

The Key Role of Registries and Registry Standards in the Transition to a Federated Network of Repositories

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Nowadays most institutional repositories are configured as standalone enterprise applications; that is, in one-repository-per-organization mode. This works well for many organizations; however, what if they wanted to 'federate' several repositories into a unified 'virtual' repository that could offer information about repository collections to users at a national, or even global, level? What would be the solution here?

The answers to such questions are now beginning to emerge and in this presentation we discuss new solutions to establish federated networks of institutional repositories and the key role that registries and registry standards are playing in this space. More specifically, we demonstrate the ORCA-Registry, which illustrates the practical application of registry standards in the context of an emerging network of federated repositories in Australia.

By way of background, we discuss how and why the Australian Partnership for Sustainable Repositories (APSR) developed the ORCA-Registry. We explain how APSR did this by providing search engine for collection-level metadata that is automatically harvested from institutional repositories and data storage facilities located throughout Australia. In addition to providing national collection-level discovery services, we also demonstrate how the ORCA-Registry provides Web-service interfaces for application developers, thus providing the possibility for a range of innovative Web 2.0 'mashups' based on registry information.

Additionally, we highlight a world-first: the fact that the ORCA-Registry is the first implementation of the ISO2146 (Registry Services for Libraries and Related Organizations) standard. This standard provides an information model that identifies the objects and data elements needed for the collaborative construction of registries of all types. We demonstrate how this standard was implemented, particularly how it was used as the basis for developing a registry metadata interchange format for harvesting and exchanging collection-level metadata to and from ORCA-Registry instances. Similarly, we discuss how this format incorporates the Dublin Core Collections Application Profile (DCCAP).

Even though the ORCA-Registry is highly automated, standards-based, Web-application, it still requires policy and operational agreements between repository owners if it is to operate effectively. To illustrate this point, we discuss how the ORCA-Registry will operate as part of the Australian National Data Service, which is a major Australian Government funded initiative under the National Collaborative Research Infrastructure Strategy (NCRIS). Under NCRIS, the ORCA-Registry will serve as a central discovery service for research data collections and the services associated with them in Australia.

While the ORCA-Registry covers Australian data collections, what about the rest of the world? In defining the ORCA-Registry project, APSR gave thought to its interoperability with similar registries elsewhere, such the *Information Environment Service Registry* funded by the Joint Systems Information Committee and the *Ockham Digital Library Service Registry* funded by the National Science Foundation. Links with these projects were established in 2006 and discussions are underway in 2008 to possibly link these national registries, and others, into a global network of registries. Finally, we report the outcomes these discussions and the consequences of such a network for the repository community worldwide.