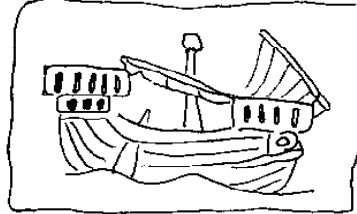


# ARCA

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**Abstract** : This is the manual for the users of the interface to configure the ARCA target upon a specific OPAC

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## **1. Introduction**

The ARCA Target system is a particular implementation of Z39.50 Protocol [ANSI/NISO, 1995] in that it can be configured to different types of OPAC, so that they can behave as Z39.50 on the Internet.

Configuration is achieved by storing data representing the individual OPAC characteristics into the ARCA Target Dictionary.

The ARCA Target Configuration Interface (ATI) is a simple but powerful multilingual, graphical tool that is used to configure any ARCA Target System.

This document is addressed to users of ATI. They are assumed to be moderately experienced with the window environment and have some basic skills, including

- how to use the mouse and keyboard;
- how to drag, shrink, and enlarge windows.

Instruction for how to use the ATI are organized in the following sections:

- Preliminaries
- User's Guide, that describes the commands provided by the interface
- Target entry field semantics, that describes the meaning of each entry
- Formal description of data to be entered.

## 2. Preliminaries

Even though the pure action of entering data is easily performed by means of the Target Interface, data to be entered necessarily descend from an intellectual work - i.e., the analysis of the OPAC characteristics versus the ARCA Dictionary - which needs knowledge of the EXPLAIN categories, as defined in [ANSI/NISO, 1995], the bib-1 set semantics [BIB-1 SET] and how to map the attributes of the bib-1 onto OPAC access points. We assume that such a preliminary work have already been made by people which, for sake of simplicity, we will call "OPAC administrators".

The results of the analysis of the OPAC characteristics versus the ARCA Dictionary are the data that have to be entered with the help of the Target Interface to conform the ARCA Target to the underlying OPAC.

As defined in Section 5 "Formal description of data", not all data are mandatory and some of them have already been defined by default. By consulting Section 5, the OPAC administrator can easily recognize which data are to be drawn from the analysis of the OPAC characteristics; thereafter, she/he can match data against their definition in Section 5 to verify data correctness before starting up the Interface.

Most entry fields in the Interface correspond to information of the Z39.50 EXPLAIN data base and generally are self-explanatory. Comments are appended to those entry fields whose names are not immediately understandable and those that are specific of the ARCA Dictionary. However, information to be entered into the fields referring to bib-1 mapping and query translation need introductory information which are given in the sections that follow.

### 2.1 Bib-1 Mapping

The results of the analysis of bib-1 mapping are generally organized in a table where the bib-1 attribute combinations supported by the OPAC are made to correspond to specific OPAC access points. Such a table may be organized in different manners, and examples can be found in [Bib-1 Mapping]. The corresponding entry fields in the Interface may appear not to correspond to how the mapping table has been organized. The reason is that the ARCA Target Interface avoids that the user be obliged to make multiple entries of the same data. How entry fields for mapping data are organized by the Interface descends from the following observations.

Attributes of the Bib-1 set are of six types. A combination of them specifies both the access point against which the search term is to be matched and the matching criteria. In particular, values of the Type-1 (or "Use") attribute specify possible OPAC access points. The values of Type-2 to Type-6 attributes, instead, specify the required matching routine. As matching routines are common to most of the access points of the OPAC, it is rationale i) to store supported combinations of

Type-2 to Type-6 attributes separately, in order not to repeat them for each Use attribute that supports them; and ii) link each of such combinations to the Use attributes for which the combination hold.

Accordingly, the Target Interface will require the data of the mapping in the following repeated sequence: i) Type-2 to Type-6 attribute combination; ii) list of the Use values combinable with such a combination, each Use value being associated with the OPAC Tag (or OPAC Tags - see below) onto which it has been mapped.

The OPAC may make each supported Use value to correspond to one of its access point or to more than one (for example, the Use attribute "Author" may be made to correspond to the OPAC access points "Personal Author" and "Corporate Author", if that OPAC maintain them separately). Such cases are managed by simply inserting multiple Tags into the Tag entry field corresponding to that Use attribute. Tags must be separated by a comma preceded and followed by a space. In the following Section 2.2, such a case will be referred to as "one-to-many mapping".

## 2.2 Query translation

Some entry fields must be filled with values that the ARCA Target uses to translate the supported RPN queries into the OPAC query language. Values for those fields (see the AttributeSetInfo Section in Sec. 4 ) are described below.

