The sum of knowledge -- online and accessible, no less

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(PhysOrg.com) -- European researchers are creating new technology that could, ultimately, make accessible the sum of humankind's knowledge. Hundreds of organisations and millions of documents are already linked to this "United Nations of knowledge".

The EU-funded DRIVER project's key result is a technological breakthrough that enables institutions to link repositories of knowledge together into one huge, networked online 'library of libraries'.

The researchers have created software, called D-NET, that can link information collected on diverse computer platforms, using legacy software which can still 'talk' or work with older systems in more than 25 European languages!

The technological breakthrough achieved in DRIVER was key, according to the project's coordinator, Professor Yannis Ioannidis, but another fundamental aim was to oversee the integration of various repositories scattered across the continent.

One million documents, and counting

So far, over 240 institutions from 27 European countries speaking 25 languages have been linked together, creating the DRIVER Search Portal, the door to European Open Access research. It regularly harvests journal articles, books, dissertations, lectures and reports. The portal is

located at: search.driver.research-infrastructures.eu.

Today, there are about 1 million documents available to search. This number looks set to grow, as more and more institutions realise how simple and fast it is to register their online repositories as well, suggests Ioannidis.

The search portal also acts as a powerful demonstration of the D-NET software, an open source application created so that anyone can access and work with it.

United Nations of knowledge?

DRIVER's work could transform the way we manage or organise precious data not just across systems but also borders - something like a United Nations (UN) for keeping knowledge safe.

Unusual as this sounds, the foundations have already been laid for this potential scenario. It began with an inventory of Europe's repositories, tracing those who make up Europe's 'Open Access' community. A technology watch - to track the latest developments in information science and repository management - was created and has been very active in setting standards in this field.

One important output of DRIVER's towards this was the Guidelines for Repository Managers, a key document that establishes the rules for creating interoperability between different systems.

The DRIVER search portal, for instance, is something of a working demonstration of this vision, and the Guidelines are the major engine for realising that vision. Then, over time, repositories across the world could develop and adapt their content format to be compatible with the DRIVER platform and guidelines.

It's a bit of a dream scenario, but DRIVER is taking it seriously, creating an online tool that can validate repositories according to the standards set by the project. A further effort in this direction is the DRIVER confederation, a network of content providers and digital repository/library stakeholders, which, among others, aims to advance DRIVER from a testbed project to a fully functional international organisation.

Does a UN body for the sum of civilisation's knowledge still sound so far-fetched?

Interest in the work

The project's work has received intense interest internationally, with repositories from China, India, South America and elsewhere making contact with the DRIVER partners and developing plans for their own deployment. The Chinese Academy of Science is currently evaluating D-NET for its national repository.

The Academy is just one of many interested parties. So far, there have been more than 800 downloads of the D-NET open source code.

In the medium to long term, too, there is scope for commercialisation of the D-NET platform. "D-NET is a powerful system [like a content management system], so there is commercial potential for [it]," reveals Ioannidis. But the current priorities for DRIVER are to get the system up and running, and get more institutions using the platform.

"Our next task is to extend the system, so that it goes beyond text documents and can handle any type of media. But certainly it is available to commercial enterprises, and anybody else, under the open source licence."

The DRIVER technology, which is rapidly becoming a standard in Europe and across the world, nonetheless offers enormous potential to private content providers, allowing them to easily link repositories together, or to link their data with other organisations.

In all, DRIVER represents a concerted and ongoing effort to bind together the wealth of knowledge and research in Europe, and indeed the world.

The DRIVER project received funding from the Research Infrastructure priority of the EU's Sixth Framework Programme for research.

This is the second of a two-part special feature on DRIVER.

Part 1. Taming the vast -- and growing -- digital data-sphere -- www.physorg.com/news172821794.html

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