Guidelines for exchange of bibliographic data and holdings information between a library acquisitions client and local library systems in Danish libraries

DANISH AGENCY FOR
LIBRARIES AND MEDIA

Guidelines for exchange of bibliographic data and holdings information between a library acquisitions client and local library systems in Danish libraries

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Updates for this publication can be seen at:
http://biblstandard.dk/acq/docs/holdingshistoryupdate.htm

1. Introduction

These guidelines describe the exchange of bibliographic data and holdings information between a library acquisitions client and a local library system in Danish Libraries.

These guidelines are part of a series of specifications for technical interoperability between libraries, system components and between libraries and partners, called "danZIG specifications". The danZIG is a committee representing library system vendors, library technical interoperability consultants and national libraries services supplemented by library representatives put together by Danish Agency for Libraries and Media and chaired by the agency. The purpose of danZIG is to advise the governmental agency *Danish Agency for Libraries and Media*, which have the responsibility for the published specifications.

The target group for these specifications is vendors to Danish libraries and people interested in technical interoperability in the library sector.

2. Background

The appearance of stand alone and later net-based library acquisitions client result in a requirement for a specification of exchange of information about use of copies of titles as basis for decisions about purchase of books and other library materials.

3. Scope

This document
- gives guidelines for exchange of bibliographic data and holdings information between a library acquisitions client and a local library system in Danish Libraries
- specifies use of ISO 2709 as recommended format and ISO 25577 as optional format for bibliographic data
- specifies use of ISO 20775 as format for current and historical holdings information
- specifies use of Z39.50 as transport protocol
- specifies a set of conformance rules

4. Inquiry for bibliographic data

Inquiries for bibliographic data follow the specifications in the danZIG-profile and these supplementary specifications.

The library acquisitions client sends a search inquiry consisting of eg. author, title or an ID-number to the local catalogue. The matching bibliographic danMARC2-records are sent from the local catalogue in either the ISO 2709 or ISO 25577 (MarcXchange) format.

Z39.50	OID:	elementSetName:	Comment
ISO 2709	1.2.840.10003.5.14	F	Recommended
ISO 25577	1.2.840.10003.5.112	http://biblstandard.dk/kat/danmarcxchange/	Optional

OID "1.2.840.10003.5.14" specifies the record syntax "danMARC2/ISO 2709", and the elementSetName "F" specifies the full record.

OID "1.2.840.10003.5.112" specifies the record syntax XML according to the schema or definition identified by the element set name.

The elementSetName is an URI specifying that the schema is ISO 25577 (MarcXchange) and the content danMARC2. The URI corresponds to a website http://biblstandard.dk/kat/danmarcxchange/ describing how the URI may be used.

5. Holdings lookup

The lookup is done using the ID-numbers of the bibliographic records (field 001a in the danMARC2-format). Holdings information is returned as an individual XML-file for each bibliographic record, formatted according to ISO 20775.

Z39.50	OID:	elementSetName:	Comment
ISO 20775	1.2.840.10003.5.112	http://biblstandard.dk/acq/holdingshistory/	Recommended

OID "1.2.840.10003.5.112" specifies the record syntax XML according to the schema or definition identified by the element set name.

The elementSetName is an URI specifying the schema is ISO 20775 (Schema for Holdings Information) and the content a subset corresponding to these guidelines. The URI corresponds to a website http://biblstandard.dk/acq/holdingshistory/ describing how the URI may be used.

Holdings information can be divided into current holdings information (eg. number of copies, current reservation queue length, on order) and historic data (e.g. acquired, circulated, discarded) grouped after time periods.

In annex A is given a brief description of the ISO 20775 schema.

According to these guidelines, as a minimum the following elements should be addressed in a holdings response.

In the resource part a single ID-number is returned (*resourceIdentifier*).

In the holdings part the following data is given for each *holding* element
- *institutionIdentifier*: the library's ISIL-code
- *holdingSimple.copiesSummary*
    - *copiesCount*: current number of items
    - *reservationQueueLength*: current reservation queue length

- *onOrderCount*: number of copies on order but not yet recieved
- *summaryHistory*: number of circulations, ILL, reservations, acquisitions and discarding per year and information about last activity

6. Transport

Exchange of information between the library acquisition client and a local library system is at the time of publication of these guidelines based on the Z39.50-protocol.

At a meeting in danZIG June 2011 was the general expectation that new web services for exchange of this information will be developed in the future. If so, these guidelines will be revised (a new version) or updated (cf. http://biblstandard.dk/acq/docs/holdingshistoryupdate.htm).

The SRU web service has been considered, but due to missing clarification, this option is transferred to the next version of these guidelines.

The exchange takes place in two steps:

1) The library acquisitions client sends an inquiry to the local catalogue, which returns one or more bibliographic records.
2) The library acquisitions client requests the local library holdings register for selective holdings information (specified in section 5) to each returned bibliographic record.

