



# How to Implement danZIG ILL Requests in Aleph

Version 20.0

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# 1 Introduction

The Danish Z39.50 Implementation Group (danZIG) profile specifies the guidelines for systems interconnection between library applications in Denmark. The current version of the danZIG profile is primarily based on the ANSI/NISO Z39.50 Protocol, also known as ISO 23950.

Along with other functions, this profile addresses the ordering of items between parties acting as either ILL borrowers or as ILL lenders. The Z39.50/ILL Profile 1 document describes the use of the Z39.50 Item Order Extended Service to contain an ILL protocol PDU as defined in the International Standard ISO 10161. Supporting this profile enables two ISO ILL compatible systems to exchange ILL messages over their Z39.50 gateways.

Support of the danZIG Profile is mandatory for participating in ILL networks within Denmark.

## 1.1 Terms and Definitions

- ILL – Inter Library Loan
- danZIG – The Danish Z39.50 Implementation Group
- PDU – Protocol Data Unit

## 1.2 Related Documents and References

- danZIG Profile -  
<http://www.bs.dk/content.aspx?itemguid=%7bA9254596-8D6B-4A59-A11B-ECFB5D23BCB4%7d>
- The normative specification of the current ILL XML Schema is available in  
<http://www.loc.gov/z3950/agency/defns/illv5.xsd>
- Profile for the Use of Z39.50 Item Order Extended Service to Transport ILL Protocol APDUs:  
<http://www.collectionscanada.gc.ca/iso/ill/document/standard/z-ill-1a.pdf>

# 2 DanZIG ILL Flow

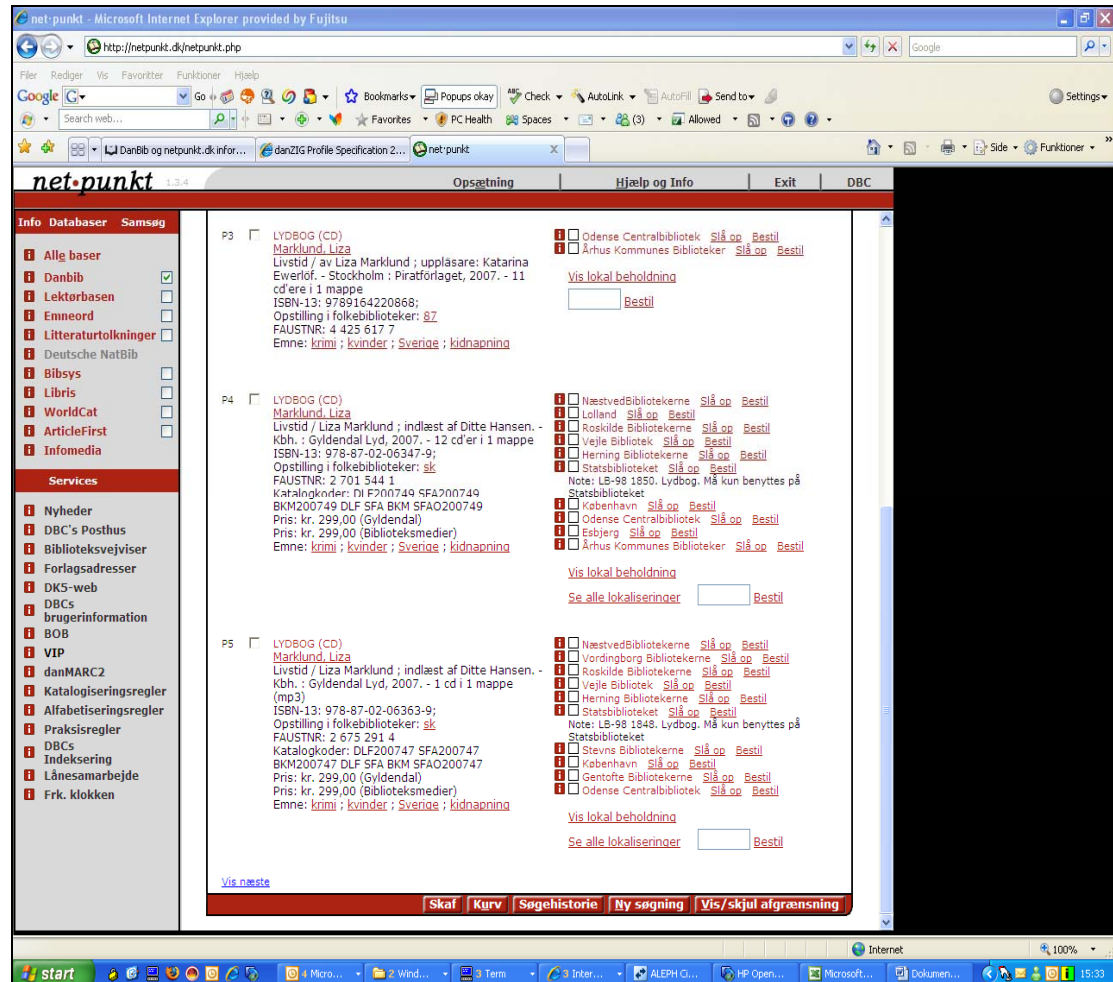
The following is a description of the danZIG ILL request flow that is supported by Aleph.


