

Registry Interchange Format—Collections and Services (RIF-CS)

This guide explains what RIF-CS is, what the ISO 2146 standard is and how organisations can create RIF-CS documents and make them available to ANDS for automatic harvesting.

What is RIF-CS?

The RIF-CS schema is a data interchange format that supports the electronic exchange of collection and service descriptions. It organises information about collections and services into the format required by the *ANDS Collections Registry*, so that this information can be harvested automatically.

RIF-CS is based on the ISO 2146:2010 *Registry Services for Libraries and Related Organisations* standard. RIF-CS only includes those elements of ISO 2146 which are necessary for a collections registry, and is not a full binding to the standard. This means that some of the concepts and elements found in ISO 2146 are not found in RIF-CS.

RIF-CS is an XML schema. XML (eXtensible Markup Language) is a mark up language used to electronically encode and exchange information. XML comprises *markup tags* and *content*. An XML schema (like RIF-CS) describes the required structure, order and content of an XML document which is to be used for a particular purpose.

What is the ISO 2146:2010 *Registry Services for Libraries and Related Organisations* standard?

ISO 2146 is a framework for building registry services for libraries and related organisations to use to manage and deliver information. It is an object-oriented, relational model that identifies the objects and data elements needed for the collaborative construction of registries of all types. ISO 2146 is a very abstract model, which allows its application across varied communities of practice.

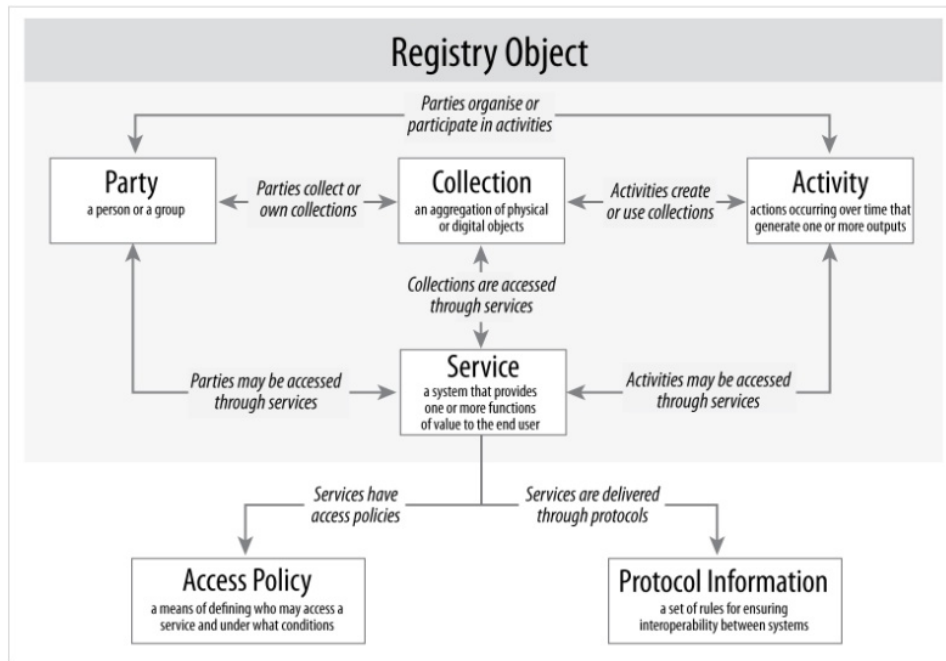
ISO 2146 is an ISO (International Organization for Standardization) standard. It has been developed by the *Technical Interoperability Working Group* of the *Information and Documentation Subcommittee* (ISO TC46/SC4 WG7). This committee is responsible for standards for protocols, schemas, models and metadata used by information organisations and content providers, such as libraries, archives and museums.

What does the ISO 2146 standard describe?

There are four different kinds of ISO 2146 registry objects. These are:

- Collection: an aggregation of physical or digital objects.
- Party: a person or group.
- Activity: something occurring over time that generates one or more outputs.
- Service: a physical or electronic interface (for example, an RSS feed) that provides its users with benefits such as work done by a party or access to a collection or activity.

These objects can be related to one another, as the following diagram shows:



Each object can be related to any number of other objects (zero, one or many). For example, a collection record may be related to several party records that describe researchers and/or institutions.

The RIF-CS format is designed to record information about these ISO 2146 registry objects.

What is the structure of RIF-CS?

