
The role of the CIARD RING in the Building of the CIARD Framework for Data and Information Sharing: now and in the future

Valeria Pesce
OEKD, FAO

The RING now.

The RING (Routemap to Information Nodes and Gateways: <http://ring.ciard.net>) is a categorized registry of information sources/services in agriculture.

The services registered in the RING are described in details and categorized according to both content criteria (subject area, quantity and type of resources...) and technical criteria that are relevant to the use of the service and its interoperability (such as metadata standards adopted, subject vocabularies used, technologies used, protocols implemented etc.).

The RING was created with the objective of making information sources more easily “discoverable” and to facilitate the re-use and re-packaging of their information by other services that need to make it accessible in different ways (different browsing and search options, different formats, different channels for different users).

The current functions of the RING are:

- to provide a map of accessible information sources with details on standards and technologies adopted and instructions on how they can be searched and re-used effectively;
- to provide examples of services that show good practices on implementing “interoperability”;
- to provide references to relevant information management standards and tools and to infrastructural services (web services, endpoints) that facilitate their usage;
- to provide instructions for building enhanced integrated services that repackage information in different ways.

Who uses the RING?

The RING is designed mainly for agricultural information managers and IT professionals. The main objective is to help them provide better information services.

However, the RING was created with the needs of the end-users of agricultural information in mind.

Consumers of agricultural information will benefit from the RING infrastructure to the extent that the RING will be exploited by information service managers in order to: a) create better interoperable sources and b) leverage existing interoperable sources to provide better integrated information systems for their users.

Current role of the RING in the CIARD framework for information sharing

The potential impact of the RING in improving information sharing is not so much in the collected data itself as in what can be built out of it. Providing structured information on the metadata sets, formats, protocols and vocabularies used in each registered source will help information service managers find what they need for the building of applications like:

- services that offer a common browsing or searching interface to different sources;
- aggregating and harvesting services;
- integrated services providing relations between entities (organizations, projects, experts, documents) through semantic-web technologies;
- services that re-package information and make it available through different channels (text messaging, radio etc.);
- services that interface the different knowledge organization systems (KOS) used by different sources;
- applications providing value-added services like digests, bibliographies, best practices, surveys etc.

The way forward: the infrastructural role of the RING in the future

The RING exposes all its data as RDF¹ and makes it remotely queryable through a SPARQL endpoint². This makes all the information collected in the RING readable and processable by machines, thus potentially allowing advanced services like harvesters or aggregators to automatically link to new sources that have the required thematic coverage and use the required standards, protocols, vocabularies etc.

Once the descriptions collected about services are detailed and structured enough, and once the number of registered services is sufficiently large, the RING can become a digital infrastructure that services can query directly (machine-to-machine) in order to include new sources and/or look up namespace definitions or standard vocabulary endpoints.

¹ "Resource Description Framework" (see http://en.wikipedia.org/wiki/Resource_Description_Framework).

Basically, all the data in the RING are structured into triples that are serialized as XML, using widely known RDF vocabularies.

² SPARQL is a query language for RDF (see <http://it.wikipedia.org/wiki/SPARQL>)

Examples of such services can be:

- A global harvester of all registered providers of Open Archives
- A viewer/navigator for registered RDF stores
- Thematic aggregators that harvest from registered RSS (for example AgriFeeds could use the RING as a directory of RSS feeds)

Examples of such services could be built directly within the RING itself. However, the main objective of the RING is not that of providing direct access to information coming from the registered sources / services, but that of providing valuable information and examples to the managers of information systems so that they can provide better access to information. But sample services (like sample consumers of web services or sample programming code on how to implement services) with ample documentation can help information managers and web developers to build similar services.

This is why the advanced services that may be built in the RING are mainly for demonstrative purposes, while the RING wants to support the development of actual services by the various actors that have a mandate to serve specific stakeholder groups / communities and improve their access to information and knowledge.

Contact:
Valeria Pesce
OEKD, FAO
Email: Valeria.Pesce@fao.org