



A Broker-based approach for GEOSS authentication/authorization services

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The Group on Earth Observation (GEO) is a voluntary partnership of governments and international organizations coordinating efforts to build a Global Earth Observation System of Systems (GEOSS). GEOSS aims to achieve societal benefits through voluntary contribution and sharing of resources to better understand the relationships between the society and the environment where we live. The GEOSS Common Infrastructure (GCI) implements a digital infrastructure (e-infrastructure) that coordinates access to these systems, interconnecting and harmonizing their data, applications, models, and products.

The GCI component implementing the needed interoperability arrangements to interconnect the data systems contributing to GEOSS is the GEO DAB (Discovery and Access Broker). This provides a unique entry point to which client applications (i.e. the portals and apps) can connect for exploiting (search, discover, and access) resources available through GCI. The GEO DAB implements the brokering approach (Nativi et al., 2013) to build a flexible and scalable System of Systems.

GEOSS data providers ask for information about who accessed their resources and, in some cases, want to limit the data download. GEOSS users ask for a profiled interaction with the system based on their needs and expertise level. This raised the need for an enrichment of GEO DAB functionalities, i.e. user authentication/authorization. Besides, authentication and authorization is necessary for GEOSS to provide moderated social services – e.g. feedback messages, data “fit for use” comments, etc.

In the development of this new functionality, the need to support existing and well-used users’ credentials (e.g. Google, Twitter, etc.) stems from GEOSS principles to build on existing systems and lower entry-barriers for users. To cope with these requirements and face the heterogeneity of technologies used by the different data systems and client applications, a broker-based approach for the authentication/authorization was introduced as a new functionality of GEO DAB. This new capability was demonstrated at the last GEO XI Plenary (November 2014).

This work will be presented and discussed.

References

Nativi, S.; Craglia, M.; Pearlman, J., "Earth Science Infrastructures Interoperability: The Brokering Approach," Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Journal of , vol.6, no.3, pp.1118,1129, June 2013