



Remote Database Update

Version 18.01 and Later

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Document released: April 2018

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1 Overview

Remote Database Update functionality is available in the Cataloging GUI. The functionality includes different aspects of remote catalog updating: inserting new records into a remote catalog, updating existing records in a remote catalog, deleting records from a remote catalog, etc. The Remote Data Update is implemented according to diverse protocols:

- Z39.50 ES Update according to Union Catalogue Profile (<http://lcweb.loc.gov/z3950/agency/profiles/ucp.doc>).
- Z39.50 Update using the CALIS software component (for China)
- Updating according to the proprietary SBN protocol (for Italy)

This document describes general parts of Remote Database Update functionality and the Z39.50 ES Update according to the Union Catalogue Profile. There is separate documentation for the CALIS update and the SBN update.

2 Remote Database Update Functionality

The Cataloging GUI has an option to update the Remote Database. This option is defined per local library. If a local library should update a remote database, the remote database and type of interaction with the remote database should be defined for this local library. These parameters are defined in the per library configuration table <libnn>/pc_tab/catalog/remote_catalog.dat. The table contains 3 columns:

- Column 1 contains the code of the Remote Database
- Column 2 contains the name of the Remote Database
- Column 3 defines the type of interaction with the remote database

The Remote Database Update is invoked from a special Remote menu from the Cataloging GUI. Column 3 of remote_catalog.dat defines the content of the Remote menu. It can have the following values:

- 1 – Used for Z39.50 ES Update according to Union Catalogue Profile. In this case the menu contains 3 items: Add Record, Update Record, and Delete Record.
- Values 2 – 7 are used for SBN update.
- Value 50 is used for CALIS update.
- For any other value of Column 3 or when Column 3 is empty, the Remote menu contains 3 items: Add Record, Update Record, and Delete Record.

The Remote menu is enabled if:

- The Local library has remote_catatalog.dat with a Remote Database definition.
- A local record is loaded into the Record Editor.

Remote Database Update functionality works per single local record. That is when local record is loaded into Record Editor it can be inserted into remote database, modified locally and in remote database, deleted from the remote database etc.

3 Z39.50 ES Update According to Union Catalogue Profile

ALEPH implements the Remote Database Update according to the Z39.50 ES Update and Union Catalogue Profile:

(<http://lcweb.loc.gov/z3950/agency/profiles/ucp.doc>).

The implementation partially conforms to the profile requirements.

This type of Remote Database Update consists of three services: Add Record, Update Record, and Delete Record. The services are invoked from the Remote menu of the Cataloging GUI.

A special tag, EXTDB, is used to indicate whether a local record was inserted into the Remote Catalog.

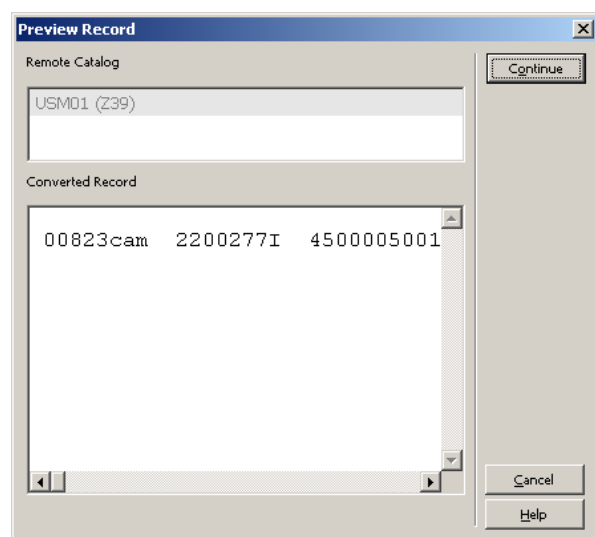
Implementation of Z39.50 ES Update is generic. For each specific Remote Catalog special Add Record, Update Record, and Delete Record programs should be implemented and added to the ALEPH configuration. For now, there are two sets of these programs, one for ALEPH as a Remote Catalog and one for the PICA Union Catalog.

3.1 Remote Database Update Services

3.1.1 Add Record

The **Add Record** command from the **Remote** menu in the Catalog GUI is enabled if there is a local record in the Record Editor and if the record does not have an EXTDB tag.

When the user clicks **Add Record**, the Preview Record dialog appears.



The Remote Catalog field shows a catalog in which the current record can be inserted. The field content is defined per library in the `./pc_tab/catalog/remote_catalog.dat` file.

The Converted Record field shows the local record converted according the rules required by the remote catalog.

When a user clicks **Continue**, the Z39.50 ES Update Insert Service is performed in the Remote catalog. The record is inserted into the Remote catalog. If the action succeeds, an EXTDB tag with the Remote Catalog code (e.g. USM01_Z39) is added to the local record. Additionally, special tags with relevant Remote Catalog information (for example, system number and timestamp) are added to the local record.

The updated local record is shown in the Catalog Editor window.

