

The agINFRA Science Gateway for the Agricultural Sciences' Virtual Research Community

Tuesday, 9 April 2013 15:00 (20 minutes)

Impact

The Catania Science Gateway Framework offers a unique standard-based and very flexible environment able to deal with distributed computing infrastructures adopting different paradigms (local clusters, Grids, clouds). The presentation will include the demonstration of the integration of cloud.services in the agINFRA Science Gateway using the CLEVER cloud middleware. (<http://aginfra-sg.ct.infn.it/>), together with the adoption of the CLEVER cloud middleware (<http://clever.unime.it>). Several applications already integrated in the Science Gateway will also be shown. Among them, the WebGIS-enabled Italian Soil Information System (ISIS), developed by the Agrobiology and Pedology Research Centre of the Italian Agricultural Research Council.

Summary

In this contribution we will present the Science Gateway implemented for the agINFRA project using the Catania Science Gateway Framework. Some of the grid and cloud-based applications already integrated in the portal will also be described.

URL

<http://aginfra-sg.ct.infn.it>

Description

The agINFRA project (www.aginfra.eu) aims to design and develop a data infrastructure for agricultural sciences building up policies and new dedicated services, promoting the share of data among agricultural scientists and developing trust within and among their communities. The agINFRA project thus aims to demonstrate how a data infrastructure for the agro-science virtual research community can facilitate data generation, provenance, quality assessment, certification, curation, annotation, navigation and management. The agricultural domain includes a wide variety of increasingly complex, multi-disciplinary topics. Subjects vary from plant science and horticulture to agricultural engineering and agricultural economics to the environment generally and include an ever-growing array of inter-related research issues such as the linkages between climate change on the one hand and food security, or the loss of agro-biodiversity, or pressure on individual species on the other.

Scientists from all over the world are extensively researching those different subjects and thereby consuming, as well as producing, large and heterogeneous datasets. A huge amount of services providing those agriculture data will be integrated and their access ensured by a registry integrating many of those already existing systems. This is an important challenge that agINFRA started to design since its earliest stages (agINFRA started on the 15th of October 2011 and will last three years). The registry will be efficiently and securely accessed through a dedicated standard-based Science Gateway which provides a single web-based entry point for both end users and system/data maintainers.

This contribution aims to demonstrate how the Catania Science Gateway Framework (www.catania-science-gateways.it) developed at INFN Catania has been adopted and how its features can have an important role for the sustainability of the project.

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