

HNSciCloud, a Hybrid Cloud for Science

Monday 9 July 2018 09:45 (15 minutes)

Helix Nebula Science Cloud (HNSciCloud) has developed a hybrid cloud platform that links together commercial cloud service providers and research organisations' in-house IT resources via the GEANT network.

The platform offers data management capabilities with transparent data access where applications can be deployed with no modifications on both sides of the hybrid cloud and compute services accessible via eduGAIN and ELIXIR federated identity and access management systems. In addition, it provides support services, account management facilities, full documentation and training.

The cloud services are being tested by a group of 10 research organisations from across Europe (<http://www.hnscicloud.eu/partner-type/buyers>) against the needs of use-cases (<http://www.hnscicloud.eu/hnscicloud-user-groups>) from 7 ESFRI research infrastructures:

- Euro-BioImaging: European Research Infrastructure for Imaging Technologies in Biological and Biomedical Sciences
- CTA: Cherenkov Telescope Array
- BBMRI: Biobanking and BioMolecular resources Research Infrastructure
- ELIXIR: A distributed infrastructure for life-science information
- ESRF Upgrades: Extremely Brilliant Source
- European-XFEL: European X-Ray Free-Electron Laser Facility
- HL-LHC: High-Luminosity Large Hadron Collider

The capacity procured by the 10 research organisations from the commercial cloud service providers to support these use-cases during 2018 exceeds 20,000 cores and 2 petabytes of storage with a network bandwidth of 40Gbps.

All the services are based on open source implementations that do not require licenses in order to be deployed on the in-house IT resources of research organisations connected to the hybrid platform.

An early adopter scheme has been put in place so that more research organisations can connect to the platform and procure additional capacity to support their research programmes.

This contribution will make an overview of the status of the project, go through the current findings and provide an outlook on the future beyond HNSciCloud.

Primary authors: JONES, Bob (CERN); FERNANDES, João (CERN); YAKUBOV, Sergey (DESY)

Co-authors: Mr GASTHUBER, Martin (DESY); CHIERICI, Andrea (INFN-CNAF)

Presenter: FERNANDES, João (CERN)

Session Classification: Plenary

Track Classification: Track 7 –Clouds, virtualization and containers