1. The requesting library searches the Danbib databases, using the Netpunkt system ([www.netpunkt.dk](http://www.netpunkt.dk)).

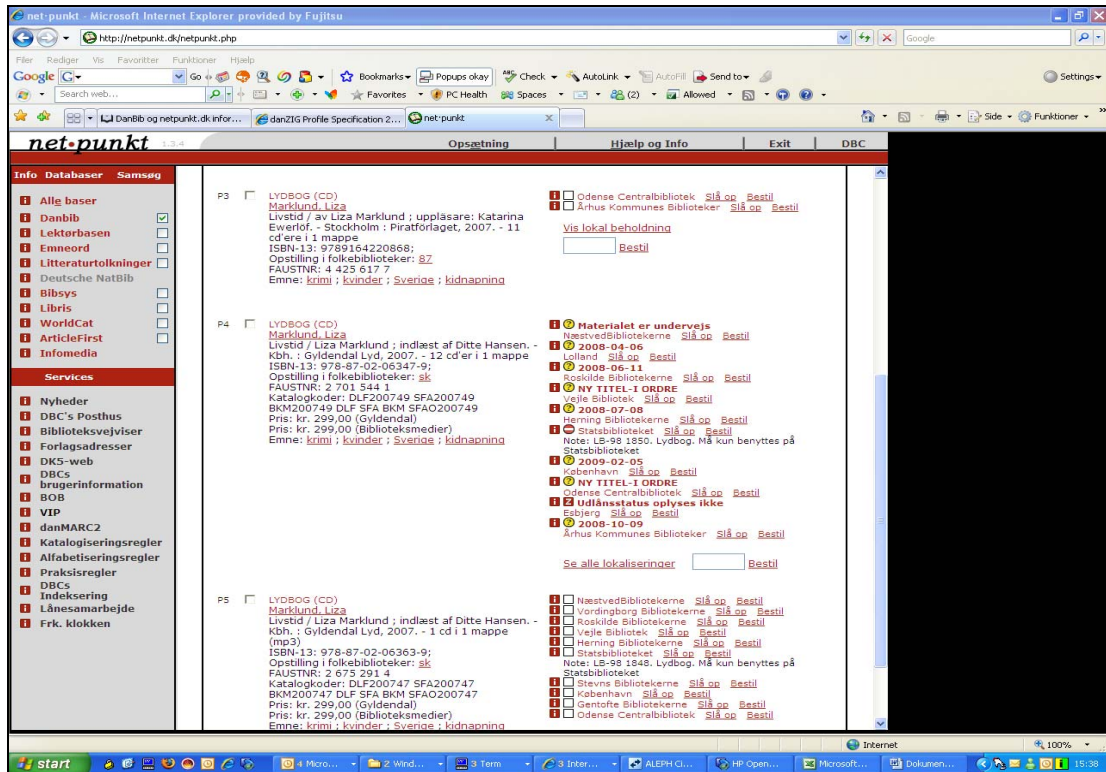
The Danbib database contains records from all Danish libraries, including information about which library or libraries have reported each record. Each title

exists only one time but may have been reported by several libraries. Danish Aleph libraries are also registered in the Netpunkt system.

