

INTERLIBRARY LOAN (ILL)
INTERIM CANADIAN STANDARDIZED PROFILE
IMPLEMENTATION CONFORMANCE STATEMENT REQUIREMENTS LIST

November 4, 1991

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1. INTRODUCTION

This document defines an interim Canadian Standardized Profile Implementation Conformance Statement Requirements List for the interlibrary loan protocol. It supersedes the draft interim Requirements List dated December 3, 1990.

The National Library of Canada initiated work on a Canadian Standardized Profile (CSP) to ensure that implementations of the ILL protocol produced by Canadian software developers support a common set of options and values. When implementations are based on the same profile, they are more likely to interwork than if software developers make independent decisions on what protocol features to implement.

A Requirements List forms part of a standardized profile and details the selection of options made from all of those available in the base standard, in this instance the ILL protocol, and the values and constraints of the data types in the standard.

This interim Canadian Standardized Profile Requirements List is based on the International Standard for the interlibrary loan (ILL) protocol approved in April 1991 by the International Organization for Standardization (ISO). It is also based on a draft International Standardized Profile (ISP) and the associated Requirements List (IPRL) being developed by the International Forum on Open Bibliographic Systems (IFOBS). While every effort is made to keep the Canadian Requirements List synchronized with the international Requirements List, the international document is still under development and changes made to it will have to be reflected in the Canadian one where appropriate. A final Standardized Canadian Profile will probably not be ratified in Canada until late 1993 or early 1994, after the proposed international standardized profile has been approved by ISO.

The Canadian Requirements List, however, differs from the international one in a number of instances. For example, the Canadian profile defines the EXTERNAL data types *national-bibliography-no* and *system-no* to reflect the national bibliographies and databases commonly used in ILL operations by Canadian libraries. It also defines as mandatory several data types which are listed as optional in the international profile.

The Requirements List contained in Annex A provides maximum field lengths for types to ensure that there is common agreement on the sizes of data types transmitted and received. If the data contained in a data type is longer than that which can be accepted by the receiving system, the system will have to ignore that portion of the data type which exceeds the maximum length it is capable of supporting. It is not a protocol error when the size of a received data type exceeds a system's capabilities to process it, but it does result in the loss of data. To prevent the loss of important information which may be crucial to the positive completion of an ILL request, adherence to field lengths as defined in this profile is encouraged.

Implementors in the ILL Protocol Implementation Program must complete this document as Deliverable 3.2: Final Profile Implementation Conformance Statement. The completed List will be used for the conformance testing of your system.

2. REFERENCES

ISO 10160 - Information and Documentation - Open Systems
Interconnection (OSI) - Interlibrary Loan Application Service
Definition

ISO DIS 10161 - Information and Documentation - Open Systems
Interconnection - Interlibrary Loan Application Protocol Specification

3. CONFORMANCE

This CSP states requirements upon implementations to achieve interworking. A claim of conformance to a referencing profile is a claim that all requirements in the relevant base standards are satisfied, and that all the requirements in Annex A of this CSP are satisfied. Annex A states the relationship between these requirements and those of the base standard.

3.1 Static Conformance

Static Conformance requirements for this CSP are concerned with the stated capability claims for an implementation, as would be expressed in a Protocol Implementation Conformance Statement (PICS).

The ILL protocol profile static conformance requirements are as follows:

1. implementations conforming to the ILL profile shall support all mandatory features defined in the Canadian Standardized Profile Implementation Conformance Statement Requirements List in Annex A.
2. implementations conforming to the ILL profile shall support the reception of all mandatory and optional data types for all APDUs that may legitimately be received by an implementation according to its supported role(s).
3. implementations conforming to the ILL profile which support optional data types as specified in Annex A shall be capable of defining data for such types. However, the data

for such optional types need not always be present in the corresponding APDUs. This CSP does not define the circumstances in which such optional data types shall be present.

3.2 Dynamic Conformance

Dynamic conformance for ILL shall be as specified in clause 10.2 of ISO 10161.

4. NOTATIONS DEFINED FOR THIS REQUIREMENTS LIST

In order to reduce the size of the table in the Requirements List proforma, a number of abbreviations have been introduced. The definition of each of these follows.

For Column Headings

- 'D': Defined in ISO 10161. This column indicates the level of support required for conformance to ISO 10161.
- 'P': Defined in the ILL Canadian Standardized Profile (CSP). This column indicates the level of support required for conformance to this profile.
- 'I': Implementation Indicator. This column shows which parameters or other details have or have not been implemented.

4.1 D-Column

- 'm': mandatory: support for this feature is required for conformance to ISO 10161.
- 'o': optional: support is permitted, but is not mandatory for conformance to ISO 10161. However, if this feature is implemented, it must conform to the specifications and restrictions contained in ISO 10161. These restrictions affect the optionality of other features.

'c': conditional: support for this feature depends on certain conditions as specified in ISO 10161.

'-': not applicable

4.2 P-Column

'm': mandatory: support for this feature is required for conformance to this CSP.

'o': optional: support is permitted, but is not mandatory for conformance to this CSP. However, if this feature is implemented, it must conform to the specifications and restrictions contained in the base standard or this CSP. These restrictions may affect the optionality of other features.

'c': conditional: support for this feature depends on certain conditions as specified in the base standard or this CSP.

'x': excluded: implementation of this feature is not supported by this CSP.

'-': not applicable: logically impossible in the context of the base standard or this CSP.

4.3 I-Column

The I-column shall be completed by the supplier or implementor to indicate the level of implementation of each feature. The Proforma has been designed such that the only entries required in the "I" column are:

'Y': Yes, the feature has been implemented

'N': No, the feature has not been implemented

'-': Not applicable to this implementation

5. COMPLETION BY THE IMPLEMENTOR

The implementor shall complete all [] entries in the proforma in addition to any other specifically identified sectors.

Where the level of detail exceeds the space available for responses, references can be made to additional annexes where complete descriptions are provided.

ANNEX A

INTERIM CANADIAN STANDARDIZED PROFILE REQUIREMENTS LIST

SECTION ONE - IMPLEMENTATION DETAILS

1 IMPLEMENTATION DETAILS

1.1 DATE OF STATEMENT

DATE OF STATEMENT (YYYY-MM-DD):

1.2 IDENTIFICATION OF THE IMPLEMENTATION

IMPLEMENTATION SUPPLIER:

IMPLEMENTATION NAME:

IMPLEMENTATION VERSION NUMBER:

MACHINE NAME:

MACHINE VERSION NUMBER:

OPERATING SYSTEM NAME:

OPERATING SYSTEM VERSION NUMBER:

OTHER OPERATING SYSTEMS:

AND HARDWARE CLAIMED:

SYSTEM NAME (IF DIFFERENT):

GLOBAL STATEMENT OF CONFORMANCE

ARE ALL MANDATORY FEATURES OF ISO 10161 IMPLEMENTED []

2 PROFILES CONFORMED TO

PROFILE NAMES:

SECTION TWO - GENERAL DETAIL

3 ISO 10161 DETAILS

PROTOCOL VERSION NUMBER:

4 ROLES SUPPORTED

| | Requester | | | Responder | | | Intermediary | | |
|--------|--------------------------|--------------------------|-----|--------------------------|--------------------------|-----|--------------------------|--------------------------|-----|
| | D | P | I | D | P | I | D | P | I |
| Roles: | <input type="checkbox"/> | <input type="checkbox"/> | [] | <input type="checkbox"/> | <input type="checkbox"/> | [] | <input type="checkbox"/> | <input type="checkbox"/> | [] |

NOTES:

1. At least one role must be supported by an implementation.

5 ILL SERVICE TYPES SUPPORTED

| | Requester | | | Responder | | | Intermediary | | |
|-----------------------|--------------------------|--------------------------|-----|--------------------------|--------------------------|-----|--------------------------|--------------------------|-----|
| | D | P | I | D | P | I | D | P | I |
| *Loan: | <input type="checkbox"/> | c1 | [] | <input type="checkbox"/> | c1 | [] | <input type="checkbox"/> | c1 | [] |
| *Copy/Non-returnable: | <input type="checkbox"/> | c1 | [] | <input type="checkbox"/> | c1 | [] | <input type="checkbox"/> | c1 | [] |
| Locations: | <input type="checkbox"/> | <input type="checkbox"/> | [] | <input type="checkbox"/> | <input type="checkbox"/> | [] | <input type="checkbox"/> | <input type="checkbox"/> | [] |
| Estimate: | <input type="checkbox"/> | <input type="checkbox"/> | [] | <input type="checkbox"/> | <input type="checkbox"/> | [] | <input type="checkbox"/> | <input type="checkbox"/> | [] |
| Responder-specific: | <input type="checkbox"/> | <input type="checkbox"/> | [] | <input type="checkbox"/> | <input type="checkbox"/> | [] | <input type="checkbox"/> | <input type="checkbox"/> | [] |

CONDITIONS:

- c1. At least one of the Loan or Copy/Non-returnable service types must be supported.

