Workshop: Design your e-Infrastructure

Report of Contributions

Contribution ID: **0** Type: **not specified**

PHIS Plant phenotyping platform

Thursday, 9 May 2019 10:45 (15 minutes)

Plant phenotyping refers to a quantitative description of the plant's anatomical, ontogenetical, physiological and biochemical properties. The PHIS information system network was brought into the EMPHASIS ESFRI from the PHENOME French project to ease data management and analysis within plant phenotyping communities. The system integrates various open source solutions, such as PostgreSQL, MongoDB, RDF4J databases, Apache HTTP, Apache Tomcat, iRODS. During the workshop we'd like to analyse and understand how the platform could be ported and hosted on EGI cloud resources as well as extended with a distributed file system and data archive.

Presenter: Dr NEGRE VINCENT, Vincent (INRA)

Session Classification: E-infrastructure use cases

Contribution ID: **1** Type: **not specified**

Access control for the ARIADNEplus services and data

Thursday, 9 May 2019 11:00 (15 minutes)

ARIADNEplus is a recently started H2020 project, an integrating activity for the archaeological and cultural heritage research community with a user base larger than 10,000. The project upgrades various systems from the community that offer visual services for graphics and 3D models, and a Natural Language Processing service for knowledge extraction from archaeological texts. Our interest in the workshop is understanding how EGI Authentication-Authorisation services could help us bring our tools into a coherent security framework that would enable find-grained access control of data by the owners towards users via a Web-based Virtual Research Environment.

Presenter: Dr FELICETTI, Achille (PIN S.c.R.L.)

Session Classification: E-infrastructure use cases

Contribution ID: **2** Type: **not specified**

ASTRON Science Data Centre

Thursday, 9 May 2019 11:15 (15 minutes)

ASTRON (Netherlands Institute for Radio Astronomy) is working on establishing a Science Data Centre in the coming years. The goal of the Science Data Centre is to provide astronomers easy access to astronomical data, compute infrastructure and storage. In order to achieve this goal, a web-based science analysis platform (SAP) is developed, which provides services such as finding data, staging data, processing data, analysing results, and publishing/sharing results, preferably all through a single sign-on mechanism, for example, with users' institution identity. Finding data can be realised by interfacing services provided by the Virtual Observatory (VO) with SAP. Processing data can be achieved in two ways, namely interactive and batch processing. Interactive data processing requires a flexible compute environment, it can be done through for example running Jupyter notebook/lab on a virtual machine. Batch data processing and staging data will require pre-allocated compute/storage/network resources offered by e-infrastructure providers. Authentication and authorisation of all these SAP services need to be handled consistently, for example, through a single sign-on mechanism implemented based on the AARC Blue Print Architecture. This use case would want to explore EGI services mentioned above, and bring EGI services and the Radio Astronomy community together.

Presenter: Mrs MEYER, Zheng (ASTRON)

Session Classification: E-infrastructure use cases

Contribution ID: **3** Type: **not specified**

Data management and computing services for the NenuFAR telescope

Thursday, 9 May 2019 11:30 (15 minutes)

The NenuFAR project is a new radio telescope located in Nançay (France). It is an SKA (Square Kilometer Array) precursor, and it will enter in commissioning phase soon. The instrument will produce 3 to 4 PB of data per year. We are now setting up a local data center for reducing and integrating the data prior to the delivery to the observer. We are seeking for solutions from EGI to setup a pipeline that can transfer and store the data (3 to 4 PB per year) in a online facility; Control access to the online data repository to selected observers; Provide VMs and computational time to observers with preconfigured software for post-processing; Store processing results in user space.

Presenters: Dr LOH, Alan (OBSPM); Dr SHIH, Albert (OBSPM)

Session Classification: E-infrastructure use cases

Contribution ID: **4** Type: **not specified**

LOBCDER system for SKA from the PROCESS project

Thursday, 9 May 2019 11:45 (15 minutes)

PROCESS, a H2020 project, aims to build an infrastructure for exascale applications. The core component is LOBCDER, a virtual distributed file system based on a micro-infrastructure approach which allows creating a containerized micro-infrastructure of data services required by a community use case.
PROCESS is working with SKA/LOFAR dataset to demonstrate its applicability. In this use case, they want to explore whether the infrastructure adopted by PROCESS is easy to integrate with EGI and other existing e-infrastructures.

Presenters: Dr CUSHING, Reggie (University of Amsterdam); Dr MADOUGOU, Souley (Nethlands e-Science Center)

Session Classification: E-infrastructure use cases

Contribution ID: **5** Type: **not specified**

Container computing for EISCAT_3D

Thursday, 9 May 2019 12:00 (15 minutes)

EISCAT_3D, an ESFRI research infrastructure, is building the world leading incoherent scatter radar for upper atmosphere observation. EISCAT_3D is testing various EGI services in order to manage the scientific data that go be generated by the radar in high speed and volume. In this use case, EISCAT 3D would want to integrate EGI Notebooks and EGI workload manager service (DIRAC) using Docker. This will enable researchers to process data in an interactive, Web-based environment. The result of the work would be scripts and files, to be used later on the large data sets in the non-interactive Dockers.

Presenter: Dr HAGGSTROM, Ingemar (EISCAT)

Session Classification: E-infrastructure use cases

Contribution ID: **6** Type: **not specified**

Data and computing for the Nuclear Physics facility of the Extreme Light Infrastructure

Thursday, 9 May 2019 12:15 (15 minutes)

The Nuclear Physics facility of the Extreme Light Infrastructure (ELI-NP) will create a new European laboratory with a broad range of science covering frontier fundamental physics, new nuclear physics and astrophysics as well as applications in nuclear materials, radioactive waste management, material science and life sciences. In full operational capability, the total amount of data envisaged at this moment to be collected over a year is 2.5-3PB. We are looking for solutions and partnerships in EGI to combine buffer, mid-term and long-term storage systems; HPC and HTC compute facilities; User access controls; Data transfer and Software distribution services.

Presenter: Dr CIUBANCAN, Mihai (INC-PFSIN)

Session Classification: E-infrastructure use cases