7. Conformance

The parties are suppliers of integrated library systems and suppliers of library acquisitions client. The library modules can be stand alone or part of an integrated library system.

For this version of the guidelines a party must support Z39.50 as transport protocol and must support ISO 2709 as bibliographic format and ISO 20775 as format for holdings history. A party can support ISO 25577 s bibliographic format.

The parties report their level of conformance to these guidelines to Danish Agency for Libraries and Media. The information is published on the web: http://biblstandard.dk/acq/

Appendix A.

Comments on the use of the ISO20775-standard for exchanging holdings information between a library acquisition client and a local library system

An XML-file formatted according to the ISO20775-standard can only contain one set of holdings information. If the holdings request addresses multiple ID-numbers, the ISO20775-standard prescripes that the holdings information are either 1) gathered and cast up in the local library system before they are returned in one XML-document, so that the answer describes the added up holdings information for a group of records as a whole, or 2) sent as an separate XML-file for each ID-number so that holdings information are specified separately for each record. These guidelines only address the second option (holdings information are sent in a separate XML-file for each ID-number), which is normal practice in Z39.50 and SRU.

The ISO 20775 schema contains annotations describing the role of each element. It is divided into a holding-part and a resource-part. The resource-part identifies one or more materials on a bibliographic level and the holdings-part contains the associated holding information, divided into current holdings and holdings history, aswell as elements describing the owner institution. In the following only the mandatory *institutionIdentifier* for the institution, *holdingSimple* for the current holdings and summaryHistory for holdings history are mentioned. The other options for institution information and current holdings are not mentioned.
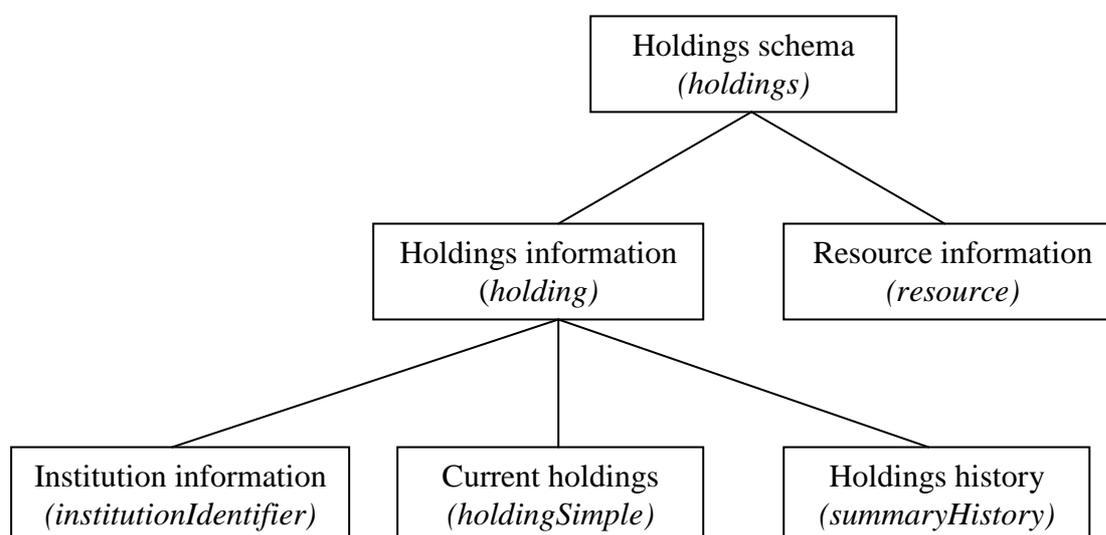
Interpretation of the elements
M=mandatory, O=optional, R=repeatable, C=choice(either/or),

A1. holding **(MR)**

Group of elements that contains the current holdings information divided into a number of sub elements. The ISO20775-standard prescribes that the *holding*-element can be repeated in cases where the XML-answer is concerning several institutions.

A1.1 institutionIdentifier (M)
Contains information that identify the institution which owns the material. The sub element *value* specifies a unique ID-number (eg. a library number) for the institution. The sub element *typeOrSource* specifies what type of value that is specified in *value* (eg. ISIL).

A1.2 holdingSimple (C) – copiesSummary (M)
Group of elements that contains information on the availability of a given material, including the total number of copies, length of the reservation queue and number of copies on order.

copiesCount (M)
Total number of copies of a given material currently held.

status (OR)
Not used in these guidelines.

reservationQueueLength (O)
Current number of reservations for a given material.

onOrderCount (O)
Number of copies on order but not yet recieved.

The ISO20775-standard requires that an XML-answer contains either the block *holdingSimple* or *holdingStructured*. These guidelines, however, do only address *holdingSimple*, as this block is considered appropriate for use with requests on a title/edition-level.

A1.3 summaryHistory (O)
Group of elements that describes the holdings history of the material.