- *infix word list operator* : the bib-1 set definition allows OPACs to treat the structure value "word list" either as a list of ANDED words or as a list of ORED words. If the OPAC autonomously manages word lists, the value to be entered is "native". Otherwise, the value to be entered in that field is the symbol that the OPAC uses for "AND" or for "OR", according to how word lists are treated by the OPAC .
- *infix tag operator* : this operator specifies how the OPAC manages the "one to many mapping " (see the example in the Section above). The value to be entered is "native" if the OPAC manages the "one-to-many mapping" autonomously, i.e., if the OPAC supports queries where a term has to be matched against more than one access point. Instead, if the OPAC requires that the one-to-many mapping be translated into ORED one-to-one mappings, the value to be entered is the symbol of the operator that the OPAC uses for "OR".
- *translation* : for each combination, a "model" of translation must be included in this field, to represent how the corresponding "AttributesCombinationPlusTerm" (as defined in [Z39.50]) has to be translated. The model is a composition of the following basic symbols: <TAG>, <TERM>, <TAG><OPT>, <TAG></OPT>; any other symbol used locally must be included; for example, symbols to represent truncation or separation (comma, space, etc).

The model has to be composed in such a way that substituting the specific OPAC tag for <TAG> and the RPN query term for <TERM> gives the following results: i) the resulting string of characters is a query expressed in the OPAC query language; ii) such a query corresponds to the received "AttributesCombinationPlus Term".

Some annotated examples will help.

- $\langle TAG \rangle = \langle TERM \rangle$  is a model that will result in  $au=Salvatores$  if in the received RPN query the term is "Salvatores", the Use attribute is "Author-personal" and that Use attribute has been made to correspond to the OPAC TAG "au" (for this, see the Section 2.1)
- $\langle TERM \rangle / \langle TAG \rangle$  will result as  $Salvatores/au$
- $\langle TAG \rangle = \langle TERM \rangle \$$  is a model that will result in  $au=Salvat\$$ . This model uses the truncation symbol "\$" to translate a combination containing the truncation value "right"; any symbol accepted by the OPAC can be used, located as the OPAC requires.
- Symbol  $\langle TAG \rangle \langle OPT \rangle$  followed by symbol  $\langle TAG \rangle \langle /OPT \rangle$  is used to manage the one-to-many mapping when the *infix tag operator* has been defined as "native". In this case, in fact, the OPAC manages such a mapping autonomously, and those symbols indicate where the list of tags have to be posted. The character separating the two symbols is the separator used by the OPAC. For example, if the translation model of mapping of Use attribute "Name-personal" on the OPAC access point "ma-main author", "sa-secondary author", "ns-name as subject" is

$$\langle TERM \rangle * / \langle TAG \rangle \langle OPT \rangle \langle TAG \rangle \langle /OPT \rangle$$

the translation by will result in  $Salvat*/ma sa ns$

while

$$\langle TAG \rangle \langle OPT \rangle, \langle TAG \rangle \langle /OPT \rangle = \langle TERM \rangle$$

will result in  $ma, sa, ns=Salvatores$

Obviously, the RPN query term is assumed to be "Salvat" in the first example, and "Salvatores" in the second one.

- The mapping onto multiple tags, instead, is treated in a different way when the *infix tag operator* field received a specific operator symbol. In such a case, the model for a one-to-one mapping must be included, and a list of simple queries ORED by that symbol will automatically be

constructed by the ARCA Target. For example, if the value for the *infix tag operator* is "OR", the model

<TAG>=<TERM> will result in

*ma=Salvatores OR sa=Salvatores OR ns=Salvatores*

- *is selector* : this data field is linked to the description of each Use attribute; the value to be entered, Yes or No, is to mean whether such an attribute is treated as a "selector" by the OPAC, that is, whether the OPAC supports such an attribute only if ANDED with another attribute that is not a selector.



## **3. User's Guide**

### **3.1 ARCA Target Configuration Interface - Overview**

The information loading is organized into working sections. Each section focuses on the input of the related information.

The working sections are the following:

- Target information
- Database information
- Term List information
- Attribute Set information
- Record Syntax information

The Target section is concerned with loading of the information about the Target, which include database names and record syntax OIDs. After the Target section has been finished, for each database name and OID the Interface automatically creates sequence of the remaining working sections and associates it to that database. The sequence of working sections is thus defined by program.

Each working section may consist of "pages". Once the user has entered data in a section, or in a page, she/he can make a new page or a new section to appear by selecting the appropriate button in the button bar (see Figure 3.1.1). Once the section sequence associated to a given database is finished, a new sequence for the next database, if any, is automatically activated.

Windows of the working sections are self-explanatory. Help may be obtained by selecting the "Help" function (see Sect. 3.3) or consulting Sect.4 "Fields Semantics" or Sect.5 "Formal Description of Data".

