

The Grid Observatory 3.0 - Towards reproducible research and open collaborations using semantic technologies

Description of content and intended audience - the outcome you expect to achieve.

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Relevant URL (if any)

<http://grid-observatory.org>

Printable summary: this is the only section of the abstract that will be published in the Book of Abstracts.

The Grid Observatory 3.0 evolves the Grid Observatory (G.O.) and Green Computing Observatory (G.C.O.) along the Open Linked Data and reproducible research concepts.

The first objective is to make analysis easier and more productive, by addressing the technical heterogeneity of the data (EGI services logs), and the wide range of potential usage. Semantic web technologies address these by (i) creating an OWL ontology of the EGI software architecture, (ii) converting the traces from selected services of the grid into an ontology compatible RDF format and (iii) organizing them in SPARQL-enabled triple stores. These technologies expedite and make transparent the personalized integration of multiple, independent sources, required for analysing the behaviour of the EGI grid, as well as long-term sustainability of the GO and GCO repositories. Moreover, the scientist's activity can be exploited to refine the ontology in a collective knowledge building process

The second objective is to encourage reproducible science by providing ways to repeat in silico experiments based on the GO data and stored queries over data and processing algorithms. A catalogue of customizable queries will be provided to show examples of queries and processing over the published data. Cloud-based hosting and processing capabilities will be offered to scientists to store and share their processes and algorithms through a collaborative platform in order to encourage open collaborations.

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