Holdings history is divided into periods. Periods are defined using the element *countPeriod* (see below). These guidelines operate with the unit one calender year (aswell as present year). Information on holdings history are to be requested for periods of one year each. The part of the XML-file which contains holdings history is repeated corresponding to the number of periods for which holdings history are wanted. Holdings history are as default returned for the periods available in the local system.

A1.3.1 countPeriod (OR)
Sets the period of time for which holdings history are retrieved. Starting time is set with the element *countPeriodStart*, ending time is set with the element *countPeriodEnd*. Both elements are defined as the simple type *dateTime* (yyyy-mm-ddThh.mm.ss).

These guidelines assume that period is defined with one calendar year as the unit (including present year). One year is set as eg. 2006-01-01T00.00.00 – 2006.12.31T23.59.59. When present year is defined, *countPeriodEnd* is set as the time of request. Both countPeriodStart and countPeriodEnd are mandatory when the countPeriod element is used.

The *countPeriod*-element and its subelements are repeated for each year for which the local library system can supply holdings history.

CountPeriod contains subelements that describe the history (number of copies held, acquisition, use, discarding) within the given period.

totalCirculation (O)
Group of elements describing the number of times the resource has been circulated (incl. ILL) in the period.

totalReservationsCount (O)
Number of times the resource has been reserved in the period.

totalAccessCount (O)
Not used in these guidelines

copiesCount (O)
Group of elements describing the total number of copies, the increase and the discarding in the period.

copiesCount (O) – totalCopiesHeld (O)
Total number of copies held in the end of the period.

copiesCount (O) – totalAcquiredCount (R)
The number of copies acquired within a given period.

Optionally, *totalAcquired* can be divided into collections, so that it can be described how many copies of a given material that has been added to each collection of the owner library within a given period. Each collection is defined by assembling up to five levels (eg. hovedbibliotek, voksen, udlån, musik, 14 dages udlån). A collection is defined with the element *collection*, where the subelement *totalCollectionCount* sets the number of copies of the given material in the collection. The subelement collectionProfile and its subelements collectionCode and collectionDescription are repeated for each level that makes up the collection. CollectionProfile is set as specified in the collection codes below.

Collection Code	Meaning	Collection description (examples)
10	Filial (branch)	Hovedbibliotek, filial, bogbus, depot
20	Hyldeliste	børn, voksen
30	Opstilling	musikafdeling, udlån
40	Delopstilling	billedbøger, musik, x-box, cd
50	Udlånsregel	til udlån, 14 dages udlån
60	Kassationskode	

All available levels are retrieved from the local library system. *collection* is repeated for each collection that the material is a part of.

copiesCount (O) – totalDiscardedCount (O)
Total number of copies discarded in the period.

A1.3.2 lastActivityInfo **(OR)** *– lastActivityDate* **(M)** */ lastActivityType* **(O)**
Sets the latest date on which a material has been involved in a transaction. *lastActivityDate* is
defined as the simple type *dateTime* (yyyy-mm-ddThh.mm.ss). The element *value* specifies which
type of transaction the material has been involved in (eg. loan, renewal, return). *typeOrSource*
points to a list of which kinds of transactions *value* can refer to.

According to the ISO20775-standard *lastActivityDate* is mandatory with *lastActivityInfo*, whereas
lastActivityType is optional. If *lastActivityType* is not specified, the element only describes when the
material has last been used. *lastActivityInfo* can be repeated for different types of activities.

A2. resource (OR) – resourceIdentifier (OR)
Group of elements containing information which identifies the bibliopgraphic record/material that
holding is associated with. The element *value* contains the unique ID-number (eg. a faustnummer)
which the look up is based upon. *typeOrSource* specifies which kind of value that is specified in the
value-element.

The *resource*-element is not mandatory. If the ISO-holdings schema (which is the case within these
guidelines) is not integrated with another schema that contains bibliographic information, the
element is however necessary to associate holdings information with a specific resource.

The *resource*-element is repeatable for each bibliographic record/material that is associated with the
holding-part of the schema. This is however not relevant within the frames of these guidelines as
they only address answers to requests concerning individual ID-numbers.

Appendix B.
Reference to schemas, protocols, standards, and examples

danZIG profile specification: http://biblstandard.dk/danzig/

SRU – Search/retrival via URL: http://www.loc.gov/standards/sru/

ISO 20775, Information and Documentation - Schema for Holdings Information:
http://www.loc.gov/standards/iso20775/

ISO 25577, Information and Documentation - MarcXchange:
http://www.loc.gov/standards/iso25577/

Registry of Z39.50 Object Identifiers:
http://www.loc.gov/z3950/agency/defns/oids.html

Implementors Agreement: Requesting XML Records, revision 2009:
http://www.loc.gov/z3950/agency/proposals/request-xml-revised-2009.html