OAI – PMH briefing paper

General description

OAI-PMH stands for Open Archive Initiative – Protocol for Metadata Harvesting.

It is a protocol that defines the means of harvesting metadata of records in a repository or archive, connecting over the internet.

How does it work?

It is based on a client-server architecture, where the client is the harvester, requesting data from the server repository, which is made accessible online using OAI-PMH protocol.

The one who has the metadata repository server is called the data provider, and the one who makes the client request for the data is called the service provider (they build value-added services using the data). The data request and response is made in the OAI-PMH protocol.

The technical description

OAI-PMH uses XML over HTTP.

The service provider sends a request to the Data provider in HTTP (HyperText Transmission Protocol, the Internet protocol). There are two types of HTTP requests – GET and POST. There are further parameters that can be used to specify the request such as – ListRecords, GetRecords, ListIdentifiers, ListSets etc.
This will fetch the list of sets of data as defined in the Kiwi Research Information Service.

In response to the HTTP request for the data, the data provider server will transmit data back to the service provider in XML (eXtensible Markup Language). XML is a language for defining languages. In this case it defines the structure of the data to be transmitted. In XML the OAI protocol schema defines how the list of all the items requested is to be written in the response.

Example 1 (contd.): In response to the previous request to the Kiwi Research Information Service data provider, the response received by the service provider can be of the form:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<OAI-PMH xmlns="http://www.openarchives.org/OAI/2.0/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.openarchives.org/OAI/2.0/
http://www.openarchives.org/OAI/2.0/OAI-PMH.xsd">
    <responseDate>2009-03-04T01:37:53Z</responseDate>
    <request
    <ListSets>
        <setName>Massey University</setName>
    </set>
        <setName>Auckland University of Technology</setName>
    </set>
        <setName>Lincoln University</setName>
    </set>
    ... and many more
    </ListSets>
</OAI-PMH>
```

Example 2:
The Service Provider Request

This requests a list of all records entered in Kiwi Research Information Service data provider, since 1st March 2009. To see the response, please copy and paste the above URL to your web browser.
**How to set up OAI-PMH?**

Many metadata repository come with features to configure and expose the data in OAI-PMH. They provide a URL link that can be set up, such as [http://nzresearch.org.nz/index.php/oai?](http://nzresearch.org.nz/index.php/oai?), to which all OAI-PMH queries from the service providers can be sent for the Kiwi Research Information Service.

In case this feature is not available there are a variety of tools available to expose metadata using OAI-PMH. Most of these are listed at [http://www.openarchives.org/pmh/tools/tools.php](http://www.openarchives.org/pmh/tools/tools.php)

**Links**