

ISO 10161: 1993/AM 1

Title: Documentation - Interlibrary Loan Application Protocol Specification -
Amendment 1: ILL Support for Electronic Document Delivery

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ISO 10161:1993/AM 1 Documentation - Interlibrary Loan Application Protocol Specification - Amendment 1: ILL Support for Electronic Document Delivery

Introduction - Replace the 4th paragraph, p. vi, starting “The ILL protocol has been designed...”, with:

The ILL protocol has been designed to support the ILL services defined in ISO 10160, the ILL Application Service Definition, which generally requires invocation of external delivery services to fulfill an ILL request. The ILL protocol carries information that permits both automatic and operator-mediated invocation of external delivery services.

Introduction - In the final paragraph, change the word “six” to “seven” and add the following sentence:

Annex G describes possible methods of using a document delivery protocol in conjunction with the ILL protocol.

Clause 2 - Change the reference to ISO 9545 to:

ISO 9545:1993 Information Technology - Open Systems Interconnection - Application Layer Structure

Clause 2 - Insert the following additional reference:

ISO 9834-2 Information Processing Systems - Open Systems Interconnection - Procedure for the Operation of OSI Registration Authorities, part 2: Registration Procedures for OSI Document Types

Clause 3.6.43 - Change the definition to read:

delivery-service: The delivery service or method used in transporting a requested item. Either physical or electronic delivery may be used.

Clause 3.6.47 - Insert the following definition and renumber the remaining:

electronic delivery: Delivery of an electronic representation of a document via a telecommunications-based data transfer mechanism. Delivery via transfer of a tangible magnetic or optical medium is excluded.

Clause 3.6.174 - Change the definition to read:

transportation-mode: A physical or non-electronic means of transporting the requested item when represented or stored on a tangible medium.

Clause 4 - Add the following abbreviation:

ASO - application service object

Clause 9.1.1 - Change the comment on line 4:

-- ISO10161-ILL-1 refers to the ILL ISO standard 10161 version 1 and version 2
-- as specified in ISO standard 10161 Amendment 1.

Clause 9.1.1 - change the definition of **protocol-version-num** in all APDUs to:

```
protocol-version-num [0] IMPLICIT INTEGER {  
                        version-1 (1),  
                        version-2 (2) }
```

Clause 9.1.1 - In the specification of **ILL-Request** change:

delivery-service [7] Transportation-Mode OPTIONAL,

to:

delivery-service Delivery-Service OPTIONAL,

Clause 9.1.1 - In the specification of **Damaged** insert before "note":

```
damaged-details [51] IMPLICIT Damaged-Details OPTIONAL  
--this parameter may only be present in APDUs with a protocol-version-num  
--value of 2 or greater
```

Clause 9.1.2 - Add to the "conditions" parameter of **Conditional-Results**:

proposed-delivery-service(30)

Clause 9.1.2 - Add a new parameter to Conditional-Results:

```
proposed-delivery-service      Delivery-Service OPTIONAL
-- this parameter specifies a proposed delivery service, the acceptance
-- of which is a condition of supply. It may be a physical service or
-- an electronic service
-- this parameter may only be present in APDUs with a protocol-version-num
-- value of 2 or greater
```

Clause 9.1.2 - Add a new data type, before Date-Due:

```
Damaged-Details ::= SEQUENCE {
  document-type-id              [0]    IMPLICIT OBJECT IDENTIFIER OPTIONAL,
  -- identifies an OSI document type registered in accordance
  -- with ISO 9834-2, for use in an automated environment
  damaged-portion              CHOICE {
    complete-document           [1]    NULL,
    specific-units              [2]    IMPLICIT SEQUENCE OF INTEGER
  -- the nature and extent of a "unit" is implicit in the value of
  -- document-type-id if one is supplied
  }
}
```

Clause 9.1.2 - Add new data types, after Delivery-Address:

```
Delivery-Service ::= CHOICE {
  physical-delivery            [7]    Transportation-Mode,
  electronic-delivery          [50]   IMPLICIT SEQUENCE OF
  --                                     Electronic-Delivery-Service
}
-- electronic delivery may only be present in APDUs
-- with a protocol-version-num value of 2 or greater
```

```
Electronic-Delivery-Service ::= SEQUENCE {
  -- the first four parameters are intended to be used in an automated
  -- environment
  e-delivery-mode              [0] IMPLICIT OBJECT-IDENTIFIER OPTIONAL,
  -- identifies the kind of electronic delivery service, e.g. MOTIS IPM,
  -- FTAM, etc., using the assigned object identifier
  -- for the standard, e.g. {joint-iso-ccitt mhs-motis ipms}
  e-delivery-parameters        [1] ANY DEFINED BY e-delivery-mode OPTIONAL,
  document-type-id             [2] IMPLICIT OBJECT-IDENTIFIER OPTIONAL,
```

```

-- identifies an OSI document type registered in accordance
-- with ISO 9834-2
document-type-parameters      [3] ANY DEFINED BY document-type-id OPTIONAL,
-- any parameters relating to the registered document type
e-delivery-description        [4] ILL-String OPTIONAL,
-- holds a human readable name or description of the required
-- electronic delivery service and document type; this may also
-- be used to identify an electronic delivery service for which there
-- is no object identifier.
-- This parameter may be present instead of, or in addition to,
-- the previous 4 parameters
e-delivery-details            [5] CHOICE {
    e-delivery-address[0] IMPLICIT System-Address,
    e-delivery-id              [1] IMPLICIT System-ID
    },
name-or-code                   [6] ILL-String OPTIONAL,
-- holds a human-readable identifier or correlation information for the
-- document as shipped; e.g. a directory and/or file name or message-id
delivery-time                  [7] IMPLICIT ISO-Time OPTIONAL
-- holds the requester's preferred delivery time or
-- the responder's proposed or actual delivery time
}