6 TRANSACTION TYPES SUPPORTED

| | Requester | | | Responder | | | Intermediary | | |
|--------------|-----------|---|-----|-----------|---|-----|--------------|---|-----|
| | D | P | I | D | P | I | D | P | I |
| Simple: | m | m | [] | m | m | [] | m | m | [] |
| Chained: | o | o | [] | o | o | [] | o | o | [] |
| Partitioned: | o | o | [] | o | o | [] | o | o | [] |

NOTES:

1. For chained transactions, requester support implies the ability to permit chained transactions; responder support implies the ability to send the SHIPPED message; intermediary support implies the ability to initiate chained sub-transactions.
2. For partitioned transactions, requester support implies the ability to permit partitioned transactions and to interact with different parties for the processing and tracking phases of a transaction; responder support implies the ability to send the SHIPPED message and to interact directly with the requester during the tracking phase of the transaction; intermediary support implies the ability to initiate partitioned sub-transactions.
3. Implementation of the intermediary role implies support for at least one of the chained or partitioned transaction types.

SECTION THREE - SYNTAXES

7.0 SYNTAXES

This section identifies the requirements for support of the various possible syntaxes associated with the ILL protocol. Support for a particular syntax implies that an implementation is capable of generation and reception of information defined by that syntax.

7.1 ABSTRACT SYNTAXES

All abstract syntaxes are specified in ASN.1

| SYNTAX NAME | D | P | I |
|--|---|----|-----|
| APDU | m | m | [] |
| EXTERNAL: responder-specific-service | o | x | [] |
| EXTERNAL: national-bibliography-no | o | c1 | [] |
| EXTERNAL: system-no | o | c2 | [] |
| EXTERNAL: responder-specific-results for reason-unfilled | o | x | [] |
| EXTERNAL: responder-specific-results for reason-locs-provided | o | x | [] |
| EXTERNAL: responder-specific-results for reason-not-available | o | x | [] |
| EXTERNAL: responder-specific-results for conditions | o | x | [] |
| EXTERNAL: supplemental-item-description | o | x | [] |
| EXTERNAL: responder-specific-results for reason-will-supply | o | x | [] |

CONDITIONS:

- c1. The EXTERNAL data type "national-bibliography-no" is supported by this profile as an optional parameter. Use of the abstract syntax defined in section 7.2.1 is mandatory if the "national-bibliography-no" parameter is supported by an implementation.

c2. The EXTERNAL data type "system-no" is supported by this profile as an optional parameter. Use of the abstract syntax defined in section 7.2.1 is mandatory if the "system-no" parameter is supported by an implementation.

7.2 TRANSFER SYNTAXES

For each abstract syntax identified in section 7.1, two transfer syntaxes are possible, one based on ASN.1 encoding rules, and the other based on EDIFACT. The transfer syntax based on ASN.1 encoding rules is mandatory for APDUs and for all supported EXTERNALs as per ISO 10161. The EDIFACT-based transfer syntax is supplemental and optional in all cases. Appendix 1 discusses the question of transfer syntax in greater detail. In general, an ILL message which includes EXTERNAL data types should use the same syntax for the EXTERNAL data types as for the body of the APDU. Therefore, if two transfer syntaxes are supported for APDUs, then two transfer syntaxes should be supported for each implemented abstract syntax.

For purposes of a Canadian Standardized Profile, the EDIFACT transfer syntax 7-bit option will be used on an interim basis until such time when transparent bit transfer can be widely supported by telecommunication networks in Canada.

| SYNTAX NAME | D | P | I |
|---|---|----|-----|
| APDU - ASN.1 Encoding Rules | m | m | [] |
| APDU - Annex A (EDIFACT) | o | m | [] |
| EXTERNAL: responder-specific-service-ASN.1 | o | x | [] |
| EXTERNAL: responder-specific-service-EDIFACT | o | x | [] |
| EXTERNAL: national-bibliography-no - ASN.1 | o | x | [] |
| EXTERNAL: national-bibliography-no - EDIFACT | o | c1 | [] |
| EXTERNAL: system-no - ASN.1 | o | x | [] |
| EXTERNAL: system-no - EDIFACT | o | c2 | [] |
| EXTERNAL: responder-specific-results for reason-unfilled - ASN.1 | o | x | [] |
| EXTERNAL: responder-specific-results for reason-unfilled - EDIFACT | o | x | [] |
| EXTERNAL: responder-specific-results for reason-locs-provided - ASN.1 | o | x | [] |
| EXTERNAL: responder-specific-results for reason-locs-provided - EDIFACT | o | x | [] |
| EXTERNAL: responder-specific-results for reason-not-available - ASN.1 | o | x | [] |
| EXTERNAL: responder-specific-results for | o | x | [] |

| | | | | |
|-----------|--|-----------------------|-------------------------------------|-----|
| | reason-not-available - EDIFACT | | | |
| EXTERNAL: | responder-specific-results for conditions - ASN.1 | <input type="radio"/> | <input checked="" type="checkbox"/> | [] |
| EXTERNAL: | responder-specific-results for conditions - EDIFACT | <input type="radio"/> | <input checked="" type="checkbox"/> | [] |
| EXTERNAL: | responder-specific-results for reason-will-supply - ASN.1 | <input type="radio"/> | <input checked="" type="checkbox"/> | [] |
| EXTERNAL: | responder-specific-results for reason-will-supply - EDIFACT | <input type="radio"/> | <input checked="" type="checkbox"/> | [] |
| EXTERNAL: | supplemental-item-description ASN.1 | <input type="radio"/> | <input checked="" type="checkbox"/> | [] |
| EXTERNAL: | supplemental-item-description EDIFACT | <input type="radio"/> | <input checked="" type="checkbox"/> | [] |

CONDITIONS:

- c1. Use of the transfer syntax is conditional on supporting the abstract syntax for the "national-bibliography-no" parameter.
- c2. Use of the transfer syntax is conditional on supporting the abstract syntax for the "system-no" parameter.

7.2.1 Description of EXTERNAL Syntaxes

This section provides an ASN.1 specification of each supported EXTERNAL abstract syntax, plus EDIFACT encoding rules, if an EDIFACT encoding is supported. References to attachments for each such syntax are permitted.

Two EXTERNALS are defined for the Canadian Standardized Profile: national-bibliography-no and system-no. Both are contained in the Item-Id of the ILL-REQUEST. An object identifier is defined for each EXTERNAL and must be supplied whenever the EXTERNAL is transmitted. In the following ASN.1 specifications the object identifier appears as the first line.

7.2.1.1 National-bibliography-no

```
canNationalBibliographyNo {iso (1) member-body (2) canada (124)
                           ill (10161) external-1 (1) }
```

-- this value is a provisional notation and is subject to change --

```
DEFINITIONS ::=
```

```
BEGIN
```

```
IMPORTS
```

```
    ILLString
```

```
FROM
```

```
    ILL-APDUS {iso (1) standard (0) ill (10161) abstract-syntax (2)
              apdus (1);
```

```
National-bibliography-no ::= SEQUENCE (SIZE 1..10) OF SEQUENCE {
    national-bibliography      National-bibliography,
    record-no                  Record-no
    }
```

```
National-bibliography ::= ENUMERATED {
    british-national-bibliography (1),
    canadiana (2),
    lccn (3)
    other(4)
    }
```

```
Record-no ::= ILLString (SIZE (1..50))
```

-- do not include the acronym for the national bibliography as part of the record number unless "other (4)" is chosen.

```
END
```

7.2.1.2 System-no

```
canSystemNo {iso (1) member-body (2) canada (124)
              ill (10161) external-2 (2) }

-- this value is a provisional notation and is subject to change --

DEFINITIONS ::=
BEGIN

IMPORTS
    ILLString
FROM
    ILL-APDUS {iso (1) standard (0) ill (10161) abstract-syntax (2)
              apdus (1);

System-no ::= SEQUENCE (SIZE 1..10) of SEQUENCE {
    System      System,
    record-no   Record-no
}

System ::= ENUMERATED {
    dobis (1),
    candoc (2),
    oclc (3),
    rlin (4)
    utlas (5),
    other (6)
}

-- do not include the acronym for the system as part of the record
number unless "other (6)" is chosen.

-- this list is not final.  Other systems as identified by users and
implementors will be added --

Record-no ::= ILLString (SIZE (1..50))

END
```

7.2.1.3 Transfer Syntax

The rules of Annex B to ISO 10161 shall be used to generate a transfer syntax for these external types.