Each RIF-CS document can describe one or many registry objects.

Each object can be a collection OR an activity OR a party OR a service.

Each object is described by one or more *elements*. These elements include:

- identifier: a number or code that identifies the object
- location: the location of the object
- coverage: the temporal and geospatial coverage related to the object
- related object: the key of another registry object related to this object
- subject: a term or phrase representing a area of focus of the object
- description: a text description of a collection.

The elements which describe objects are repeatable—there can be any number of each element present (zero, one or many) for each object. For example, a collection object may have two identifiers: a persistent identifier (such as a Digital Object Identifier, or DOI) and a local repository identifier. These can both be recorded against the same object in the RIF-CS document.

Each RIF-CS element has attributes which refine that element's broader meaning. Usually these attributes are 'types', for example 'identifier type' or 'description type'.

Most RIF-CS attributes have a suggested vocabulary. This means that ANDS suggests that you choose from a standard list of descriptive terms when describing elements. For example, the RIF-CS suggested vocabulary for 'description type' is:

- brief: short account for selection purposes
- full: full account



- logo: symbol used as an identifying mark
- note: a brief informational message
- deliverymethod (services only): information about how the service is delivered
- significanceStatement (collections only): the significance of a collection in its domain or context

However, RIF-CS also allows user-defined vocabularies, so that if you have useful local terms already stored in existing systems, these can be used.

How do I create a RIF-CS document?

The first step in creating a RIF-CS document is to map the collection description information (which you already have within a local data repository or an associated metadata store) to the RIF-CS structure. The mapping will show whether you need to collect and store additional information about your collections, services, activities and parties in order to create a useful RIF-CS document. Mapping will usually involve local data repository technical experts. An ANDS analyst can help with the mapping task.

Once mapping and information collection are in place, a computer programmer will need to write code to extract the description data from local storage and generate a RIF-CS document. ANDS provides documentation and tools to make this work easier.

What happens next?

Your IT staff will need to put your RIF-CS document somewhere accessible on the internet—this location is called your ‘harvest point’. ANDS can then harvest your RIF-CS document for ingest into the *ANDS Collections Registry*. You will need to assign someone in your organisation as the *Data Source Administrator* for your ANDS harvest. This person will have special access to the *ANDS Collections Registry* in order to be able to update administrative details about your harvest, such as the location of the harvest point and the harvest frequency.

ANDS prefers to use the OAI-PMH harvest protocol for harvesting RIF-CS documents. A protocol is a set of rules defining communication between systems. OAI-PMH enables automated, regular harvesting and is included in major repository software products. If you do not already have OAI-PMH capability as part of a repository solution there are free OAI-PMH tools and development libraries available online.

How does RIF-CS evolve?

RIF-CS is a living schema. It will become richer and more useful as the user community grows and provides input into both RIF-CS and ISO 2146.

However, changes to the structure of RIF-CS impose a burden on data providers, because programming changes need to be made to accommodate those changes. Consequently, ANDS plans to limit changes to RIF-CS to a single annual update. All suggested changes will be considered by a stakeholder group, the RIF-CS Advisory Board. Changes that are to be implemented will be announced through the ANDS website. It is important to note that additions to the suggested vocabulary are not structural changes and can be undertaken at any time.

Where can I get more information?

General information

ANDS Guides and other Resources: www.ands.org.au/guides

The Content Providers Guide, a non-technical guide for users of RIF-CS, is available from: <http://ands.org.au/guides/content-providers-guide.html>

RIF-CS Advisory Board: <http://ands.org.au/partner/rifcs-advisory-board.html>



Technical resources

XML is described at: <http://www.w3.org/TR/REC-xml/>

The RIF-CS Schema and Schema Guidelines are available from: <http://ands.org.au/resource/rif-cs.html>

The suggested vocabularies for RIF-CS are available from:
<http://services.ands.org.au/documentation/rifcs/schema/vocabularies.html>

Documentation and tools to assist with the generation of RIF-CS are available from:
<http://ands.org.au/resource/techdocs.html>

Information on the OAI-PMH harvest protocol is available from: <http://www.openarchives.org/pmh/>

Information on implementing an OAI-PMH RIF-CS data provider service is available from:
<http://ands.org.au/resource/rifcs-provider.html>

If you have any questions or comments on RIF-CS, or you would like to be involved in the work of the RIF-CS Advisory Board, please email: services@ands.org.au

