

IBERGRID towards EOSC

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IBERGRID was born out of the Iberian Common Plan for distributed infrastructures released in 2007, but the origins can be traced back to the Portuguese and Spanish participation in joint projects since 2002. Since then, IBERGRID has been federating infrastructures from Iberian research & academic organisations mainly focused on grid, cloud computing and data processing.

The IBERGRID infrastructure comprises 12 computing and data centers in Spain and Portugal. A number of replicated services guarantees integrity and resilience. The infrastructure has provided 984 million processing hours since 2006 to support the HEP experiments and several user communities. This includes 19 million hours on biomedical applications and ~6 million hours on computational chemistry. Strictly on cloud support, more than 216,000 Virtual Machines have been instantiated providing more than 2 million cloud processing hours to LifeWatch in the last year.

On the R&D side, service integration activities are taking place in numerous areas. An example is OPEN-CoastS, a service to provide on-demand circulation forecast systems as a service for the Atlantic coasts. The service is deployed at the computing site NCG-INGRID-PT, part of the EGI Federation, but it is being integrated into EOSC-hub as a Thematic Service in collaboration with LIP, LNEC, INCD, UNICAN, CNRS, and CSIC.

On the software development side, IBERGRID is contributing in many areas. CSIC has developed OpenStack support for VOMS authorization and authentication, cloud pre-emptible instances (OPIE) as well as CPU Cloud accounting. The Technical University of Valencia developed and maintains the Infrastructure Manager (IM), a key service to support the instantiation of tailored clusters now part of the EOSC-hub service catalogue. Support to user-level container execution has been developed and is maintained by the IBERGRID software teams at LIP. Udocker is an extremely successful software product –more than 310 stars in GitHub: which is being recommended in many computing centers around the world as the best solution for users to execute containers, without requiring the intervention of system administrators.

Software Quality Assurance has generated an enormous amount of activity in the Iberian area. LIP, CSIC, CESA and UPVLC are in charge of ensuring the quality of the UMD software deployed by EGI. The Accounting Portal of EGI is maintained & developed by CESA for the EGI community.

Organized since 2007, the IBERGRID conference series is a main opportunity to gather the community and share experiences from the user, infrastructure, policy and research perspectives.

IBERGRID looks into the future EOSC with optimism. From the user support side the main assets are a very consolidated user-base, and well-reputed user engineering and support teams. From the technical point of view, IBERGRID counts on worldwide-recognised teams, with expertise and technical background to address the specific requirements from scientific communities in the EOSC era.

IBERGRID is a key Operations Centre of the EGI Federation. The resources made available by IBERGRID sites have been instrumental in supporting the four largest scientific collaborations based at the Large Hadron Collider (ALICE, ATLAS, CMS, LHCb).

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