Contribution ID: **2** Type: **Demonstration**

Data Accessibility Reproducibility and Trustworthiness

Description of content and intended audience</br>- the outcome you expect to achieve.

The present demo aims to demonstrate the achievability of the following vision:

- A scientist can search on a wide plethora of resources for a specific term, subject, author or publisher (those already integrated in the CHAIN-REDS Knowledge Base by using the project Semantic Search Engine).
- He/she can discover new knowledge by linking the retrieved results via a semantic enrichment.
- He/she can retrieve the article and associated raw data of interest and either replicate the previous experiment or perform a new study with those data.
- He/she can seamlessly run applications on HPC machines, Grids and Clouds compatible with those retrieved data;
- The cloud-tenant of a real or virtual organisation can seamlessly and easily manage Cloud resources pledged by providers owning/operating infrastructures based on different middleware stacks.
- The new produced data (and publication) can be stored again using the same standards and being assigned to a specific PID so the cycle can be initiated again.

The previous items above will be addressed by using the CHAIN-REDS tools already integrated in the project website and by accessing current repositories already hosted by initiatives such as Zenodo or DataCite..

The standards on which this demo is based on are OAI-PMH, Dublin Core, SPARQL and on the use of PID.

Relevant URL (if any)

http://science-gateway.chain-project.eu
http://www.chain-project.eu/knowledge-base
http://www.chain-project.eu/linked-data
http://www.chain-project.eu

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

This demonstration is presented on behalf of the CHAIN-REDS project (www.chain-project.eu) and aims at demonstrating Data Accessibility Reproducibility and Trustworthiness. By using metadata standards already implemented in the project Knowledge Base (http://www.chain-project.eu/knowledge-base) and the Semantic Search Engine (http://www.chain-project.eu/linked-data), any user can find repositories including a term and lately retrieve the raw data for performing a new calculation. The latter, is executed on distributed computing infrastructures, including Grid, local clusters and Clouds, using OCCI and SAGA as standard interfaces and the CHAIN-REDS Science Gateway (http://science-gateway.chain-project.eu) as virtual research environment. Last, the obtained results (raw data and publication) are able to be stored again in a way that they are searchable again.

In this sense, this demo is a step forward in the previous interoperability demo already performed by CHAIN-REDS at the EGI Technical Forum in Madrid during September 2013. The integration of data capabilities into the current CHAIN-REDS tools is a key goal for the project.

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