Below is how the search results appear in Netpunkt:



2. The user requests to retrieve the holdings information of each library that has reported the record. Each library that has holdings will be indicated with a  symbol:



3. The user selects a library and requests the item from that library.

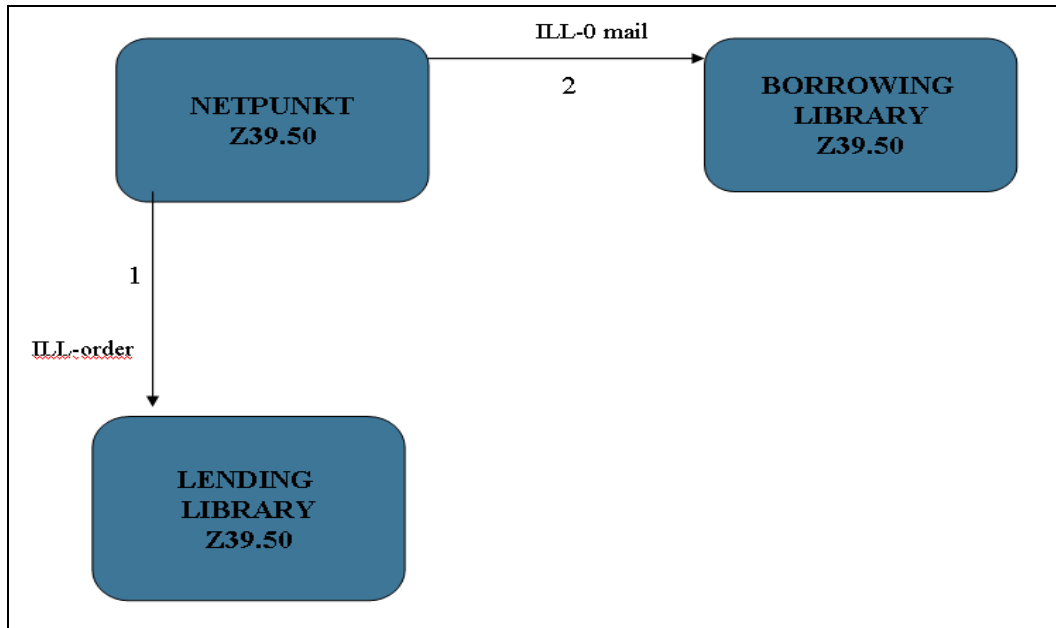
Technically, the Netpunkt system will trigger two actions:

- Send a mail message in ILL-0 format to the library which serves as the ILL requester. The ILL requester registers the outgoing request in its ILL system.. The requesting library may be an Aleph library. In this case, the ILL-0 mail message is translated to become Z410\Z411 records, representing the borrowing request.

The script that transforms the ILL-0 mail to a borrowing ILL Request is not maintained by Ex Libris.

- b. Send an Item Order Z39.50 message with the ILL Request information to the library which will serve as the ILL responder. If the responding library is an Aleph library then the incoming message is transformed to a Z416 record that represents the lending request.

The incoming Item Order Z39.50 message is recorded in the system as a ILLSV document, which is translated to a Z416 record using the standard 'Handle ILL Server Library Document (ue\_17)' daemon, as is done for regular ISO ILL messages.