The "encoding" element of the external type may be encoded as a "single-ASN1-type" as defined in ISO 8824 section 32.7.

If the EDIFACT transfer syntax is used, the ASN.1 types defined here shall be encoded as follows:

canNationalBibliographyNo shall only be used for the content of the "national-bibliography-no" data element of item-id. The data element is expanded for encoding as follows:

```
national-bibliography-no
    {
        object identifier,
        national-bibliography,
        record-no
    }
```

The last two subelements are repeatable. Each of these subelements can be encoded using the rules in ISO 10161 B6.3.

canSystemNo shall only be used for the contents of the "system-no" data element of item-id. The data element is expanded for encoding as follows:

```
system-no
    {
        object identifier,
        system,
        record-no
    }
```

The last two subelements are repeatable. Each of these subelements can be encoded using the rules in ISO 10161 B6.3.

For encoding of Object Identifiers, see rule B.6.3.4 in ISO 10161.

SECTION FOUR - INTERLIBRARY LOAN PROTOCOL

8.0 INTERLIBRARY LOAN PROTOCOL

8.1 Services Supported

Except for optional APDUs, addressed in section 9, support for a service implies support for sending and receiving the corresponding APDUs, as appropriate.

NOTE - This section is cast in terms of services rather than APDUs because some mandatory services do not necessarily result in the transfer of an APDU. For instance, it is mandatory for a responder to support the SHIPPED service, but sending a SHIPPED APDU is optional. The protocol allows the most recent service and the current state to be determined at any time by means of the STATUS-QUERY and STATUS-OR-ERROR-REPORT APDUs.

| Service | Requester | | | Responder | | | Intermediary | | |
|-----------------------|-----------|----|-----|-----------|----|-----|--------------|----|-----|
| | D | P | I | D | P | I | D | P | I |
| ILL-REQUEST: | m | m | [] | m | m | [] | m | m | [] |
| FORWARD | - | - | - | o | o | [] | o | o | [] |
| FORWARD-NOTIFICATION: | c1 | c1 | [] | c1 | c1 | [] | c1 | c1 | [] |
| SHIPPED: | m | m | [] | m | m | [] | m | m | [] |
| ILL-ANSWER: | m | m | [] | m | m | [] | m | m | [] |
| CONDITIONAL-REPLY: | m | m | [] | c2 | c2 | [] | m | m | [] |
| CANCEL: | o | o | [] | m | m | [] | m | m | [] |
| CANCEL-REPLY: | c3 | c3 | [] | m | m | [] | m | m | [] |
| RECEIVED: | m | m | [] | m | m | [] | m | m | [] |
| RECALL: | c4 | c4 | [] | c4 | c4 | [] | c4 | c4 | [] |
| RETURNED: | c4 | c4 | [] | c4 | c4 | [] | c4 | c4 | [] |
| CHECKED-IN: | c4 | c4 | [] | c4 | c4 | [] | c4 | c4 | [] |
| OVERDUE: | c4 | c4 | [] | c4 | c4 | [] | c4 | c4 | [] |
| RENEW: | c5 | c5 | [] | c4 | c4 | [] | c4 | c4 | [] |
| RENEW-ANSWER: | c6 | c6 | [] | c4 | c4 | [] | c4 | c4 | [] |
| LOST: | m | m | [] | m | m | [] | m | m | [] |
| DAMAGED: | o | o | [] | o | o | [] | m | m | [] |

| | | | | | | | | | | | | |
|--------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| MESSAGE : | o | o | [|] | o | o | [|] | m | m | [|] |
| STATUS-QUERY : | o | o | [|] | o | o | [|] | m | m | [|] |
| STATUS-OR-ERROR-REPORT : | m | m | [|] | m | m | [|] | m | m | [|] |
| EXPIRY : | m | m | [|] | m | m | [|] | m | m | [|] |

CONDITIONS :

- c1. An implementation in the role of requester must be able to receive a FORWARD-NOTIFICATION APDU if it supports "permission-to-forward" with the value "TRUE". An implementation in the role of responder must be able to send a FORWARD-NOTIFICATION APDU if it supports the FORWARD service.
- c2. Support for the CONDITIONAL-REPLY service is mandatory if the implementation supports transaction-results with the value "CONDITIONAL"; otherwise it is not applicable.
- c3. Support for the CANCEL-REPLY service is mandatory if the implementation supports the CANCEL service; otherwise it is not applicable.
- c4. Support for the RECALL, RETURNED, CHECKED-IN, OVERDUE and RENEW-ANSWER services is conditional on support for the "loan" service type; otherwise they are not applicable.
- c5. Support for the RENEW service is optional if the implementation supports the "loan" service type; otherwise it is not applicable.
- c6. Support for the RENEW-ANSWER service is mandatory if the implementation support the RENEW service; otherwise it is not applicable.

NOTE :

- 1. A requester and an intermediary must be able to accept an EXPIRY APDU. A responder and an intermediary must maintain an expiry-timer.

8.2 SUPPORT FOR APDU PARAMETERS

The base standard requires that an implementation be capable of receiving all data types within an APDU. Section 8.2 therefore deals only with the requirements for parameters in sent APDUs. Mandatory support for a parameter requires that an implementation shall send data for that parameter where applicable.

This profile does not address how an implementation deals with information that is received; that is a local implementation issue.

8.2.1 ILL-REQUEST APDU

| PARAMETER NAME | D | P | I | RANGE OF VALUES |
|-------------------------------|----|----|-----|--|
| protocol-version- num | m | m | [] | "1" |
| transaction- id | m | m | [] | see section 10.26 |
| service-date-time | m | m | [] | see section 10.17 |
| requester-id | o | m | [] | see section 10.24 |
| responder-id | o | m | [] | see section 10.24 |
| transaction-type | o | c1 | [] | see section 6 |
| delivery-address | o | o | [] | see section 10.12 and section 10.23 |
| delivery-service | o | o | [] | see section 10.27 |
| billing-address | o | o | [] | see section 10.12 and section 10.23 |
| ILL-service-type | m | m | [] | see section 5 |
| responder-specific-service | o | o | [] | see section 7 |
| requester-optional-messages | m | m | [] | see section 9.1 |
| search-type | o | o | [] | see section 10.15 |
| supply-medium-information | o | o | [] | see section 10.21 |
| place-on-hold | o | o | [] | all values defined in ISO 10161 |
| client-id | o | o | [] | see section 10.3 |
| item-id | m | m | [] | see section 10.10 |
| supplemental-item-description | o | o | [] | see section 7 |
| cost-info-type | o | o | [] | see section 10.5 |
| copyright-compliance | o | o | [] | see section 10.4 |
| third-party-info-type | c2 | c2 | [] | see section 10.25 |
| retry-flag | o | m | [] | all values defined in ISO 10161 |
| forward-flag | c3 | c3 | [] | all values defined in ISO 10161 |
| requester-note | o | o | [] | see section 10.11 |
| forward-note | c4 | c4 | [] | see section 10.11 |

CONDITIONS:

- c1. If an implementation supports the sending of an ILL-REQUEST for a chained or partitioned transaction, it must provide data for "transaction-type". A responder must be able to accept all values but may not support the transaction-type indicated.
- c2. Support for sending "third-party-information" is mandatory for implementations that support forwarding or partitioning; it is optional otherwise. (see base standard)
- c3. Support for sending the "forward flag" is mandatory for implementations that support forwarding; it is optional otherwise.
- c4. Support for sending the "forward note" is optional for implementations that support forwarding; it is not present otherwise.