The removal of a database name/OID in the Target section causes the deleting of the associated working section and the removal of all the information associated with it. A renaming of a database (or an OID of a record syntax) causes the updating of all those sections in which the name/OID is present.

Multiple instances of the remaining sections can be activated. The database section not only introduces information relative to the database in question, but also provides the names of the term list and the OIDs of the attribute set. Insertion of one or more names in the term list (or one or more OIDs) creates one, or more than one, relative section. Removal of a name from a term list (or an OID from an attribute set) causes cancellation of the associated working section only if the term list (or the attribute set) in question is not referred to in any other database section.

Checks on the correctness of the information specified is done each time the user leaves a section.

The screenshot displays a window titled "ARCA - Libraries Programme Project". At the top, there is a menu bar with "File" and "Help" menus. Below the menu bar is a section titled "Target Information". Under this section, there is a sub-section "Common information" with the following fields: "date Added" (08/05/97), "date Changed" (07/05/97), and "expiry". Below these are "information" and "Target name" (ARCA) with a "news" field. Further down are "welcome message" (buen trabajo) and "target description" (Catalog of books-Sabini). Below these are "usage rescription" and "payment address". At the bottom of the form are "multi database search" (Yes/No) and "multi database search mode" (Arca/Native). Below these are "result set naming" (Yes/No). At the very bottom is a "Button Bar" with buttons for "Previous section", "Cancel", "< Previous page", "Next page >", and "Next section".

Figure 3.1.1: A Work Section Page

The following subsections describe the functionalities offered by ATI and how these can be accessed using the interface commands.

### 3.2 Interface initialization

Each time you start up an ATI a dialog box appears (See Figure 2.1) which allows

- choose the language in which you wish to visualize the interface. This operation is necessary only if the first window is not in the language of your choice;
- choose the type of initialization that you wish to perform. Click on *Initialization* to start up the configuration of the system, thereby removing all data previously loaded. Click on *Change Initialization* to access the previous configuration of the system in order to modify it.

A simple on-line Help makes ATI easy to use, providing information on the semantics of the fields.

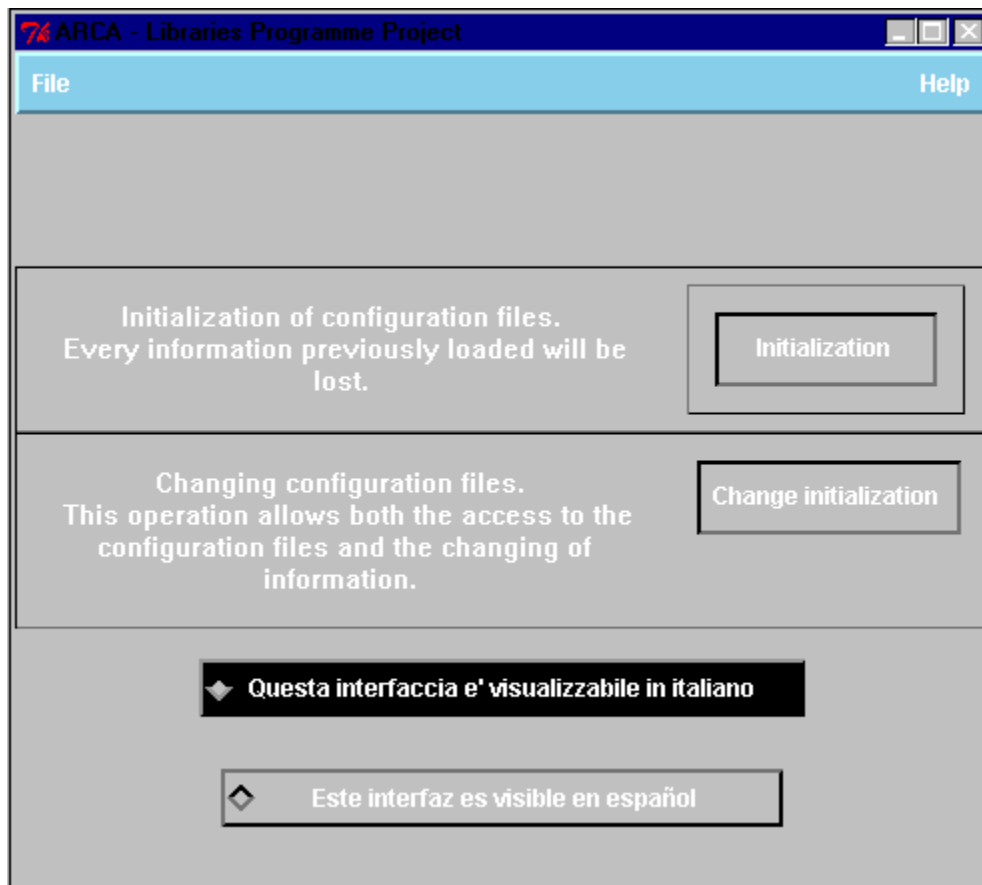


Figure 2 Start up dialog box

### 3.3 On-line Help

On-line help is provided for each state of the system and for each situation in which the user may have a need. Each window application has a Help key that opens the appropriate Help page.