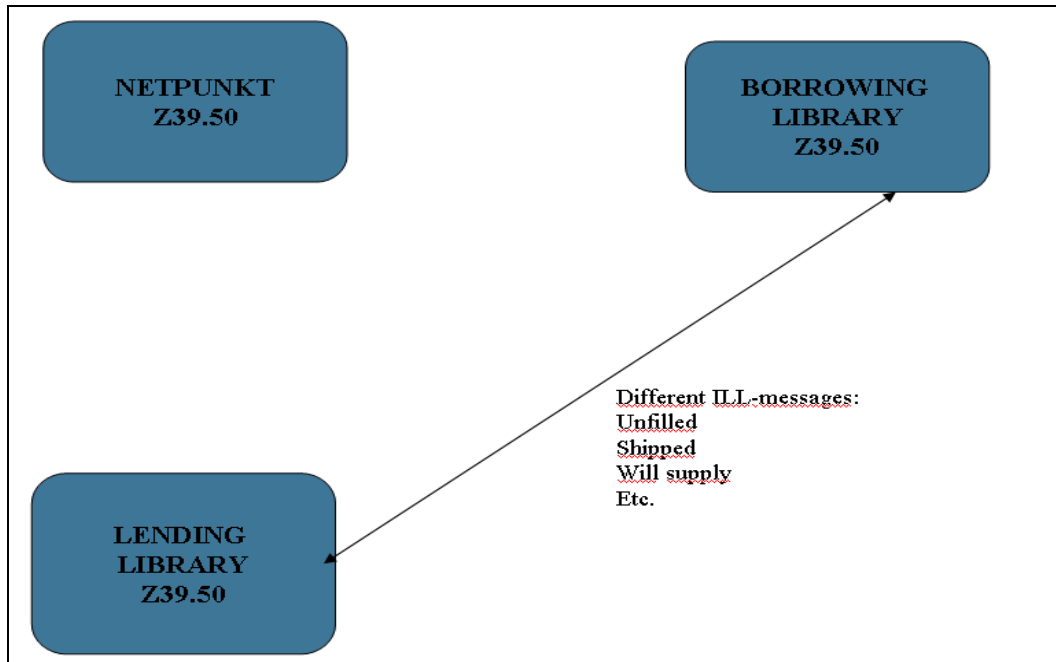


4. From this point and on, the requester and responder will directly communicate by exchanging ILL PDUs using the Item Order Z39.50 service.

Aleph systems may take either the requester role, the responder role, or both. In any case, the standard Integrated ILL GUI is used to manage the requests along with the 'Handle ILL Server Library Document (ue\_17)' daemon, as is for ISO ILL requests.

The messages are transported over the Item Order Z39.50 service.

- Outgoing Item Order Z39.50 messages are sent via the Z39.50 Gate.
- Incoming Item Order Z39.50 messages are recorded in the system as an ILLSV document, which are managed by the standard 'Handle ILL Server Library Document (ue\_17)' daemon, as is done for regular ISO ILL messages.



Note that:

- In a danZIG ILL transaction, the Aleph ILL partner make take both the ILL requester role and the ILL responder role.
- Sending ILL PDUs is done by using the standard Integrated ILL module options.
- When the Aleph library is the ILL requester, it can send the following messages in danZIG format:
  - Cancel
  - Renew
  - Status-Query
  - Status-Or-Error Report

Any other message is sent by letter or e-mail. Note that the ILL request cannot be sent in danZIG format. The Netpunkt system is used as the request initiator.

- When the Aleph library is the ILL responder it can send the following messages in danZIG format:
  - Ill-Answer
  - Shipped
  - Cancel-Reply
  - Renew-Answer
  - Recall
  - Overdue
  - Status-Query
  - Status-Or-Error Report

