GI-conf: A configuration tool for the GI-cat distributed catalog

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In this work we present a configuration tool for the GI-cat. In an Service-Oriented Architecture (SOA) framework, GI-cat implements a distributed catalog service providing advanced capabilities, such as: caching, brokering and mediation functionalities. GI-cat applies a distributed approach, being able to distribute queries to the remote service providers of interest in an asynchronous style, and notifies the status of the queries to the caller implementing an incremental feedback mechanism. Today, GI-cat functionalities are made available through two standard catalog interfaces: the OGC CSW ISO and CSW Core Application Profiles. However, two other interfaces are under testing: the CIM and the EO Extension Packages of the CSW ebRIM Application Profile. GI-cat is able to interface a multiplicity of discovery and access services serving heterogeneous Earth and Space Sciences resources. They include international standards like the OGC Web Services –i.e. OGC CSW, WCS, WFS and WMS, as well as interoperability arrangements (i.e. community standards) such as: UNIDATA THREDDS/OPeNDAP, SeaDataNet CDI (Common Data Index), GBIF (Global Biodiversity Information Facility) services, and SibESS-C infrastructure services.

GI-conf implements user-friendly configuration tool for GI-cat. This is a GUI application that employs a visual and very simple approach to configure both the GI-cat publishing and distribution capabilities, in a dynamic way. The tool allows to set one or more GI-cat configurations. Each configuration consists of: a) the catalog standards interfaces published by GI-cat; b) the resources (i.e. services/servers) to be accessed and mediated –i.e. federated. Simple icons are used for interfaces and resources, implementing a user-friendly visual approach. The main GI-conf functionalities are:
• Interfaces and federated resources management: user can set which interfaces must be published; besides, she/he can add a new resource, update or remove an already federated resource.
• Multiple configuration management: multiple GI-cat configurations can be defined; every configuration identifies a set of published interfaces and a set of federated resources. Configurations can be edited, added, removed, exported, and even imported.
• HTML report creation: an HTML report can be created, showing the current active GI-cat configuration, including the resources that are being federated and the published interface endpoints.

The configuration tool is shipped with GI-cat and can be used to configure the service after its installation is completed.