Two types of on-line help are available that for each section visualize:

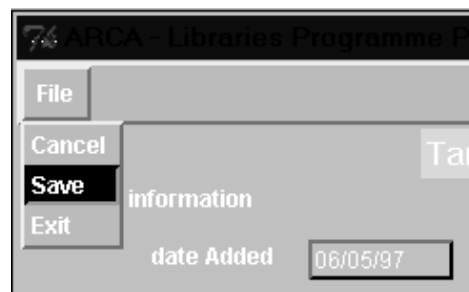
- a list of the mandatory fields of the current section;
- the meaning of each entry of the section. This explanation is supplied utilizing the description contained in the official standard ANSI/NISO Z39.50.

Further pages of the Help System become visible each time the user inserts incorrect data.

### 3.4 Saving the configuration of the system

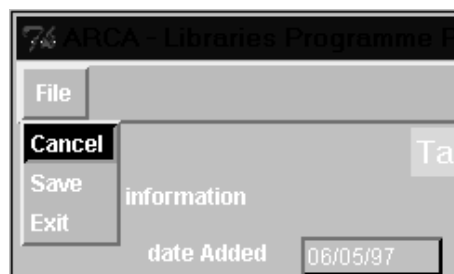
Information introduced can be saved by choosing the **Save** option from the *File* menu. This operation memorizes all the data introduced excluding those relative to the current section. Data relative to the current section cannot be saved until the controls that guarantee their correctness are carried out. These controls, as stated earlier, cannot take place until the user has gone to the next section.

The information is not automatically saved by the **Exit** option, therefore to save the modifications introduced it is necessary to select **Save** before exiting from the interface.



### 3.5 Cancelling the modifications introduced to the configuration

To cancel the modifications introduced to the configuration of the system select **Cancel** from the *File* menu.



This command rereads the contents of the saved configuration and thereby cancels the modifications introduced within each section.

### 3.6 Cancelling the modifications introduced within a section

To cancel the modifications introduced within a single section, choose **Cancel** from the button bar at the bottom of the screen.



This command restores the contents of the current section without modifying the other sections.

### 3.7 Changing the name of a database

Go to the Target section and choose *Select Database name*. Then choose **Rename** from the button bar (at the bottom of the screen in the Database name window) and insert the name of the database to be changed and the new name of the database.



The operation can be undone by choosing *Cancel* from the Database name window, by choosing *Cancel* in the Target section, or, if the user has already transferred to a new section, by choosing *Cancel* from the File menu.

### 3.8 Cancelling the information about a database

Go to the Target section and choose *Select Database name*. Then choose **Delete Db** from the button bar (at the bottom of the screen in the Database name window) and insert the name of the database to be changed.



The operation can be undone by choosing *Cancel* from the Database name window, by choosing *Cancel* in the Target section, or, if the user has already transferred to a new section, by choosing *Cancel* from the File menu.

### 3.9 Cancelling the information about an element set

Go to the appropriate Database section and choose *Select Element set details*. Then choose **Delete** from the button bar (at the bottom of the screen in Element Set Details window).

The screenshot shows a window titled "Element Set Details". It features a menu bar with "File" and "Help". The main area is divided into sections: "Common information" with fields for "date Added" (06/05/97), "date Changed" (06/05/97), and "expiry"; a text field for "information"; a text field for "element set description"; radio buttons for "is default" (Yes/No); a text field for "element set name"; a text field for "database name" (libros); and a text field for "insert" (record syntax oid). At the bottom, there is a button bar with "Delete", "Cancel", "Other value", "< Previous page", "Next page >", and "End".

The operation can be undone by choosing *Cancel* from the Element Set Details window, by choosing *Cancel* in the Database section, or, if the user has already transferred to a new section, by choosing *Cancel* from the File menu.

### 3.10 Changing a term list name

For each Database that refers the term list to be changed go to the appropriate Database section and choose *Select Term List name*. Then replace the previous name with the new one.

The operation can be undone by choosing *Cancel* from the button bar in the Term List window, or by choosing *Cancel* in the Database section, or, if the user has already transferred to a new section, by choosing *Cancel* from the File menu.