3.1.1.1 pc_server workflow

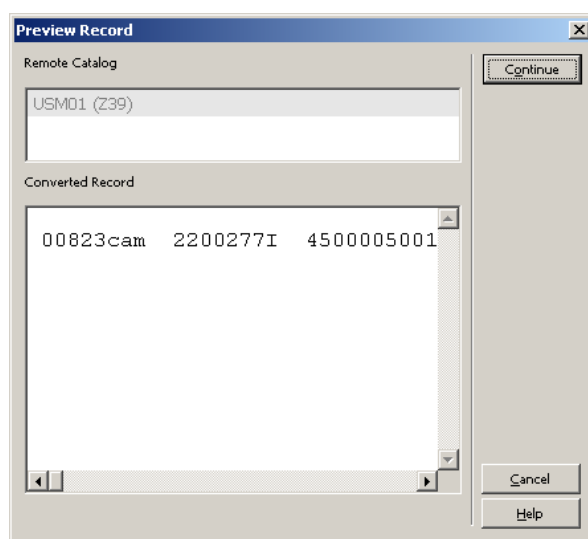
pc_server receives the Remote Catalog name (Z39.50 target name) from the GUI client. It opens a Universal Gateway configuration file for this target and gets the Z58-ES-INSERT setting from there. The setting contains the name of the *insert* program which performs:

- Conversion of the local record to the form required by this target
- Z39.50 Update Insert Service in the given target. pc_server calls the *insert* program. If the Z39.50 Update Insert Service has succeeded, the program adds relevant Remote catalog information to the local record; pc_server adds an EXTDB tag with the target name to the local record.

3.1.2 Update Record

The Update Record command in the Remote menu is enabled if there is a local record in the Record Editor and the record has an EXTDB tag.

When the user clicks **Update Record**, the Preview Record dialog opens:



The Remote Catalog field shows the Catalog in which the current record will be updated. This information is obtained from the EXTDB tag of the current record.

The local record, converted according to the remote catalog rules, appears in the Converted Record window.

When users click **Continue**, the Z39.50 ES Update Replace Service is performed in the Remote catalog. The corresponding record is updated in the remote catalog. If the action succeeds, special tags with relevant Remote Catalog information (such as the system number and timestamp) are updated in the local record. The updated local record is shown in the Record Editor window.

3.1.2.1 pc_server workflow

pc_server receives the Remote Catalog name (Z39.50 target name) from the GUI client . It opens a Universal Gateway configuration file for this target and gets the Z58-ES-REPLACE setting from there. The setting contains the name of the replace program which performs:

- Conversion of the local record to the form required by this target
- Z39.50 Update Replace Service in the given target. pc_server calls the replace program. If the Z39.50 Update Replace Service has succeeded, the program updates the relevant Remote catalog information in the local record.

3.1.3 Delete Record

The **Delete Record** command is enabled if there is a local record in the Catalog Editor and if the record has an EXTDB tag.

When users click **Delete Record**, the Z39.50 ES Update Delete Service is run in the Remote catalog. The delete action is performed in the Remote catalog. If the action succeeds, the EXTDB tag is removed from the record. The special tags with Remote Catalog information (such as system number and timestamp) are also removed from the local record. The updated local record is shown in the Catalog Editor window.

3.1.3.1 pc_server workflow

pc_server receives the Remote Catalog name (Z39.50 target name) from the GUI client . It opens a Universal Gateway configuration file for this target and gets a Z58-ES-DELETE setting from there. The setting contains the name of a delete program which runs the Z39.50 Update Delete Service in the given target. pc_server calls the delete program. If the Z39.50 Update Replace Service is successful, the program removes the Remote catalog information from the local record and pc_server removes the EXTDB tag from the local record.

3.2 User Permissions

An ALEPH user must have the following permissions in order to update records in a remote catalog via Z39.50:

- CATALOG/UPDATE
- CATALOG/REMOTE-UPDATE

3.3 Configuration

The following steps should be done to enable a Remote Database Update for a local library:

- Define the Remote Database as regular Z39.50 target (z39_gate configuration and Universal Gateway configuration).
- Add special the setting described below to the Universal Gateway Configuration.
- Define the Remote Database in remote_catalog.dat table described below.

3.3.1 Universal Gateway Configuration

The following settings should be added to the Universal Gateway target configuration:

Z58-ES-INSERT <program>

<program> – A program which converts the local record into the form required by the Remote Catalog, inserts it into the Remote Catalog, and updates the local record by the Remote Catalog information.

Possible values:

es_insert_pica – Used for the PICA Union Catalog

es_insert_aleph – Used to update the ALEPH Catalog via the Z39.50 protocol

Z58-ES-REPLACE <program>

<program> – A program which converts the local record into the form required by the Remote Catalog, uses it to replace the current record in the Remote Catalog, and updates the local record by the Remote Catalog information.

Possible values:

es_replace_pica – Used for the PICA Union Catalog

es_replace_aleph – Used to update the ALEPH Catalog via the Z39.50 protocol

Z58-ES-DELETE <program>

<program> – A program which deletes the current record in the Remote Catalog and deletes the Remote Catalog information from the local record.