8.2.2 FORWARD-NOTIFICATION APDU

| PARAMETER NAME | D | P | I | RANGE OF VALUES |
|----------------------|---|---|-----|-------------------|
| protocol-version-num | m | m | [] | "1" |
| transaction-id | m | m | [] | see section 10.26 |
| service-date-time | m | m | [] | see section 10.17 |
| requester-id | o | m | [] | see section 10.24 |
| responder-id | o | m | [] | see section 10.24 |
| responder-address | o | o | [] | see section 10.23 |
| intermediary-id | m | m | [] | see section 10.24 |
| notification-note | o | o | [] | see section 10.11 |

8.2.3 SHIPPED APDU

| PARAMETER NAME | D | P | I | RANGE OF VALUES |
|-------------------------------|----|----|-----|---|
| protocol-version-num | m | m | [] | "1" |
| transaction-id | m | m | [] | see section 10.26 |
| service-date-time | m | m | [] | see section 10.17 |
| requester-id | o | m | [] | see section 10.24 |
| responder-id | o | m | [] | see section 10.24 |
| responder-address | c1 | c1 | [] | see section 10.23 |
| intermediary-id | c1 | c1 | [] | see section 10.24 |
| supplier-id | c2 | c2 | [] | see section 10.24 |
| client-id | c3 | m | [] | see section 10.3 |
| transaction-type | c1 | c1 | [] | see section 6 |
| supplemental-item-description | o | o | [] | see section 7 |
| shipped-service-type | m | m | [] | all values defined in ISO 10161, as constrained by section 5 of this document |
| responder-optional-messages | o | o | [] | see section 9.2 |
| supply-details | m | m | [] | see section 10.20 |
| return-to-address | o | o | [] | see section 10.12 |
| responder-note | o | o | [] | see section 10.11 |

CONDITIONS:

- c1. Support for sending the responder address, intermediary identification and transaction type parameters are mandatory for implementations that support chained and partitioned transactions; they are optional otherwise.
- c2. Support for sending the supplier identification parameter is mandatory for implementations that support supply by a third party (i.e. the supplier of the item is different from the final responder); it is optional otherwise.

- c3. The standard indicates that the client identification parameter is mandatory if it was present on the initial ILL-REQUEST indication. Therefore, an implementation must be able to send client information. However, in some cases, an institution may be prohibited from providing this data because of privacy legislation restrictions.

8.2.4 ILL-ANSWER APDU

| PARAMETER NAME | D | P | I | RANGE OF VALUES |
|-----------------------------|----|----|-----|-------------------|
| protocol-version-num | m | m | [] | "1" |
| transaction-id | m | m | [] | see section 10.26 |
| service-date- time | m | m | [] | see section 10.17 |
| requester-id | o | m | [] | see section 10.24 |
| responder-id | o | m | [] | see section 10.24 |
| transaction-results | m | m | [] | see section 10.28 |
| results-explanation | c1 | c1 | [] | see section 10.14 |
| responder-specific-results | o | o | [] | see section 7 |
| send-to-list | o | o | [] | see section 10.16 |
| already-tried-list | o | o | [] | see section 10.24 |
| responder-optional-messages | o | o | [] | see section 9.2 |
| responder-note | o | o | [] | see section 10.11 |

CONDITIONS:

- c1. Support for sending the results-explanation parameter is mandatory if the implementation supports sending the transaction-results parameter with the values "conditional", "locations-provided" or "estimate"; it is optional otherwise.

8.2.5 CONDITIONAL-REPLY APDU

| PARAMETER NAME | D | P | I | RANGE OF VALUES |
|----------------------|---|---|-----|------------------------------------|
| protocol-version-num | m | m | [] | "1" |
| transaction-id | m | m | [] | see section 10.26 |
| service-date-time | m | m | [] | see section 10.17 |
| requester-id | o | m | [] | see section 10.24 |
| responder-id | o | m | [] | see section 10.24 |
| answer | m | m | [] | all values defined in ISO 10161 |
| requester-note | o | o | [] | see section 10.11 |

8.2.6 CANCEL APDU

| PARAMETER NAME | D | P | I | RANGE OF VALUES |
|----------------------|---|---|-----|-------------------|
| protocol-version-num | m | m | [] | "1" |
| transaction-id | m | m | [] | see section 10.26 |
| service-date-time | m | m | [] | see section 10.17 |
| requester-id | o | m | [] | see section 10.24 |
| responder-id | o | m | [] | see section 10.24 |
| requester-note | o | o | [] | see section 10.11 |

8.2.7 CANCEL-REPLY APDU

| PARAMETER NAME | D | P | I | RANGE OF VALUES |
|----------------------|---|---|-----|------------------------------------|
| protocol-version-num | m | m | [] | "1" |
| transaction-id | m | m | [] | see section 10.26 |
| service-date-time | m | m | [] | see section 10.17 |
| requester-id | o | m | [] | see section 10.24 |
| responder-id | o | m | [] | see section 10.24 |
| answer | m | m | [] | all valued defined in ISO 10161 |

8.2.10 RETURNED APDU

| PARAMETER NAME | D | P | I | RANGE OF VALUES |
|-------------------------------|---|---|-----|-------------------|
| protocol-version-num | m | m | [] | "1" |
| transaction-id | m | m | [] | see section 10.26 |
| service-date-time | m | m | [] | see section 10.17 |
| requester-id | o | m | [] | see section 10.24 |
| responder-id | o | m | [] | see section 10.24 |
| supplemental-item-description | o | o | [] | see section 7 |
| date-returned | m | m | [] | YYYYMMDD |
| returned-via | o | o | [] | see section 10.27 |
| insured-for | o | o | [] | see section 10.2 |
| requester-note | o | o | [] | see section 10.11 |

8.2.12 CHECKED-IN APDU

| PARAMETER NAME | D | P | I | RANGE OF VALUES |
|----------------------|---|---|-----|-------------------|
| protocol-version-num | m | m | [] | "1" |
| transaction-id | m | m | [] | see section 10.26 |
| service-date-time | m | m | [] | see section 10.17 |
| requester-id | o | m | [] | see section 10.24 |
| responder-id | o | m | [] | see section 10.24 |
| date-checked-in | m | m | [] | YYYYMMDD |
| responder-note | o | o | [] | see section 10.11 |

8.2.13 OVERDUE APDU

| PARAMETER NAME | D | P | I | RANGE OF VALUES |
|----------------------|---|---|-----|-------------------|
| protocol-version-num | m | m | [] | "1" |
| transaction-id | m | m | [] | see section 10.26 |
| service-date-time | m | m | [] | see section 10.17 |
| requester-id | o | m | [] | see section 10.24 |
| responder-id | o | m | [] | see section 10.24 |
| date-due | m | m | [] | see section 10.6 |
| responder-note | o | o | [] | see section 10.11 |

8.2.14 RENEW APDU

| PARAMETER NAME | D | P | I | RANGE OF VALUES |
|----------------------|---|---|-----|-------------------|
| protocol-version-num | m | m | [] | "1" |
| transaction-id | m | m | [] | see section 10.26 |
| service-date-time | m | m | [] | see section 10.17 |
| requester-id | o | m | [] | see section 10.24 |
| responder-id | o | m | [] | see section 10.24 |
| desired-date-due | o | o | [] | YYYYMMDD |
| requester-note | o | o | [] | see section 10.11 |

8.2.15 RENEW-ANSWER APDU

| PARAMETER NAME | D | P | I | RANGE OF VALUES |
|----------------------|----|----|-----|------------------------------------|
| protocol-version-num | m | m | [] | "1" |
| transaction-id | m | m | [] | see section 10.26 |
| service-date-time | m | m | [] | see section 10.17 |
| requester-id | o | m | [] | see section 10.24 |
| responder-id | o | m | [] | see section 10.24 |
| answer | m | m | [] | all values defined in ISO 10161 |
| date-due | c1 | c1 | [] | see section 10.6 |
| responder-note | o | o | [] | see section 10.11 |

CONDITIONS:

- c1. Support for sending the date due parameter is optional if the implementation supports sending the answer parameter with the value of "TRUE"; it is not applicable otherwise.