### 3.11 Removing the information about a term list

For each Database that refers the term list to be removed go to the appropriate Database section and choose *Select Term List name*. Then *Cancel* the term list name from the appropriate entry.

The operation can be undone by choosing *Cancel* from the button bar in the Term List window, or by choosing *Cancel* in the Database section, or, if the user has already transferred to a new section, by choosing *Cancel* from the File menu.

### **3.12 Changing an attribute set OID**

For each Database that refers the term list to be removed go to the appropriate Database section and choose *Select Attribute sets OID*. Then replace the previous OID with the new one.

The operation can be undone by choosing *Cancel* from the Attribute sets OID window, by choosing *Cancel* in the Database section, or, if the user has already transferred to a new section, by choosing *Cancel* from the File menu.

### **3.13 Removing the information about an attribute set**

For each Database that refers the attribute set to be removed go to the appropriate Database section and choose *Select Attribute sets OID*. Then Cancel the attribute set OID from the appropriate entry.

The operation can be undone by choosing *Cancel* from the Attribute sets OID window, by choosing *Cancel* in the Database section, or, if the user has already transferred to a new section, by choosing *Cancel* from the File menu.

### **3.14 Changing a record syntax OID**

Go to the Target section and choose *Select Record Syntaxes OID*. Then replace the previous OID with the new one.

The operation can be undone by choosing *Cancel* from the Record Syntax OID window, by choosing *Cancel* in the Target section, or, if the user has already transferred to a new section, by choosing *Cancel* from the File menu.

### **3.15 Removing the information about a record syntax**

Go to the Target section and choose *Select Record Syntaxes OID*. Then cancel the record syntax OID from the appropriate entry.

The operation can be undone by choosing *Cancel* from the Record Syntax OID window, by choosing *Cancel* in the Target section, or, if the user has already transferred to a new section, by choosing *Cancel* from the File menu.

## 4. Fields Semantics

The working sections are the following:

### 1. *TargetInfo*

Lists information about the connection to the target;

### 2. *DatabaseInfo*

Lists information about the existing databases;

#### 2.1 *ElementSetDetails*

Lists information about the available presentation formats.

### 3. *TermListInfo*

Reports information concerning the term lists supported;

### 4. *AttributeSetInfo*

Includes information about the attributes for the databases;

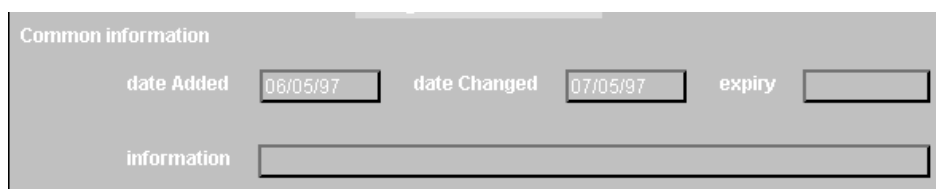
### 5. *RecordSyntaxInfo*

Lists information about the structure of the record in the databases;

Each section regards the loading of a set of fields. The semantics of those fields is given in the following.

### 4.1 Common fields

Each section other than *TermListInfo Section*, requires the entering of a set of data called *common info*. Such data are used by the the Origin to verify whether previously cached version of the Dictionary is still consistent with the Target one.



The image shows a screenshot of a form titled "Common information". It contains four input fields: "date Added" with the value "06/05/97", "date Changed" with the value "07/05/97", "expiry" which is empty, and "information" which is a large empty text area.

### 4.2 Target Info Section

*news*: recent news of interest to people using this target, in human readable text;

*welcome message*: a welcome message from the target to be displayed by the origin;



- target description*: a description of the target in human readable text;
- usage restriction*: restrictions pertaining to this target in human readable text;
- payment address*: a payment address (e.g. business office) for the organization supporting this target;
- multi database search*: whether multiple databases can be searched in one search request;
- multi database search mode*: whether multiple database search is either natively- or ARCA-supported;
- result set naming*: whether named result sets are supported;
- preferred message size*: the maximum size of a preferred message;
- hours*: hours of operation;
- max result set*: the maximum number of concurrent result sets supported;
- max num term*: the maximum number of terms allowed in one search request;
- max set size*: the maximum size (in records) of a result set;
- contact info*: contact information for the organization supporting this target;
- diagnostic sets*: diagnostic sets supported;
- selector position*: the position of selector in one search request;
- supported authentication*: whether supported authentication is mandatory;
- supported authentication mode*: whether *supported authentication* is natively- or ARCA-supported;
- RPN natively supported*: whether RPN query is supported by the OPAC;
- database name*: databases supported;
- record syntaxes OID*: record syntaxes supported.

