



## Enabling interoperability in Geoscience with GI-suite

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GI-suite is a brokering framework targeting interoperability of heterogeneous systems in the Geoscience domain. The framework is composed by different brokers each one focusing on a specific functionality: discovery, access and semantics (i.e. GI-cat, GI-axe, GI-sem).

The brokering takes place between a set of heterogeneous publishing services and a set of heterogeneous consumer applications: the brokering target is represented by resources (e.g. coverages, features, or metadata information) required to seamlessly flow from the providers to the consumers.

Different international and community standards are now supported by GI-suite, making possible the successful deployment of GI-suite in many international projects and initiatives (such as GEOSS, NSF BCube and several EU funded projects).

As for the publisher side more than 40 standards and implementations are supported (e.g. Dublin Core, OAI-PMH, OGC W\*S, Geonetwork, THREDDS Data Server, Hyrax Server, etc.). The support for each individual standard is provided by means of specific GI-suite components, called accessors.

As for the consumer applications side more than 15 standards and implementations are supported (e.g. ESRI ArcGIS, Openlayers, OGC W\*S, OAI-PMH clients, etc.). The support for each individual standard is provided by means of specific profiler components.

The GI-suite can be used in different scenarios by different actors:

- A data provider having a pre-existent data repository can deploy and configure GI-suite to broker it and making thus available its data resources through different protocols to many different users (e.g. for data discovery and/or data access)
- A data consumer can use GI-suite to discover and/or access resources from a variety of publishing services that are already publishing data according to well-known standards.
- A community can deploy and configure GI-suite to build a community (or project-specific) broker: GI-suite can broker a set of community related repositories and make their content available (for discovery and/or access) through specific service interfaces.

The GI-conf web tool can be used to easily configure GI-suite. By enabling specific accessors and profilers, as well as many other settings, GI-suite can be tailored to the desired use scenario.

Moreover, thanks to its flexible architecture, GI-suite can be easily extended to support a new standard or implementation: a Java Development Kit is available to help development of new extensions (e.g. a new accessor component).