```

Clause 9.1.2 - Add to the set of values defined for **Reason-Unfilled**:

```

requested-delivery-service(s)-not-supported (22),
preferred-delivery-time-not-possible(23)

```

Clause 9.1.2 - Change the parameter "shipped-via" in the data type **Supply-Details** to:

```

shipped-via                    CHOICE {
    physical-delivery          [5]      Transportation-Mode,
    electronic-delivery        [50]     IMPLICIT Electronic-Delivery-Service
    },
-- electronic-delivery may only be present in APDUs
-- with a protocol-version-num value of 2 or greater

```

Clause 9.1.2 - In the definition of the data type **Will-Supply-Results**:

a. Add to the set of values defined for "reason-will-supply"

```

electronic-delivery(30)

```

b. and add a new parameter to the SEQUENCE:

electronic-delivery-service [4] Electronic-Delivery-Service OPTIONAL
-- if present, this must be one of the services proposed by the requester

Clause 10.3 - Add a new sentence:

i. which version or versions of the protocol are supported.

Annex B, clause B.6.2 - Delete the specification of the delivery-address segment, and replace it with the following, filed correctly in the alphabetical sequence of segments:

Segment Name: physical-delivery

Segment Code: PDY

Data Elements: transportation-mode

Segment Name: electronic-delivery

Segment Code: EDY

Data Elements: e-delivery-mode

 e-delivery-parameters
 document-type-id
 document-type-parameters
 -- the next five elements together form the e-delivery-details
 -- only one of e-delivery-address or e-delivery-id
 -- will be present
 e-delivery-address
 {
 telecom-service-identifier
 telecom-service-address
 }
 -- the next two elements together form the e-delivery-id
 person-or-institution-symbol
 {
 person-symbol
 institution-symbol
 }
 -- only one of these sub-elements may be present

name-of-person-or-institution

```
{  
  name-of-person  
  name-of-institution  
}
```

-- only one of these sub-elements may be present

name-or-code

delivery-time

-- this segment may be repeated

Annex G - Add a new Annex G:

Annex G (informative)

Invocation of External Document Delivery Services

An ILL request for an electronic document generally requires invocation of an electronic document delivery service. There are a number of potential delivery services, based on both OSI and non-OSI protocols, which can be proposed in the ILL request. These include, but are not limited to:

CCITT X.400 IPM (InterPersonal Messaging): IPM allows inclusion of various encoded information types (e.g. IA5 text) for inclusion in the IPM message content.

ISO 8571 or FTAM (File Transfer Access & Management): FTAM can carry transparently any type of information including compound electronic documents.

CCITT T.4, T.5 & T.30 for Group 3 and Group 4 Facsimile over public switched telephone networks.

Internet RFC 959 File Transfer Protocol (FTP): FTP can carry electronic documents encoded in ASCII or binary formats.

Internet RFC 821/822 Simple Mail Transfer Protocol (SMTP): SMTP can carry character encoded (7-bit ASCII) electronic documents within messages.

Internet RFC 1341 Multipurpose Internet Mail Extensions (MIME): MIME allows SMTP mail messages to carry compound electronic documents, including word processor formats, images, audio, video, etc.

Depending on the specific delivery service used, with or without human operator intervention, there are several alternative ways of delivering a requested document. When the ILL protocol messages are carried in the X.400 IPM, the ILL SHIPPED APDU could occupy one body part of an IPM, with the document itself occupying one or more body parts of the same IPM. Each body part of an IPM may be encoded differently--text, graphics, voice, G4-facsimile, encrypted, etc.

Alternatively, a separate invocation of the X.400 IPM service or another bulk data transfer service such as FTAM or FTP may be used to delivery the requested document. Such asynchronous delivery will require that the document be explicitly related to the ILL-transaction it fulfils.

Each electronic delivery service has its unique way of handling the structure and encoding of bulk user information it carries. Specification and registration of FTAM Document Types, X.400 IPM Body-Part Types, etc. is a reflection of this manner of user data handling by the OSI bulk carriers. The ILL protocol provides appropriate parameters to carry references to these bulk data types.

Whether any of these services can indeed be invoked\$automatically or through operator intervention\$will depend on whether the requester and the responder have implemented the corresponding protocol in their respective systems. In a fully automated environment, the precise details of how and when such a service may be invoked in the process of fulfilling an ILL request belongs properly in the specification of an appropriate ASO (Application

Service Object); the Control Function of the ASO, if properly defined, can co-ordinate the combined use of the protocols and the mapping to the delivery service.

Specification of one or more ASOs of this kind will promote consistent implementation and interoperability of ILL document delivery applications. Specification of ASOs is, however, outside the scope of the ILL standard.