Contribution ID: **146** Type: **not specified**

The VRC-driven GISELA Science Gateway

Thursday, 29 March 2012 11:00 (20 minutes)

Description of the Work

The VRC-driven GISELA Science Gateway is a Web site which allows users to fully exploit the e-Infrastructure computing (jobs) and storage (data) services through a normal web browser. Users can obtain access to the Science Gateway using a pair username/password (provided by an Identity Provider) and submit applications simply filling a web form. The e-Infrastructure authentication mechanism based on digital certificates has been hidden to the end users through a shibboleth based authentication mechanism and the use of robot certificates. It is still keeping the needed security level (compliant with EGI VO Portal Policy and Grid Security and Traceability and Logging Policy). This mechanism allows users to login on the SG using their Identity Federation username and password. In this way all people with a valid account in a supported Identity Federation could exploit SG services and functionalities. Another important SG feature is the Grid middleware independence. Applications are automatically submitted by the Science Gateway to the e-Infrastructure by using a library based on the Simple API for Grid Applications (SAGA) OGF standard . The purpose of the SAGA standard is two-fold: (1) Provide a standardized, common interface across various grid middlewares; (2) Provide a simple API that can be used with much less effort compared to the interfaces of existing grid middlewares. Then, thanks to the SAGA software, we could integrate in the GISELA e-infrastructure resources using different grid middlewares, like Globus, Unicore, ARC etc., in addition to gLite. We adopted JSAGA (http://grid.in2p3.fr/jsaga/) as SAGA implementation since it supports several grid middlewares (http://grid.in2p3.fr/jsaga/adaptors.html) and its extension is quite simple. Currently, JSAGA does not support the OurGrid middleware; however we are working to create an adaptor to add OurGrid on the set of supported middlewares.

Conclusions

The GISELA Science Gateway is an innovative tool that, using standard technologies as Shibboleth and SAGA, simplify the grid access still keeping the needed security level (compliant with EGI VO Portal Policy and Grid Security and Traceability and Logging Policy). The GISELA SG could be the key tool to open the grid in the LA world to a number of users enough big to create a spontaneous "sustainability demand".

Impact

The GISELA Science Gateway is considered the key tools to reach the sustainability of the e-Infrastructure in Latin America. Indeed it has the potentiality to attract a big number of Latin American scientific communities in the grid world. The number of Identity Federations users is very big (several millions), then, thanks to the authentication procedure we implemented, we could give access to the Science Gateway capabilities to a huge number of potential users. Actually users coming from the Identity Federation of Portugal (RCTSaai - https://refeds.terena.org/index.php/FederationRCTSaai), Spain (SIR - https://refeds.terena.org/index.php/FederationSIR), Brazil (CAFe - https://refeds.terena.org/index.php/FederationCAFe) and Italian (IDEM - https://refeds.terena.org/index.php/FederationIDE

could access to the GISELA SG using their username/password provided by an Identity Provider after filling a registration form. Moreover, in collaboration with CLARA and NRENs, we are promoting and encouraging the creation of Identity Federations in other Latin American countries and their eventual participation in eduGAIN. After this simple authentication mechanism users could submit selected high-impact applications in a very easy way, filling a simple web form. Then, the distance, in term of competences, between the discover of the Grid services and the ability to submit jobs will be substantiality reduced allowing to open the grid world to a new large set of users.
We decide to organize the GISELA SG as VRC-driven tools. We created a specialized section for each VRC supported by the project (Life Sciences, Earth Sciences, Industry, etc.) containing specific information on the VRCs applications such as application characteristics, case studies and success stories. These Website areas will be offered as specialised Science Gateways for the Life Science and Industry users assuming the role of access point to submit applications on the e-Infrastructure.

URL

https://gisela-gw.ct.infn.it

Overview (For the conference guide)

GISELA (Grid Initiatives for e-Science virtual communities in Europe and Latin America), is a project co-funded by the European Union under its Seventh Framework Programme. GISELA aims at: (1) Implementing the Latin American Grid Initiative (LGI) sustainability model rooted on National Grid Initiatives (NGI) or Equivalent Domestic Grid Structures (EDGS), in association with CLARA, the Latin American NRENs and collaborating with the European Grid Initiative (EGI); (2) Providing Virtual Research Communities (VRCs) with the e-Infrastructure and Application-related Services required to improve the effectiveness of their research. In order to extend its user base and make grid access and use easy for non IT-experts, GISELA has developed a VRC-driven Science Gateway. A Science Gateway is a community-developed set of tools, applications, and data collections that are integrated via a portal or a suite of applications.

Primary authors: Dr SCARDACI, Diego (INFN); Prof. BARBERA, Roberto (University of Catania and INFN)

Presenter: Dr SCARDACI, Diego (INFN)

Session Classification: Portals & Gateways