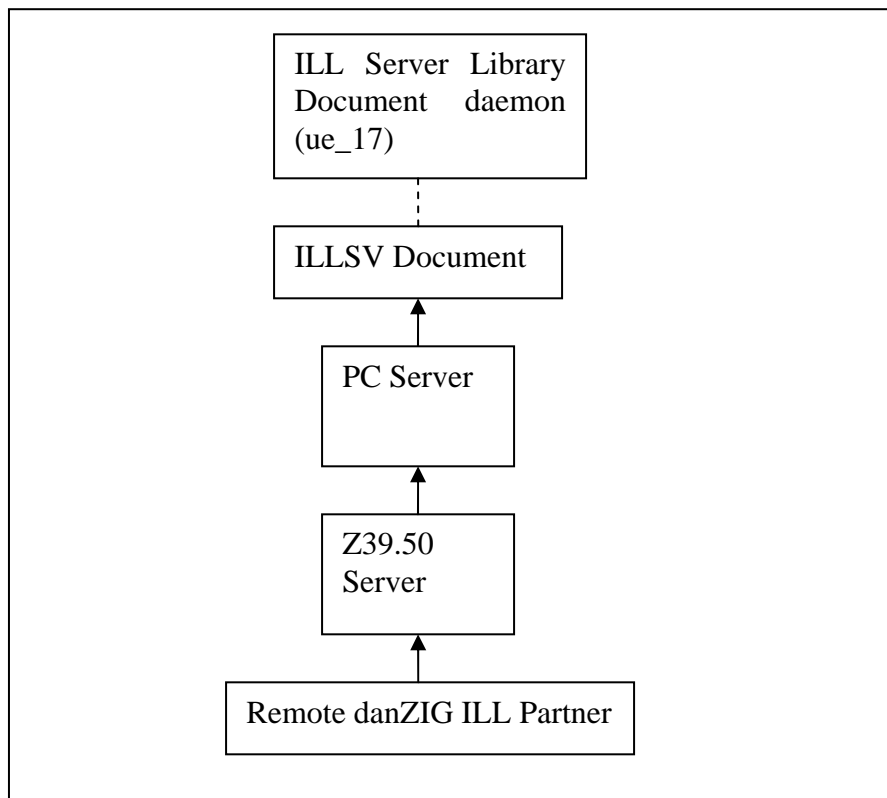


Any other message is sent by letter or e-mail.

### 3 System Architecture

#### 3.1 Incoming danZIG Communication

Incoming communication from danZIG ILL partners is managed by the system in the following manner:

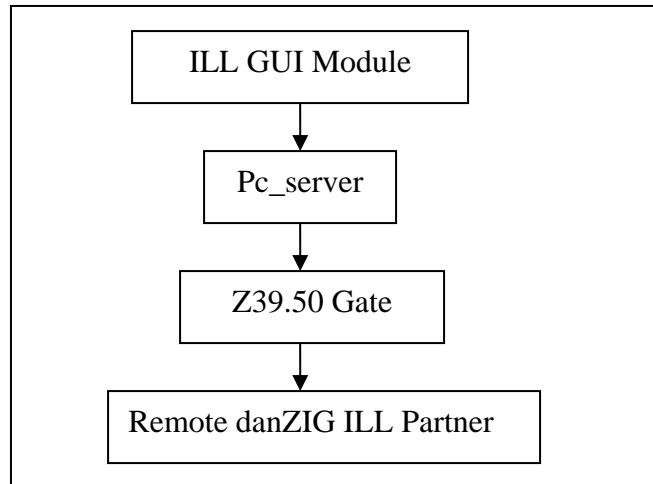


As shown in this diagram, for incoming danZIG messages to be properly managed by the system, the following components must be active:

- Z39.50 Server
- PC Server
- Update Doc Index (ue\_01) daemon in the ILLSV library
- ILL Server Library Document daemon (ue\_17) daemon in the ILLSV library

#### 3.2 Outgoing danZIG Communication

Outgoing communication to danZIG ILL partners is managed by the system in the following manner:



As is shown in this diagram, for outgoing danZIG messages to be properly managed by the system, the following components must be active:

- Z39.50 Gate
- PC Server

Sending the ILL messages is done using the standard Integrated ILL module.

**Note:** The Aleph Z39.50 server and gateway do not support using the Extended Services Database. Therefore, a value of 'accepted' that is received in the 'operationStatus' element of the Extended Services Response will be regarded as 'done'.