8.2.16 LOST APDU

| PARAMETER NAME | D | P | I | RANGE OF VALUES |
|----------------------|---|---|-----|-------------------|
| protocol-version-num | m | m | [] | "1" |
| transaction-id | m | m | [] | see section 10.26 |
| service-date-time | m | m | [] | see section 10.17 |
| requester-id | o | m | [] | see section 10.24 |
| responder-id | o | m | [] | see section 10.24 |
| note | o | o | [] | see section 10.11 |

8.2.17 DAMAGED APDU

| PARAMETER NAME | D | P | I | RANGE OF VALUES |
|----------------------|---|---|-----|-------------------|
| protocol-version-num | m | m | [] | "1" |
| transaction-id | m | m | [] | see section 10.26 |
| service-date-time | m | m | [] | see section 10.17 |
| requester-id | o | m | [] | see section 10.24 |
| responder-id | o | m | [] | see section 10.24 |
| note | o | o | [] | see section 10.11 |

8.2.18 MESSAGE APDU

| PARAMETER NAME | D | P | I | RANGE OF VALUES |
|----------------------|---|---|-----|-------------------|
| protocol-version-num | m | m | [] | "1" |
| transaction-id | m | m | [] | see section 10.26 |
| service-date-time | m | m | [] | see section 10.17 |
| requester-id | o | m | [] | see section 10.24 |
| responder-id | o | m | [] | see section 10.24 |
| note | m | m | [] | see section 10.11 |

8.2.19 STATUS-QUERY APDU

| PARAMETER NAME | D | P | I | RANGE OF VALUES |
|----------------------|---|---|-----|-------------------|
| protocol-version-num | m | m | [] | "1" |
| transactionid | m | m | [] | see section 10.26 |
| service-date-time | m | m | [] | see section 10.17 |
| requester-id | o | m | [] | see section 10.24 |
| responder-id | o | m | [] | see section 10.24 |
| note | o | o | [] | see section 10.11 |

8.2.20 STATUS-OR-ERROR-REPORT APDU

| PARAMETER NAME | D | P | I | RANGE OF VALUES |
|----------------------|----|----|-----|-------------------|
| protocol-version-num | m | m | [] | "1" |
| transaction-id | m | m | [] | see section 10.26 |
| service-date-time | m | m | [] | see section 10.17 |
| requester-id | o | m | [] | see section 10.24 |
| responder-id | o | m | [] | see section 10.24 |
| reason-no-report | c1 | c1 | [] | see section 10.18 |
| status-report | o | m | [] | see section 10.19 |
| error-report | c2 | m | [] | see section 10.8 |
| note | o | o | [] | see section 10.11 |

CONDITIONS:

- c1. Support for sending the "reason-no-report" parameter is mandatory if sending the STATUS-OR-ERROR-REPORT with neither a status-report nor error-report parameter is supported; otherwise it is not applicable. The circumstances in which no report might be sent are not specified in the base standard or in this CSP.
- c2. Support for sending the "error-report" parameter is mandatory if an error is detected in a received APDU.

8.2.21 EXPIRY APDU

| PARAMETER NAME | D | P | I | RANGE OF VALUES |
|----------------------|---|---|-----|-------------------|
| protocol-version-num | m | m | [] | "1" |
| transaction-id | m | m | [] | see section 10.26 |
| service-date-time | m | m | [] | see section 10.17 |
| requester-id | o | m | [] | see section 10.24 |
| responder-id | o | m | [] | see section 10.24 |

9.0 SUPPORT FOR OPTIONAL APDUs

9.1 Requester Optional Messages

It is mandatory for an implementation to support the "requester-optional-messages" parameter. All components of the parameter are mandatory.

Indicate the values supported for each of the components (TRUE, FALSE, requires, desires, neither).

| | I |
|----------------------|---------|
| can-send-RECEIVED | [] |
| can-send-RETURNED | [] |
| requester-SHIPPED | |
| - requires | [] |
| - desires | [] |
| - neither | [] |
| requester-CHECKED-IN | |
| - requires | [] |
| - desires | [] |
| - neither | [] |

9.2 Responder Optional Messages

It is optional for an implementation to support the "responder-optional-messages" parameter. All components of the parameter are mandatory.

If your implementation supports this parameter, indicate the value sent for each of the components of the parameter. If your implementation does not support this parameter, indicate the capability of your implementation to send and receive optional messages.

| | I |
|---------------------|-----|
| can-send-SHIPPED | [] |
| can-send-CHECKED-IN | [] |
| responder-RECEIVED | |
| - requires | [] |
| - desires | [] |
| - neither | [] |
| responder-RETURNED | |
| - requires | [] |
| - desires | [] |
| - neither | [] |

SECTION FIVE - EXPANDED DATA TYPE DETAIL

10.0 EXPANDED DATA TYPE DETAIL

This section provides a detailed statement of the support provided by an implementation for data types defined in the abstract syntax of ISO 10161. These constraints apply equally to requester, responder and intermediary implementations, i.e. an implementation cannot have different constraints for each role it supports.

10.1 Account-number

State any special usage of this type, e.g. any constraints on structure and values of this type.

Constraints on Account-number

Max. length = 25 characters

10.2 Amount

| TYPE NAME | D | P | I | RANGE OF VALUES |
|----------------|---|---|-----|--------------------|
| currency-code | o | o | [] | see section 10.2.1 |
| monetary-value | m | m | [] | see section 10.2.2 |

10.2.1 Currency-code

State any special usage of this type, e.g. any constraints on its structure and value.

Constraints on Currency-code

The Alphabetic values defined in ISO 4217-1981 Size = 3

The validity of the value will not be tested for conformance, only the size of the value.

10.2.2 Monetary-value

State any special usage of this type, e.g. any constraints on its structure and value.

Constraints on Monetary-value

AmountString as defined in ISO 10161

Size: 1...10

Format: a decimal point marker placed 2 characters in from the right. This will be tested for conformance.

10.3 Client-Id

| TYPE NAME | D | P | I | RANGE OF VALUES |
|-------------------|---|---|-----|--------------------|
| client-name | o | o | [] | see section 10.3.1 |
| client-status | o | o | [] | see section 10.3.2 |
| client-identifier | o | o | [] | see section 10.3.3 |

10.3.1 Client-name

State any special usage of this type, e.g. any constraints on its structure and value. Are there any national constraints on the disclosure of this information (e.g. privacy legislation)?

Constraints on Client-name

Max. length = 150 characters

10.3.2 Client status

State any special usage of this type, e.g. any constraints on its structure and value.

Constraints on Client-status

Max. length = 25 characters

10.3.3 Client-identifier

State any special usage of this type, e.g. any constraints on its structure and value.

Constraints on Client-identifier

Max. length = 25 characters

10.4 Copyright Compliance

State any constraints on the values, structure and interpretation of this type.

Constraints on Copyright Compliance

Max. length = 150 characters

10.5 Cost-Info-Type

| TYPE NAME | D | P | I | RANGE OF VALUES |
|----------------------|---|---|-----|------------------------------------|
| account-number | o | o | [] | see section 10.1 |
| maximum-cost | o | o | [] | see section 10.2 |
| reciprocal-agreement | o | o | [] | all values defined in ISO 10161 |
| will-pay-fee | o | o | [] | all values defined in ISO 10161 |
| payment-provided | o | o | [] | all values defined in ISO 10161 |

10.6 Date-due

| TYPE NAME | D | P | I | RANGE OF VALUES |
|----------------|---|---|-----|------------------------------------|
| date-due-field | m | m | [] | YYYYMMDD |
| renewable | o | o | [] | all values defined in ISO 10161 |

10.7 Date-Time

| TYPE NAME | D | P | I | RANGE OF VALUES |
|-----------|----|----|-----|-----------------|
| date | m | m | [] | YYYYMMDD |
| time | c1 | c1 | [] | HHMMSS |

CONDITIONS:

c1: Support for sending the time parameter is mandatory for implementations that support multiple invocations of a service for a given ILL-transaction on the same day; it is optional otherwise.

10.8 Error-Report

| TYPE NAME | D | P | I | RANGE OF VALUES |
|-------------------------|----|----|-----|------------------------------------|
| correlation-information | m | m | [] | see section 10.8.1 |
| report-source | m | m | [] | all values defined in ISO 10161 |
| user-error-report | c1 | c2 | [] | see section 10.30 |
| provider-error-report | c3 | m | [] | see section 10.13 |

CONDITIONS:

c1. Support for sending the "user-error-report" parameter is mandatory if the report source is "user"; it is not present otherwise.

c2. Support for sending the "user-error-report" parameter with the value "already-forwarded" is mandatory if the implementation supports forwarding; it is optional otherwise.

- c3. Support for sending the "provider-error-report" is mandatory if the value for report-source is "provider"; it is not present otherwise.

10.8.1 Correlation-Information

State any constraints on the values, structure and interpretation of this type.