### **4.3 Database Info Section**

- description*: a description of the database in human readable text;
- explain database*: whether or not this is an Explain database (possibly for a different server);
- user fee*: whether there is a fee to pay for searching;

*available:* whether the database is available;

*disclaimers:* any disclaimer concerning the database;

*news:* recent news of interest to people using this database, in human readable text;

*record count:* the maximum number of database record;

*def order:* default order in which records are presented;

*average record size:* the average size of records;

*max record size:* the maximum size of records;

*hours:* hours of operation;

*best time:* the best time to access the database;

*last update:* the time of last update of the database;

*update interval:* the update interval for this database;

*coverage:* the coverage dates of this database;

*proprietary:* whether the database contains proprietary information;

*copyright text:* description of copyright relating to this database;

*copyright notice:* notice concerning copyright to be displayed to the user if possible;

*producer contact info:* description and contact information for the database producer;

*supplier contact info:* description and contact information for the database supplier;

*submission contact info:* description of how to submit material for the inclusion in the database;

*title string:* the official long name of the database;

*database keywords:* list of keywords for the database;

*RPN query syntax:* allowed RPN query syntax;

*query type supported:* the query type supported for the database;

*private operators:* for each private operator supported:

- its name;

- a description of that operator in human readable text;

*private search keys:* for each private search key:

- its name;
- a description of that search key in human readable text;

*RPN operators:* list of RPN operators;

*result set as operand supported :* whether result set is supported as operand;

*result set as operand supported : mode:* whether result set is supported as native operand;

*proximity any support:* whether the position of proximity operator is "any position in field" in one search request;

*iso8777 search keys:* for each iso8777 search key:

- its name;
- a description of that search key in human readable text;

*term list name:* names of the term list;

*attribute set OID :* identifiers of the attribute set supported.

#### **4.3.1 ElementSetDetails SubSection**

*element set description:* description of the element set;

*is default:* a default element set which applies if it is omitted;

*element set name:* element set name for the element set described by this record;

*database name:* the database to which this record pertains;

*record syntax OID:* the record syntax to which this record pertains;

*per element details:* list of the element composing the element set. For each element in the element set:

- the name of the element;
- whether or not the element is repeatable;
- whether or not the element is required.

#### **4.4 TermList Info Section**

*title:* the title of the term list;

- search cost*: an indication of how expensive it is to search, using the associated attributes;
- scannable*: whether the term list is scannable;
- broader*: a list of alternative broader term lists;
- narrower*: a list of alternative narrower term list.

#### **4.5 AttributeSet Info Section**

- attribute set OID*: name of the attribute set;
- attribute combinations*: list of combinations between the allowable attribute <type,value> pairs of the search query and the corresponding OPAC access points and operators;
- infix word list operator*: the "word list" supported by the OPAC --see Sect. 2.2;
- infix tag operator*: the operator to manage one-to-many mapping --see Sect. 2.2
- use attributes*: list of <tags, use attribute> pairs allowable with the inserted combination;
- attribute name*: attribute type name;
- attribute description*: attribute type description in human readable text;
- default value*: a default value which applies if the attribute is omitted;
- attribute value name*: attribute value name;
- attribute value description*: attribute value description in human readable text;
- is selector*: whether this attribute is a selector.

#### **4.6 RecordSyntax Info Section**

- record syntax name*: name by which this syntax is known;
- ASN\_1 syntax*: an ASN.1 module describing the syntax;
- description*: description of the abstract record syntax.

## 5. Formal Description of Data

Entry fields presented by the interface are grouped under headings corresponding to the interface working sections. The formal description is extracted from [ARCA/T13/DSD]

### 5.1 Target Information Section

TargetInfo:

