

# Result Set and Single Record Metadata

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## Introduction

MetaSearch engines utilize a variety of methods to search and retrieve records from networked resources. The protocols include Z39.50, proprietary XML gateways, APIs, HTTP, and others. Most of these protocols have no provision for providing information, or metadata about either the set of records returned or the individual records returned. Further, outside Z39.50, there is little standardization about the metadata format or content of the records themselves.

To improve communication between content providers and MetaSearch engines two high level tasks have been defined for this group.

In relation to result sets of records:

“Define a mechanism that allows the server to communicate information about the result set returned in response to a search. This information applies to the whole of the result set and consists of descriptive or administrative metadata about the result set. The MetaSearch client may use this information to better process or display the result set information in its environment.”

In relation to single records:

“Define a mechanism for a content provider to transfer record level metadata (control information) to a MetaSearch service related to a single record in response to a request to retrieve a specific record or group of records. It is expected this transfer will be concurrent with the transfer of the metadata record itself. The control information provided by the target may apply to information relative to copyright holder and/or content providers rights and use as well as value added and other information about the record. As the control information may contain URLs or other lookup information for objects related to the record, multiple retrievals may be necessary to obtain all components. Further, the possible attributes of the control information and minimal attributes of the metadata record are to be defined.”

## Issues

### Result Set Metadata

Two major issues need to be considered:

1. Mechanism to transmit information about result set
2. Data elements to be included, whether mandatory or optional

### Single Record Metadata

At the highest level, two issues need to be considered: 1) transfer of external or control information in relation to the record and 2) the format and content of the metadata record itself.

#### Control Data:

1. Record structure for control data
2. Data elements to be included, whether mandated or optional

#### Single record format and content:

1. Record structure
2. Data elements to be included, whether mandated or optional

## **Other initiatives**

### Result Set Metadata:

Z39.50 (<http://lcweb.loc.gov/z3950/agency/document.html>) and SRW/U (<http://lcweb.loc.gov/z3950/agency/zing/srw/specifications.html>) contains some limited result set metadata, primarily the size of the result set. Currently administrative information about the result set is not available through the protocol.

### Single Record Metadata

#### *The Making of America II*

“The Making of America II is a Digital Library Federation project to create a proposed digital library object standard by encoding defined descriptive, administrative and structural metadata, along with the primary content, inside a digital library object.” Full information is located at: Making of America II, <http://sunsite.berkeley.edu/MOA2>

#### *METS*

“The [Making of America II](#) project (MOA2) attempted to address these issues in part by providing an encoding format for descriptive, administrative, and structural metadata for textual and image-based works. METS, a [Digital Library Federation](#) initiative, attempts to build upon the work of MOA2 and provide an XML document format for encoding metadata necessary for both management of digital library objects within a repository and exchange of such objects between repositories (or between repositories and their users). Depending on its use, a METS document could be used in the role of Submission Information Package (SIP), Archival Information Package (AIP), or Dissemination Information Package (DIP) within the [Open Archival Information System \(OAIS\) Reference Model](#).”

Full information is located at: Metadata Encoding and Transmission Standards (METS), <http://www.loc.gov/standards/mets>

### *Editeur*

The ONIX Product Information Standards from Editeur and now being worked on by the Joint Working Project involving NISO has an XML DTD for publishers to transmit data concerning bibliographic entities, mostly books.

Full information can be found at: <http://www.editeur.org/onix.html>

### *OAIS*

Though perused at a high level, it was felt the work of the OAIS initiative is beyond the scope of this group. Full information is located at: Open Archival Information Systems (OAIS), [http://ssdoo.gsfc.nasa.gov/nost/isoas/ref\\_model.html](http://ssdoo.gsfc.nasa.gov/nost/isoas/ref_model.html)

### *MODS*

“The Library of Congress' Network Development and MARC Standards Office, with interested experts, has developed a schema for a bibliographic element set that may be used for a variety of purposes, and particularly for library applications. As an XML schema, the "Metadata Object Description Schema" (MODS) is intended to be able to carry selected data from existing MARC 21 records as well as to enable the creation of original resource description records. It includes a subset of MARC fields and uses language-based tags rather than numeric ones, in some cases regrouping elements from the MARC 21 bibliographic format. MODS is expressed using the [XML schema language](#) of the [World Wide Web Consortium](#). The standard is maintained by the [Network Development and MARC Standards Office](#) of the Library of Congress with input from users.”

Of the above work, MOA2, METS and ONIX are perceived by this author to only give pointers to possible metadata elements which could be useful for this groups' work. They do not offer a record structure that would be readily adopted for our purposes.

MODS could possibly represent a record structure for the actual metadata records, rather than the control record information accompanying the record, but it has not sufficiently developed in the bibliographic citation area to be a ready made solution.

## **Approaches**

### Result Set Metadata

1. Build on Z39.50 result set data
2. Develop new structure and element set

### Single Record Metadata

1. Use ISO2709
2. Use other initiative
3. Develop new structure and element set