Possible values:

es_delete_pica – Used for the PICA Union Catalog

es_delete_aleph – Used to update the ALEPH Catalog via the Z39.50 protocol

Example:

```
Z58-ES-DELETE          es_delete_pica
Z58-ES-INSERT          es_insert_pica
Z58-ES-REPLACE        es_replace_pica
```

3.3.2 remote_catalog.dat

The remote catalog and type of interaction with the catalog are defined in per library ./pc_tab/catalog/remote_catalog.dat table.

The table contains 3 columns:

- Column 1 contains the code of the Remote Database. It should be equal to Z39.50 target name of this Remote Database in upper case (e.g USM01_Z39).
- Column 2 contains name of Remote Database.
- Column 3 defines type of interaction with the remote database.

Remote Database Update is invoked from special Remote menu from Catalog GUI. The Column 3 of remote_catalog.dat defines the content of Remote menu. It can have the following values:

- 1 – used for Z39.50 ES Update according to Union Catalogue Profile. In this case the menu contains 3 items: Add Record, Update Record, and Delete Record
- Values 2 – 7 are used for SBN update
- Value 50 is used for CALIS update
- For any other value, or when Column 3 is empty, the Remote menu contains 3 items: Add Record, Update Record, and Delete Record.

Example:

```
!           1                               2           3
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!>
USM01_Z39                               USM01 (Z39)
```

3.4 Remote Database Update Implementation for Specific Remote Catalogs: ALEPH and PICA

The implementation of Remote Database Update is generic. For each specific Remote Catalog, three special programs should be implemented: Add Record program, Update Record program, and Delete Record program. For now, two sets of such programs are developed, one for the PICA Union Catalog and one for ALEPH as a Remote Catalog.

3.4.1 PICA Union Catalog Update Issues

3.4.1.1 Universal Gateway Configuration

The following settings must be defined in the Universal Gateway configuration:

```
Z58-ES-DELETE           es_delete_pica
Z58-ES-INSERT           es_insert_pica
Z58-ES-REPLACE          es_replace_pica
Z58-IN-RECORD-FIX      PICA
```

3.4.1.2 tab_fix configuration

The following line must be defined in tab_fix of EXT01:

```
PICA fix_doc_pica_ppn
```

3.4.1.3 tab_expand configuration

The following line must be added to tab_expand of the local library (for example USM01):

```
PICA_HOL expand_doc_bib_hol_usm
```

3.4.1.4 Remote catalog information in ALEPH local record

The following information is added to ALEPH local record inserted into the PICA catalog:

- EXTDB tag with a PICA target logical name
- PPN tag with a PICA system number and a PICA version ID

This information is updated when the ALEPH local record is updated in PICA catalog.

This information is deleted when Aleph local record is deleted from the PICA catalog.

3.4.2 ALEPH Catalog Update Issues

3.4.2.1 Universal Gateway configuration

The following settings must be defined in the Universal Gateway configuration:

Z58-ES-DELETE	es_delete_aleph
Z58-ES-INSERT	es_insert_aleph
Z58-ES-REPLACE	es_replace_aleph

3.4.2.2 Remote Catalog information in ALEPH local record

The following information is added to local ALEPH record, inserted into the remote ALEPH catalog:

- EXTDB tag with an ALEPH target logical name
- EXTS tag with an ALEPH system number. It is taken from the Z39.50 ES Update response received from the remote ALEPH catalog. Z39.50 ES Update response contains field v3Addinfo in the following format: “Record Id: <system number> Version Id: <version id>” The <system number> is put to EXTS tag.
- EXTV tag with an ALEPH record version ID. It is taken from the Z39.50 ES Update response received from the remote ALEPH catalog. Z39.50 ES Update response contains field v3Addinfo in the following format: “Record Id: <system number> Version Id: <version id>” The <version id> is put to EXTV tag.

This information is updated when the local ALEPH record is updated in the remote ALEPH catalog. This information is deleted when the local ALEPH record is deleted from the remote ALEPH catalog.

3.5 Remote Database Record Delete for Specific Remote Catalog: ALEPH and SBN

In Aleph versions 22.1.10, 23.2.0, and later, a library can delete a remote record on SBN Union Catalog, using ALEPH user permission CATALOG/REMOTE-DELETE. This depends on the environment variable remote_delete_flag defined in pc_server_defaults for libraries that are allowed to delete records.

3.5.1 User Permissions

The ALEPH user must have the CATALOG/REMOTE-DELETE permission in order to delete records in SBN remote catalog via Z39.50:

3.5.2 system_privileges configuration

The following settings must be defined in the `./aleph/tab/system_privileges` configuration:

```
RECORD                REMOTE-DELETE                CAT
```

3.5.3 user_function configuration

The following settings should be defined in the `./alephe/tab/user_function.LNG` configuration:

```
RECORD                L Cataloging                REMOTE-DELETE  
L Delete record on remote server
```

3.5.4 remote_delete_flag in pc_server_defaults

Define the environment variable `remote_delete_flag` in `./alephe/pc_server_defaults`:

```
setenv remote_delete_flag Y
```

The permission check `REMOTE-DELETE` depends on this environment variable.