Constraints on Correlation-information

Max. length = 300 characters

10.9 ILL-String

| TYPE NAME | D | P | I | RANGE OF VALUES |
|---------------|----|----|-----|---------------------------------|
| GeneralString | c1 | c1 | [] | see section 10.9.1 |
| EDIFACTString | o | m | [] | all values defined in ISO 10161 |

CONDITIONS:

- c1. Support for the GeneralString choice is incompatible with the use of EDIFACT-encoding as the transfer syntax.

NOTES:

1. As EdIFACT is the mandatory transfer syntax within Canada for an interim period, the EDIFACTString is therefore mandatory.

10.9.1 General String

State the ISO registered G (graphic) and C (control) character sets that are supported.

G and C character sets supported

10.10 Item-Id

| TYPE NAME | D | P | I | RANGE OF VALUES |
|-------------------------------|---|---|-----|------------------------------|
| item-type | o | o | [] | see section 10.10.1 |
| held-medium-type | o | o | [] | see section 10.10.2 |
| call-number | o | o | [] | see section 10.9 and 10.10.3 |
| author | o | o | [] | see section 10.9 and 10.10.3 |
| title | o | m | [] | see section 10.9 and 10.10.3 |
| sub-title | o | o | [] | see section 10.9 and 10.10.3 |
| sponsoring-body | o | o | [] | see section 10.9 and 10.10.3 |
| place-of-publication | o | o | [] | see section 10.9 and 10.10.3 |
| publisher | o | o | [] | see section 10.9 and 10.10.3 |
| series-title-number | o | o | [] | see section 10.9 and 10.10.3 |
| volume-issue | o | o | [] | see section 10.9 and 10.10.3 |
| edition | o | o | [] | see section 10.9 and 10.10.3 |
| publication-date | o | o | [] | see section 10.9 and 10.10.3 |
| publication-date-of-component | o | o | [] | see section 10.9 and 10.10.3 |
| author-of-article | o | o | [] | see section 10.9 and 10.10.3 |
| title-of-article | o | o | [] | see section 10.9 and 10.10.3 |
| pagination | o | o | [] | see section 10.9 and 10.10.3 |
| national-bibliography-no | o | o | [] | see section 7 |
| ISBN | o | o | [] | see section 10.9 and 10.10.3 |
| ISSN | o | o | [] | see section 10.9 and 10.10.3 |
| system-no | o | o | [] | see section 7 |
| additional-no-letters | o | o | [] | see section 10.9 and 10.10.3 |
| verif-reference-source | o | o | [] | see section 10.9 and 10.10.3 |

10.10.1 Item-type

State any constraints on the value and interpretation of this type.

Constraints on Item Type

Support for sending the values "monograph" and "serial" is mandatory; support for sending the value "other" is optional. _

10.10.2 Medium-type

Support for sending all values defined in ISO 10161 is mandatory. State any constraints on the interpretation of the value "other". For example, the use of the value "other" may be interpreted to mean one of a list of possibilities stated below and identified in the Notes field of the message.

Constraints on Other

10.10.3 Constraints on Item-Id Types

State any constraints on the values taken by any of the constituent types of Item-Id.

Constraints on Item-Id Type Values

| TYPE | MAX. LENGTH | SOURCE |
|-------------------------|-------------|-----------------|
| call number | 150 | |
| author | 150 | |
| title | 250 | |
| subtitle | 250 | |
| sponsoring body | 150 | |
| place of publication | 128 | X.520: locality |
| publisher | 150 | |
| series-title-number | 250 | |
| volume-issue | 25 | |
| edition | 25 | |
| publication-date | 25 | |
| publ.-date-of-component | 25 | |
| author-of-article | 150 | |
| title-of-article | 250 | |
| pagination | 25 | |

national bibliography no.

see section 7.2.1.1

| | | |
|-----------------------|---------------------|----------------------------|
| ISBN | 10 | ISO 2108-1978 10 digits |
| ISSN | 8 | ISO 3297-1986 8 digits |
| system no. | see section 7.2.1.2 | |
| additional-no-letters | 100 | |
| verif-refer-source | 300 | |

NOTES:

1. The value and internal structure of the ISBN and ISSN will not be tested for conformance, only their size.

10.11 Note

State any constraints on the values, structure and interpretation of the various types of notes, and indicate to which services such constraints apply.

Constraints on Note

Max. length = 600 characters

10.12 Postal-Address

Postal Address is one component of Delivery Address.

| TYPE NAME | D | P | I | RANGE OF VALUES |
|----------------------------------|---|---|-----|---------------------|
| name-of-person-or-institution | o | o | [] | see section 10.24.2 |
| extended-postal-delivery-address | o | o | [] | see section 10.12.1 |
| street-and-number | o | o | [] | see section 10.12.1 |
| post-office-box | o | o | [] | see section 10.12.1 |
| city | o | o | [] | see section 10.12.1 |
| region | o | o | [] | see section 10.12.1 |
| country | o | o | [] | see section 10.12.1 |
| postal-code | o | o | [] | see section 10.12.1 |

10.12.1 Additional Constraints

State any constraints on the values taken by any of the constituent Types of Postal-Address.

Constraints on Postal-Address Type Values

| TYPE | MAX. LENGTH | SOURCE |
|----------------------------------|-------------|----------------------|
| extended-postal-delivery-address | 100 | |
| street-and-number | 128 | X.520 street-address |
| post-office-box | 40 | X.520 |
| city | 128 | X.520 locality |
| region | 128 | X.520 state-name |
| country | 50 | see note 1 |
| postal-code | 40 | X.520 |

NOTES:

1. There is no consistency in the representation of country name. The X.500 and X.400 series of standards suggest the use of country codes. X.520 recommends a country code of 2 characters. In X.400, the country name in the O/R address is the ALPHA-2 Country Code listed in Appendix 1 of F.401 or the DCC from Recommendation X.121 can be used as the country name. A maximum of 3 characters is suggested in X.420. Until the use of country codes is standardized and widely used, the Canadian ILL protocol profile will allow for the full spelling of the country name or the use of a recognized country code.

10.13 Provider-Error-Report

| TYPE NAME | D | P | I | RANGE OF VALUES_ |
|-----------------------------|---|---|-----|------------------|
| General-Problem | o | m | [] | see 10.13.1 |
| Transaction-Id-Problem | o | m | [] | see 10.13.2 |
| State-Transition-Prohibited | o | m | [] | see 10.13.3 |

10.13.1 General Problem

State any constraints on the values of this type. State any constraints on the interpretation of the value "other".

Constraints on General Problem

10.13.2 Transaction-Id-Problem

State any constraints on the values of this type.

Constraints on Transaction-Id-Problem

10.13.3 State-Transition-Prohibited

| TYPE NAME | D | P | I | RANGE OF VALUES |
|---------------|---|---|-----|-----------------------------------|
| APDU-type | m | m | [] | all values specified in ISO 10161 |
| current-state | m | m | [] | all values specified in ISO 10161 |

10.14 Results-Explanation

| TYPE NAME | D | P | I | RANGE OF VALUES |
|---------------------|----|----|-----|---------------------|
| conditional-results | c1 | c1 | [] | see section 10.14.1 |
| retry-results | o | o | [] | see section 10.14.2 |
| unfilled-results | o | o | [] | see section 10.14.3 |
| locations-results | c1 | c1 | [] | see section 10.14.4 |
| will-supply-results | o | o | [] | see section 10.14.5 |
| hold-placed-results | o | o | [] | see section 10.14.6 |
| estimate-results | c1 | c1 | [] | see section 10.14.7 |

CONDITIONS:

- c1. Support for sending the results-explanation parameter is mandatory if the implementation supports sending the transaction-results parameter with the values "conditional", "locations-provided" or "estimate"; it is optional otherwise.

10.14.1 Conditional-results

| TYPE NAME | D | P | I | RANGE OF VALUES |
|----------------|---|---|-----|-----------------------|
| conditions | m | m | [] | see section 10.14.1.1 |
| date-for-reply | o | o | [] | YYYYMMDD |
| locations | o | o | [] | see section 10.14.4.2 |

10.14.1.1 Conditions

All values specified in ISO 10161 must be supported. State any constraints on the interpretation of the value "other".

Constraints on Other

10.14.2 Retry-Results

| TYPE NAME | D | P | I | RANGE OF VALUES |
|----------------------|---|----|-----|---|
| reason-not-available | o | c1 | [] | all values defined in ISO 10161 and consistent with service types supported (see section 5) |
| retry-date | o | c1 | [] | YYYYMMDD |
| locations | o | o | [] | see section 10.14.4.2 |

CONDITIONS:

- C1. Support for sending either "reason-not-available" or "retry-date" is mandatory if an implementation supports retry-results of the results-explanation parameter.