common\_info:

```
    dateAdded:
        value=String_Value;
    dateChanged:
        value=String_Value;
    expiry:
        value=String_Value;
    humanStringLanguage:
        value=String_Value;
target_name: // Default value
    value=ARCA;
news: // recent news of interest to people using this target, in human
    readable text;
    value=Text_Value;
welcome_message:
    value=Text_Value;
target_description:
    value=Text_Value;
usage_restriction:
    value=Text_Value;
payment_address:
    value=Text_Value;
result_set_naming: // Mandatory
    value=(Y|N) ;
multi_database_search: // Mandatory
    value=(Y|N) ;
multi_database_search mode: // Mandatory - Whether multiple database search
    is natively supported or must be delegated to the
    ARCA Target
    value=(ARCA|native);
max_result_set: // Mandatory
    value=Int_Value;
preferred_message_size: // Mandatory
    value=Int_Value;
hours:
```

```

        value=String_Value;
max_num_term: // Mandatory
        value=Int_Value;
max_set_size: // Mandatory
        value=Int_Value;
contact_info:
        value=Text_Value;
diagnostic_set: // Default value
        value=(1.2.840.10003.4.1);
selector_position: // Mandatory
        value=(RIGHT|LEFT|ANY);
supported_authentication: // Mandatory
        value=(Y|N);
supported_authentication mode: // Mandatory - Whether supported
                                authentication is natively supported or
                                must be delegated to the ARCA Target
        value=(ARCA|native);
RPN natively supported: //Mandatory - Whether RPN query is supported
                        by the OPAC
        value=(Y|N);
database names: // Mandatory
        value=String_Value,
        .....,
        .....,
        value=String_Value.
record_syntax OIDs: // Mandatory
        value=Oid_Value,
        .....,
        .....,
        value=Oid_Value.

```

## 5.2 Database Information Section

// The following description is repeated for each database supported

```

DatabaseInfo: // Mandatory
common_info:
    dateAdded:
        value=String_Value;
    dateChanged:
        value=String_Value;
    expiry:
        value=String_Value;
    humanStringLanguage:
        value=String_Value;
database_name: // Mandatory
        value=String_Value;

```

```
database_description:
    value=Text_Value;
explain_database: // Whether or not this is a native Explain database
    value=(Y|N),
explain_database mode:
    value=(native);
user_fee: // Mandatory
    value=(Y|N);
available: // Mandatory
    value=(Y|N);
disclaimers:
    value=Text_Value;
news:
    value=Text_Value;
record_count: // Number (estimated) of records in the database
    value=Int_Value;
default order: // Default order in which record are presented
    value=Text_Value;
average_record_size:
    value=Int_Value;
max_record_size:
    value=Int_Value;
hours of operation:
    value=String_Value;
best_time: //The best time to access the database
    value=String_Value;
last_update:
    value=String_Value;
update_interval:
    value=String_Value;
coverage:
    value=String_Value;
proprietary; // Whether the database contain proprietary information
    value=(Y|N);
copyright_text; // Description of copyright relating to this database
    value=Text_Value;
copyright_notice: // Notice concerning copyright to be displayed to the user if
    possible
    value=Text_Value;
producer_contact_info:
    value=Text_Value;
supplier_contact_info:
    value=Text_Value;
submission_contact_info: // Description of how to submit material for the
    inclusion in the database
    value=Text_Value;
title_string: // The official long name of the database
    value=Text_Value;
```

```

database_keywords:           // Keywords representing the contents of the
                             database
    value=String_Value,
    .....,
    .....,
    value=String_Value.
RPN_query_Syntax:           // Presently not used
    value=String_Value;
query_types_supported: // list of the query type
private_capabilities:
    private_operators:       //list of operators and descriptions
        name:
            value=String_Value;
        description:
            value=String_value;
        .....,;
        .....,;
        operator:
            value=String_Value;
        description:
            value=String_value.
    private_search_keys:     //list of search keys and descriptions
        search:
            value=String_Value;
        description:
            value=String_value;
        .....,;
        .....,;
        search:
            value=String_Value;
        description:
            value=String_value.
Rpn_capabilities:
    operators:
        value=Int_Value,
        .....,
        value=Int_Value.
    result_set_as_operand_supported:
        value=(Y|N),
    result_set_as_operand_supported mode:
        value=(ARCA|native);
    restriction_operand_supported: // Default value
        value=N;
    proximity_any_support:
        value=(Y|N),
    proximity_any_support mode:
        value=(native);
iso8777_capabilities:

```



```

        search_keys:      //list of search keys and description
        search:
            value=String_Value;
        description:
            value=String_value;
        .....;
        .....;
        search:
            value=String_Value;
        description:
attribute_sets:      // Mandatory
        value=Oid_Value,
        .....
        value=Oid_Value.
term_lists: // Mandatory
        value=String_Value,
        .....
        value=String_Value.
record_syntaxes: // Mandatory
        value=Oid_Value,
        .....
        value=Oid_Value.
element_set_details subsection:      // Mandatory
// The following description is repeated for each element set
// supported
ElementSetDetails:      // Mandatory
common_info:
    dateAdded:
        value=String_Value;
    dateChanged:
        value=String_Value;
    expiry:
        value=String_Value;
    humanStringLanguage:
        value=String_Value;
element_set_name:      // Mandatory
        value=String_Value;
database_name: // Mandatory
        value=String_Value;
record_syntax_oid:      // Mandatory
        value=Oid_Value;
elementset_descr:
        value=Text_Value;
is_default:
        value=(Y|N);
element_set_details:
    perElementDetails:      //begin repeatable item perElementDetails
        name:

```

```

        value=String_Value;
    repeatable:
        value=(Y|N);
    required:
        value=(Y|N); //end repeatable item perElementDetails
perElementDetails: //begin repeatable item
    .....; // end repeatable item
//end repeatable element set details subsection
searchable_with_databases:
    value=String_Value,
    .....,
    value=String_Value.