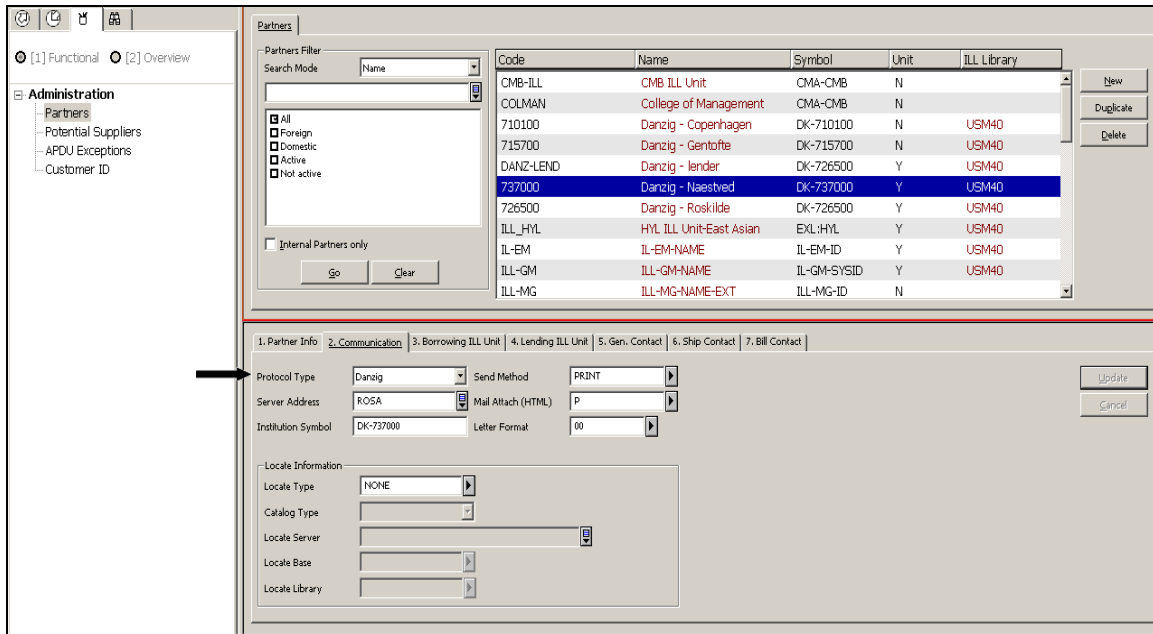
## 4 Setting the danZIG ILL System

The danZIG supporting Aleph ILL system relies on the following two components being active:

- All ISO ILL components, including:
  - 'Update Doc Index' daemon (ue\_01) running in the ILLSV library.
  - 'Handle ILL Server Library Document' daemon (ue\_17) running in the ILLSV library.
- Z39.50 components, including:
  - Z39.50 Server
  - Z39.50 Gate

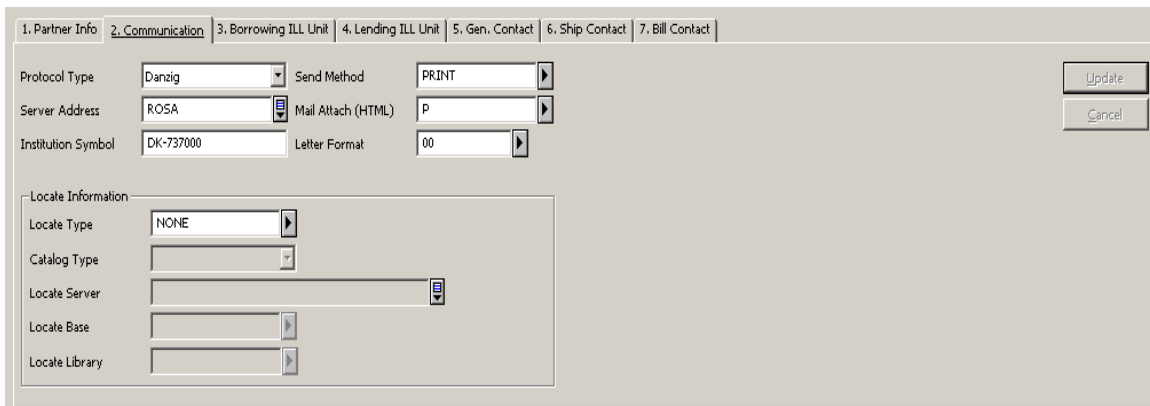
### 4.1 Defining the danZIG ILL Partners

The danZIG partner must be defined as a danZIG user in the partner's Communication tab:

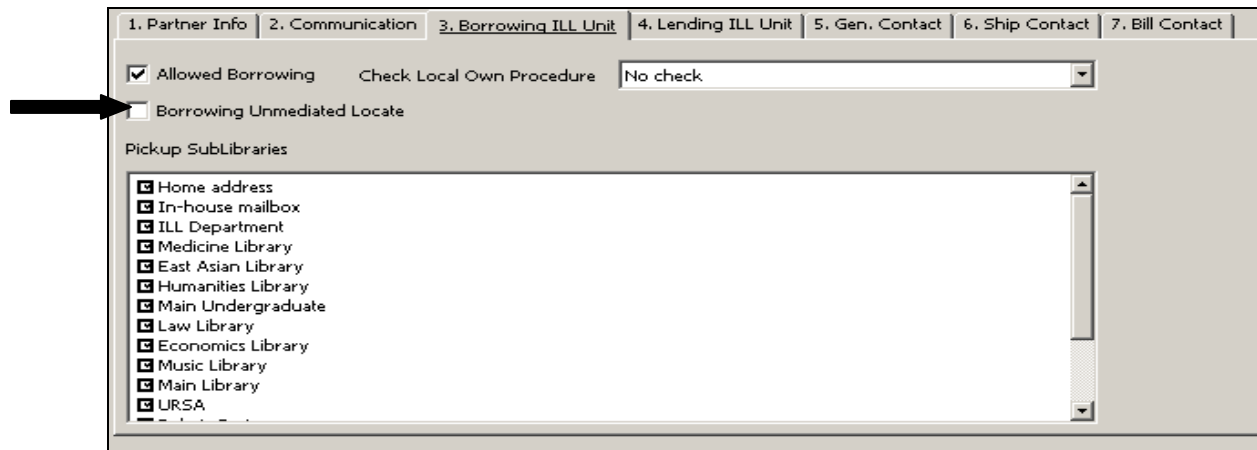


When defining the danZIG partner:

- The server address field must contain the Z39.50 gateway base from which the request is sent. The base must be configured in the alephe/tab/z39\_gate/z39\_gate\_<BASE>.conf file (and z39\_gate.conf) files, as is standard for all Z39.50 gateway bases. In the below example, the alephe/tab/z39\_gate/z39\_gate\_ROSA.conf file defines the Z39.50 gate to which the system sends the PDU when sending an ILL PDU to this partner.
- The institution symbol is mandatory, as it is for all ISO ILL transactions.
- As not the ILL messages that are not supported for danZIG ILL are sent by letter, the send method and Mail Attach fields are mandatory.
- The Locate Type must be set to NONE. Borrowing requests are created by Netpunkt. The Locate function is not to be used for danZIG units.



- Since borrowing requests are created by Netpunkt, the 'ILL Automatic Processing (ue\_19)' daemon is not expected to manage danZIG requests. It is therefore recommended to clear the 'Borrowing Unmediated Locate' checkbox.



## 4.2 Performing Locate on danZIG ILL Partners

Since the Netpunkt system is where ILL Requests are generated, the locate function is not expected to be used for locating potential danZIG suppliers. Adding danZIG suppliers to the Z701 potential suppliers list is not recommended.

## 4.3 Setting the Z4110 Table

In v.18 it is necessary to create the Z4110 table in the ILL Library. The following should be added to the ILL Library file list.

```

!1      2              3              4              5              6
!!!!-!!!!!!!!!!!!!!!!!!!!-!!!!!!!!!!!!!!!!!!!!-!!!!!!!!!!!!!!!!!!!!-
!!!!!!!!!!!!!!!!!!!!
TAB z4110              100K              100K              ts0
IND z4110_id           100K              100K              ts1
IND z4110_id2         100K              100K              ts1

```

The table has the following structure:

```

01 Z4110.
    02 Z4110-REC-KEY.
        03 Z4110-DOC-NUMBER              PICTURE 9(9).
        03 Z4110-SEQUENCE                PICTURE 9(9).
    02 Z4110-REFERENCE-NUMBER.
        03 Z4110-REQUESTER-SYSTEM-ID    PICTURE X(50).
        03 Z4110-GROUP-QUALIFIER        PICTURE X(25).
        03 Z4110-QUALIFIER               PICTURE X(25).

```

The table is in essence an extension of the Z411 table. Its record key is the same as that of the Z411 record for which it stores a transaction ID. Its Z4110-REFERENCE-NUMBER stores the transaction's transaction ID, as follows:

Z4110-REQUESTER-SYSTEM-ID - The initial-requester-id  
Z4110-GROUP-QUALIFIER - The transaction-group-qualifier  
Z4110-QUALIFIER - The transaction-qualifier

**Note:** In version 20 the Z4110-REFERENCE-NUMBER is part of the Z411 record, and is named Z411-REFERENCE-NUMBER.

#### **4.4 Setting the Retry Variable**

The `danzig_ill_retry` variable is a two digit variable that is used to define the number of retries that the 'Handle ILL Server Library Document (ue\_17)' daemon makes before rejecting an incoming ILL Answer message. Setting this variable can be used to overcome a situation in which the ILL Answer has at the borrowing library before the borrowing request has been registered by the script (see page 6).