10.14.3 Unfilled-Results

| TYPE NAME | D | P | I | RANGE OF VALUES |
|-----------------|---|---|-----|-----------------------|
| reason-unfilled | m | m | [] | see section 10.14.3.1 |
| locations | o | o | [] | see section 10.14.4.2 |

10.14.3.1 Reason-Unfilled

State any constraints on the values taken by this type.

Constraints on Reason-unfilled

10.14.4 Locations-Results

| TYPE NAMED | D | P | I | RANGE OF VALUES |
|----------------------|---|---|-----|-----------------------|
| reason-locs-provided | o | o | [] | see section 10.14.4.1 |
| locations | m | m | [] | see section 10.14.4.2 |

10.14.4.1 Reasons-locs-provided

All values defined in ISO 10161 must be supported. State any constraints on the interpretation of the value "other". For example, the use of the value "other" may be interpreted to mean one of a list of possibilities stated below and identified in the Notes field of the ILL-ANSWER APDU.

Constraints on Other

10.14.4.2 Location-info

| TYPE NAMED | D | P | I | RANGE OF VALUES |
|------------------|---|---|-----|------------------------------------|
| location-id | m | m | [] | see section 10.24 |
| location address | o | o | [] | see section 10.23.1 and 10.23.2 |
| location note | o | o | [] | see section 10.11 |

State any constraints on location-info size.

Maximum size of 25 entries.

10.14.5 Will-Supply-Results

| TYPE NAME | D | P | I | RANGE OF VALUES |
|--------------------|---|---|-----|-----------------------|
| reason will supply | m | m | [] | see section 10.14.5.1 |
| supply-date | o | o | [] | YYYYMMDD |
| return-to-address | o | o | [] | see section 10.12 |
| locations | o | o | [] | see section 10.14.4.2 |

10.14.5.1 Reason-Will-Supply

State any constraints on the value of this type.

Constraints on Reason-will-supply

10.14.6 Hold-Placed-Results

| TYPE NAME | D | P | I | RANGE OF VALUES |
|--------------------------|---|---|-----|-----------------------|
| estimated-date-available | m | m | [] | YYYYMMDD |
| hold-placed-medium-type | o | o | [] | see section 10.10.2 |
| locations | o | o | [] | see section 10.14.4.2 |

10.14.7 Estimate-Results

| TYPE NAME | D | P | I | RANGE OF VALUES |
|---------------|---|---|-----|-----------------------|
| cost-estimate | m | m | [] | see section 10.14.7.1 |
| locations | o | o | [] | see section 10.14.4.2 |

10.14.7.1 Cost Estimate

State any constraints on the values, structure and interpretation of this type.

Constraints on Cost-Estimate

Max. length = 50 characters

10.15 Search-Type

| TYPE NAME | D | P | I | RANGE OF VALUES |
|------------------|----|----|-----|---------------------|
| level-of-service | o | o | [] | see section 10.15.1 |
| need-before-date | o | o | [] | YYYYMMDD |
| expiry-flag | o | o | [] | see section 10.15.2 |
| expiry-date | c1 | c1 | [] | YYYYMMDD |

CONDITIONS:

c1. The expiry-date parameter may only be present if the expiry-flag has the value "other-date". It is not present otherwise.

10.15.1 Level-of-service

State any constraints on the values and the interpretation of this type.

Constraints on Level-of-service type

10.15.2 Expiry-flag

State any constraints on the values of this type.

Expiry-flag

All options for transaction expiry are possible.

10.16 Send-to-List-Type

| TYPE NAME | D | P | I | RANGE OF VALUES |
|----------------|---|---|-----|-------------------|
| System-Id | m | m | [] | see section 10.24 |
| Account-number | o | o | [] | see section 10.1 |
| System-Address | o | o | [] | see section 10.23 |

10.16.1 Constraints on List Size

State any constraints on the maximum size of the send-to-list.

Constraints on Send-to-List Size

Maximum size of 25 entries

10.17 Service-Date-Time

| TYPE NAME | D | P | I | RANGE OF VALUES |
|-------------------------------|----|----|-----|------------------|
| date-time-of-this-service | m | m | [] | see section 10.7 |
| date-time-of-original-service | c1 | c1 | [] | see section 10.7 |

CONDITIONS:

- c1. Support for sending the date-time-of-original-service parameter is mandatory for implementations that support repeated APDUs; it is not applicable otherwise.

10.18 Reason-No-Report

State any constraints on the values of this type.

Constraints on Reason-no-report

10.19 Status-Report

| TYPE NAME | D | P | I | RANGE OF VALUES |
|------------------------|---|---|-----|------------------------------------|
| user-status-report | m | m | [] | see section 10.19.1 |
| provider-status-report | m | m | [] | all values defined in ISO 10161 |

10.19.1 History-Report

| TYPE NAME | D | P | I | RANGE OF VALUES |
|----------------------------------|---|---|-----|--|
| date-requested | o | o | [] | YYYYMMDD |
| author | o | o | [] | see section 10.19.2 |
| title | o | o | [] | see section 10.19.2 |
| author-of-article | o | o | [] | see section 10.19.2 |
| title-of-article | o | o | [] | see section 10.19.2 |
| date-of-last-transition | o | o | [] | YYYYMMDD |
| most-recent-service | m | m | [] | all values defined in ISO 10161 and consistent with role(s) and service types supported (see sections 4 and 5) |
| date-of-most-recent-service | m | m | [] | YYYYMMDD |
| initiator-of-most-recent-service | m | m | [] | see section 10.24 |
| shipped-service-type | o | o | [] | all values defined in ISO 10161 |
| transaction-results | o | o | [] | see section 10.28 |
| most-recent-service-note | o | o | [] | see_section 10.11 |

10.19.2 Additional Constraints

State any constraints on the values taken by the constituent types of History-Report.

Constraints on History-Report

| TYPE | MAX. LENGTH | SOURCE |
|-------------------|-------------|---------------------|
| author | 150 | see section 10.10.3 |
| title | 250 | see section 10.10.3 |
| author-of-article | 150 | see section 10.10.3 |
| title-of-article | 250 | see section 10.10.3 |

10.20 Supply-Details

| TYPENAME | D | P | I | RANGE OF VALUES |
|---------------------------|---|----|-----|------------------------------------|
| date-shipped | o | o | [] | YYYYMMDD |
| date-due | o | c1 | [] | YYYYMMDD |
| chargeable-units | o | o | [] | all values defined in ISO 10161 |
| cost | o | o | [] | see section 10.2 |
| shipped-conditions | o | o | [] | see section 10.20.1 |
| shipped-via | o | o | [] | see section 10.27 |
| insured-for | o | o | [] | see section 10.2 |
| return-insurance-required | o | o | [] | see section 10.2 |
| no-of-units-per-medium | o | o | [] | see section 10.29 |

CONDITIONS:

- c1. Support for sending the date-due parameter is optional for implementations that support the "loan" service type; it is not applicable otherwise.

10.20.1 Shipped-conditions

State any constraints on the interpretation of the value "other".

Other

10.21 Supply-Medium-Info-Type

| TYPE NAMED | D | P | I | RANGE OF VALUES |
|------------------------|---|---|-----|---------------------|
| supply-medium-type | m | m | [] | see section 10.22 |
| medium-characteristics | o | o | [] | see section 10.21.2 |

10.21.1 Constraints on List Size

State any constraints on the maximum size of the supply-medium-info-type.

Constraints on size of supply-medium-info-type

Maximum size = 7 entries

10.21.2 Medium Characteristics

State any constraints on this type.

Constraints on Medium Characteristics

Max. length = 150 characters

10.22 Supply-Medium-Type

State any constraints on the values of this type and on the interpretation of the value "other".

Constraints on Supply Medium-Type

All values must be supported.

10.23 System-Address

| TYPE NAME | D | P | I | RANGE OF VALUES |
|-----------|---|---|---|-----------------|
|-----------|---|---|---|-----------------|

| | | | | |
|----------------------------|---|---|-----|---------------------|
| telecom-service-identifier | o | o | [] | see section 10.23.1 |
| telecom-service-address | o | o | [] | see section 10.23.2 |

10.23.1 Telecom-service-identifier

State any constraints on the values and interpretation of this type.

Constraints on Telecom-service-identifier

Max. length = 50 characters

10.23.2 Telecom-service-address

State any constraints on the values and interpretation of this type.