```

### 5.3 Term List Information Section

```

// The following description is repeated for each tem list
// supported

```

```

TermList:
term_list_name: // Mandatory
    value=String_Value;
title: // Name of the list to be shown to the users - ca differ from the
    name by language
    value=String_Value;
search_cost:
    value=(optimized|normal|expensive|filter);
scannable: // Mandatory
    value=(Y|N),
scannable mode:
    value=(ARCA|native);
broader:
    value=String_Value,
    .....,
    value=String_Value.
narrower:
    value=String_Value,
    .....,
    value=String_Value.

```

### 5.4 Attribute Set Information Section

```

// The following description is repeated for each
// attribute set supported

```

```

AttributeSetInfo:
common_info:
    dateAdded:

```

```

        value=String_Value;
dateChanged:
    value=String_Value;
expiry:
    value=String_Value;
humanStringLanguage:
    value=String_Value;
attribute_set_oid: // Mandatory
    value=Oid_Value;
attribute_set_name:
    value=String_Value;
// The following description is repeated for each
// attribute combination
attribute_combinations: //begin repeatable item
    infix_word_list_operator:
        value=(String_Value, native);
    infix_tags_operator:
        value=(String_Value, native);
    insert combination: // Allow to insert combinations of type 2 to type 6
        attributes
        attribute type: //begin repetable item
            value= Int_Value;
        attribute value:
            value=Int_Value
        .....
        attribute type:
            value= Int_Value;
        attribute value:
            value=Int_Value //end repeatable item
translation:
    value=String_Value;
usable_with_database:
    value=String_Value;
use_attributes: // Allow to insert OPAC tags and bib_1 use values
    upoun which tags are mapped
    tags: // begin repeatable item.
        // One or more OPAC tags upoun which the following
        use values is mapped. Tags must be separeted by
        comma preceded and followed by a space
        value=String_Value,
        .....
        value=String_Value.
    use_value:
        value=Int_Value;
    .....
    tags:
        value=String_Value,
        .....

```

```

        value=String_Value.
    use_value:
        value=Int_Value;          //end repeatable item

// The following description is repeated for each
// attribute type
attribute_types:
    attribute_type: //begin repeatable item
        value=Int_Value;
    attribute_name:
        value=String_Value;
    attribute_descr:
        value=String_Value;
    default_value: //Mandatory - The default value to be supplied if the
        attribute value is not specified in the combination
        value=Int_Value;
    attribute_values: //begin repeatable item
        name:
            value=String_Value;
        value:
            value=Int_Value;
    is_selector:
        value=(Y|N); //end repeatable item
    .....
    attribute_values: //begin repeatable item
        name:
            value=String_Value;
        value:
            value=Int_Value;
    is_selector:
        value=(Y|N); //end repeatable items
    .....
attribute_types:
    attribute_type: //begin repeatable item
        value=Int_Value;
    attribute_name:
        value=String_Value;
    attribute_descr:
        value=String_Value;
    default_value:
        value=Int_Value;
    attribute_values: //begin repeatable item
        name:
            value=String_Value;
        value:
            value=Int_Value;
    is_selector:
        value=(Y|N); //end repeatable item

```

```
.....
attribute_values: //begin repeatable item
  name:
    value=String_Value;
  value:
    value=Int_Value;
  is_selector:
    value=(Y|N); //end repeatable items
```

## 5.5 Record Syntax Information

```
// The following description is repeated for each record syntax
// supported
```

```
RecordSyntaxInfo:
common_info:
  dateAdded:
    value=String_Value;
  dateChanged:
    value=String_Value;
  expiry:
    value=String_Value;
  humanStringLanguage:
    value=String_Value;
recordsyntax_name:
  value=String_Value;
recordsyntax_oid: // Mandatory
  value=Oid_Value;
recordsyntax_descr:
  value=Text_Value;
is_default:
  value=(Y|N);
ASN_1_syntax:
  value=Text_Value;
```

## 6. References

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- [ARCA/T141/TID] *ARCA Target Set Up Interface: Design Document,* ARCA/T141/TID, May 1997.
- [BIB-1 SET] *Attribute Set Bib-1 (Z39.50-1995): Semantics.* Available: <ftp.loc.gov>