

A science gateway example in the EGI long-tail of science platform: The Catania Science Gateway

Wednesday, 11 November 2015 16:20 (20 minutes)

This EGI Pilot for the Long Tail of Science [1] aims to design and prototype a new e-Infrastructure platform in EGI to simplify access to Grid and Cloud Computing services for the Long-Tail of Science (LToS), ie. those researchers and small research teams who work with large data, but have limited or no expertise in distributed systems. The project will establish a set of services integrated together and suited for the most frequent Grid and Cloud computing use cases of individual researchers and small groups.

The INFN is involved in the LToS Pilot since its beginning and its responsibility is twofold: (i) to improve the Catania Science Gateway Framework (CSGF) [2], in order to fulfill the requirements of the Pilot, and (ii) deploy a Science Gateway for LToS users.

In the last 6 months new features of the CSGF have indeed been implemented to better support diverse multi/inter-disciplinary Virtual Research Communities (VRCs) and allow scientists across the world to do better (and faster) research with an acceptable level of tracking of user activities and zero-barrier access to European ICT-based infrastructures. The most relevant improvements of the CSGF are: (i) the support for Per-User Sub-Proxies (PUSPs) [3] and (ii) the integration with the new EGI User Management Portal (UMP) for LToS researchers [4] developed by CYFRONET and based on Unity [5].

With the support for PUSPs, which add user-specific information to the CN proxy field, now it is possible to uniquely identify users that access ICT-based infrastructures using proxies issued by a common robot certificate. PUSPs are usually generated by the eTokenServer, a standard-based solution developed by INFN for central management of robot certificates and provisioning of proxies to get seamless and secure access to computing e-Infrastructures, based on local, Grid and Cloud middleware supporting the X.509 standard for authorization.

The Authorisation and Authentication Infrastructure of the Catania Science Gateway Framework has been extended to support the OpenID-Connect protocol which is used by the EGI UMP to authenticate users. The approach followed by EGI with its UMP is to centralise the authorisation to access resources so only people holding an e-grant and with the right to perform computation and data access are authenticated and authorised.

In this contribution we will present the new features of the CSGF, developed to support the LToS Pilot, and we will show some of the use cases already integrated in the Science Gateway dedicated to the project [5] which are seamlessly executed both on the EGI Grid and on the EGI Federated Cloud. Time permitting, a short demonstration will also be given.

Links, references, publications, etc.

- [1] https://wiki.egi.eu/wiki/Long-tail_of_science_pilot
- [2] <http://www.catania-science-gateways.it/>
- [3] https://wiki.egi.eu/wiki/Fedcloud-tf:WorkGroups:Federated_AAI:per-user_sub-proxy
- [4] <https://access.egi.eu>
- [5] <http://www.unity-idm.eu/site/about>
- [6] <http://csgf.egi.eu>

Primary authors: SCARDACI, Diego (INFN Catania and EGI.eu); LA ROCCA, Giuseppe (INFN Catania); TORRISI, Mario (University of Catania); BARBERA, Roberto (University of Catania and INFN)

Presenter: LA ROCCA, Giuseppe (INFN Catania)

Session Classification: Long tail of science: tools and services