Constraints on Telecom-service-address

Max. length = 100 characters

10.24 System-Id

| TYPE NAME | D | P | I | RANGE OF VALUES |
|-------------------------------|---|---|-----|---------------------|
| person-or-institution-symbol | o | m | [] | see section 10.24.1 |
| name-of-person-or-institution | o | o | [] | see section 10.24.2 |

10.24.1 Person-or-Institution-Symbol

| TYPE NAME | D | P | I |
|--------------------|-----------------------|-----------------------|-----|
| person-symbol | <input type="radio"/> | <input type="radio"/> | [] |
| institution-symbol | <input type="radio"/> | <input type="radio"/> | [] |

State any constraints on the values and structure of the components of this type.

Constraints on Person-symbol

Max. length = 25 characters

Constraints on Institution-symbol

For international ILL-transactions the Institution-Symbol consists of character Country Code, according to ISO 3166, followed by space, followed by institution symbol.

e.g. CA OONL

For transactions conducted within Canada, the country code for Canada can be omitted.

Max. length = 25 characters

10.24.2 Name-of-Person-or-Institution

| TYPE NAME | D | P | I |
|---------------------|---|---|-----|
| name-of-person | o | o | [] |
| name-of-institution | o | o | [] |

State any constraints on the values, length and structure of the components of this type.

Constraints on Name-of-Person

Max. length = 150 characters

Constraints on Name-of-Institution

Max. length = 150 characters

10.25 Third-Party-Info-Type

Support for these parameters implies the capability to supply a value, i.e. the parameter does not always take on its DEFAULT value.

| TYPE NAME | D | P | I | RANGE OF VALUES |
|-----------------------------------|----|----|-----|----------------------------------|
| permission-to-forward | o | o | [] | see section 10.25.1 |
| permission-to-chain | o | o | [] | see section 10.25.2 |
| permission-to-partition | o | o | [] | see section 10.25.3 |
| permission-to-change-send-to-list | o | o | [] | see section 10.25.4 |
| initial-requester-address | c1 | c1 | [] | see section 10.23 |
| preference | o | o | [] | see section 10.25.5 |
| send-to-list | o | o | [] | see section 10.16 |
| already-tried-list | c2 | c2 | [] | see section 10.24 and 10.25.6 |

CONDITIONS:

- c1. Support for sending the initial-requester-address parameter is mandatory for implementations that support forwarding or partitioning; it is optional otherwise.
- c2. Support for sending the already-tried-list is mandatory for implementations that support forwarding and for all intermediary implementations; it is optional otherwise.

10.25.1 Permission-to-forward

State any constraints on the values of this type.

Constraints on Permission-to-forward

10.25.2 **Permission-to-chain**

State any constraints on the values of this type.

Constraints on Permission-to-chain

10.25.3 **Permission-to-partition**

State any constraints on the values of this type.

Constraints on Permission-to-partition

10.25.4 **Permission-to-change-send-to-list**

State any constraints on the values of this type.

Constraints on Permission-to-change-send-to-list

10.25.5 **Preference**

State any constraints on the values of this type.

Constraints on Preference

10.25.6 Already-tried-list

State any constraints on the maximum size of this type.

Constraints on Already-tried-list

Maximum size = 25 entries

10.26 Transaction-Id

| TYPE NAME | D | P | I | RANGE OF VALUES |
|-----------------------------|----|----|-----|---------------------|
| initial-requester-id | c1 | c1 | [] | see section 10.24 |
| transaction-group-qualifier | m | m | [] | see section 10.26.1 |
| transaction-qualifier | m | m | [] | see section 10.26.1 |
| sub-transaction-qualifier | c2 | c2 | [] | see section 10.26.1 |

CONDITIONS:

- c1. Support for sending the initial-requester-id parameter is mandatory for intermediary implementations; it is optional otherwise.
- c2. Support for sending the sub-transaction-qualifier parameter is mandatory for intermediary implementations; it is not applicable otherwise.

10.26.1 Constraints on Transaction-Id Qualifiers

State any constraints on Transaction-Id qualifiers.

Constraints on Transaction-Id Qualifiers

| | <u>Max. length</u> |
|-----------------------------|--------------------|
| transaction-group-qualifier | 25 characters |
| transaction-qualifier | 25 characters |
| sub-transaction-qualifier | 25 characters_ |

10.27 Transportation-Mode

State any constraints on the value and structure of this type.

Constraints on Transportation-Mode

Max. length = 50 characters

10.28 Transaction-Results

State any constraints on the values of this type. Any such constraints shall be consistent with the service types supported (see section 5).

Constraints on Transaction-Results

Support for the value "unfilled" (3) is mandatory. All other values are optional.

10.29 Units-per-Medium-Type

| TYPE NAME | D | P | I | RANGE OF VALUES |
|-------------|---|---|-----|------------------------------------|
| medium | m | m | [] | see section 10.22 |
| no-of-units | m | m | [] | all values defined in ISO 10161 |

State any constraints on the maximum size of this type.

Constraints on Units-per-medium-type

Maximum size = 7 entries

10.30 User-Error-Report

| TYPE NAME | D | P | I | RANGE OF VALUES |
|----------------------|---|---|-----|---------------------|
| already-forwarded | o | o | [] | see section 10.30.1 |
| Intermediary-Problem | o | o | [] | see section 10.30.2 |
| Security-Problem | o | o | [] | see section 10.30.3 |
| Unable-to-Perform | o | o | [] | see section 10.30.4 |

10.30.1 Already-forwarded

| TYPE NAME | D | P | I | RANGE OF VALUES |
|-------------------|---|---|-----|-------------------|
| responder-id | m | m | [] | see section 10.24 |
| responder-address | o | o | [] | see section 10.23 |

10.30.2 Intermediary-Problem

State any constraints on the value of this type.

Constraints on Intermediary Problem

10.30.3 Security-Problem

State any constraints on the value of this type.

Constraints on Security Problem

Max. length = 300 characters

10.30.4 Unable-to-Perform

State any constraints on the values of this type and on the interpretation of the value "other".

Constraints on Unable-to-Perform

APPENDIX 1

USE OF EDIFACT TRANSFER SYNTAX

1. Introduction

A transfer syntax defines the encoding of a message during transfer between communicating systems. The choice of transfer syntax has been a controversial issue in the development of the ILL protocol. The current ISO Draft International Standard identifies two transfer syntaxes for ILL protocol messages: ASN.1 (Abstract Syntax Notation One) which is mandatory and EDIFACT (Electronic Data Interchange for Administration, Commerce and Trade) which is supplemental.

The selection of transfer syntax also has significant implications for the development of international standard profiles for the ILL protocol. It is only through the use of a common transfer syntax that ILL systems, which claim conformance to the ILL protocol, will be able to interwork.

Although the protocol indicates that the ASN.1 transfer syntax is mandatory, the interim use of the EDIFACT transfer syntax alone may be acceptable as a short term approach in situations where ILL messaging will involve the use of both OSI and non-OSI based electronic mail systems. The following section identifies some considerations that may influence such a decision.

2. ASN.1 and EDIFACT

ASN.1 is the notation syntax used to define the abstract syntax of the ILL protocol data units. It has become the fundamental abstract syntax as well as transfer syntax for all OSI application protocols developed by ISO JTC1. Because it produces an 8-bit transfer syntax its use is restricted to environments where data transparency is assured, i.e. where all characters are conveyed end-to-end. Since ASN.1 is the transfer syntax used by other OSI application protocols, including ACSE, it is convenient to use it in a connection-mode environment particularly when ASN.1 encoding/decoding software can be shared by many applications running on a given system. ASN.1 may also be used in store-and-forward environments which support 8-bit data.

EDIFACT produces an 8-bit and 7-bit data stream and is the syntax used to represent business data in Electronic Data Interchange (EDI). Its use in this context is expected to be widespread. The 7-bit encoding option within EDIFACT can be conveyed reliably almost anywhere. Its use is most attractive when end-to-end transparent data paths are not universally available, i.e. where 8-bit character streams cannot be conveyed. At present, many electronic mail systems do not support 8-bit data transfer making EDIFACT in effect the only usable transfer syntax in the short term for such electronic mail environments. Thus EDIFACT is the only transfer syntax which can be used for ILL protocol-based systems that interface with electronic mail access mechanisms based on 7-bit data streams. Because EDIFACT is simpler to encode and decode it is also attractive when general purpose ASN.1 encoding/decoding software is not available.