:
Short Welcome and Overview (Michaela Barth) 10' ([Presentation](#))
EGI OneData demo (Matthew Viljoen) 15' ([Presentation](#))
ICOS use case demo (Margareta Hellström) 30' ([Presentation](#))
ENES use case demo (Xavier Pivan) 30' ([Presentation](#))
Questions

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