
**Information and documentation — Open
Systems Interconnection — Interlibrary
Loan Application Protocol Specification —**

Part 2:

**Protocol implementation conformance
statement (PICS) proforma**

*Information et documentation — Interconnexion de systèmes ouverts
(OSI) — Spécification du protocole d'application pour les prêts entre
bibliothèques —*

*Partie 2: Proforma d'établissement de conformité pour la mise en œuvre du
protocole (PICS)*



Contents

1 SCOPE	1
2 NORMATIVE REFERENCES	1
3 DEFINITIONS	1
4 ABBREVIATIONS	1
5 LAYOUT	2
6 CONFORMANCE	2
7 NOTATIONS DEFINED IN THE PROFORMA	2
8 PICS NUMBERS	2
9 COMPLETION OF THE PICS	3

ANNEXES

A PICS PROFORMA FOR THE INTERLIBRARY LOAN PROTOCOL

A.1 IMPLEMENTATION DETAILS	4
A.1.1 Date of Statement	4
A.1.2 Identification of the Implementation	4
A.2 GLOBAL STATEMENT OF CONFORMANCE	4
A.3 ISO 10161-1 DETAILS	5
A.4 APPLICATION-CONTEXT NAMES	5
A.5 ROLES SUPPORTED	5
A.6 ILL SERVICE TYPES SUPPORTED	5
A.7 TRANSACTION TYPES SUPPORTED	6
A.8 SYNTAXES	7
A.8.1 Abstract Syntaxes Supported	7
A.8.2 Transfer Syntaxes	8

A.9 INTERLIBRARY LOAN APPLICATION SERVICES	9
A.9.1 Support for Services	9
A.9.2 Optional APDUs	10
A.10 SUPPORT FOR APDU PARAMETERS	12
A.10.1 ILL-Request-APDU	13
A.10.2 Forward-Notification APDU	16
A.10.3 Shipped APDU	17
A.10.4 Ill-Answer APDU	18
A.10.5 Conditional-Reply APDU	19
A.10.6 Cancel APDU	19
A.10.7 Cancel-Reply APDU	20
A.10.8 Received APDU	20
A.10.9 Recall APDU	21
A.10.10 Returned APDU	21
A.10.11 Checked-In APDU	22
A.10.12 Overdue APDU	22
A.10.13 Renew APDU	23
A.10.14 Renew-Answer APDU	23
A.10.15 Lost APDU	24
A.10.16 Damaged APDU	24
A.10.17 Message APDU	25
A.10.18 Status-Query APDU	25
A.10.19 Status-Or-Error-Report	26
A.10.20 Expired APDU	27
A.11 COMMON PARAMETERS	28
A.12 SUPPORT FOR CHOICE TYPES	31
A.13 ENUMERATED TYPES	33
B BIBLIOGRAPHY	38

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10161-2 was prepared by Technical Committee ISO/TC 46, *Information and documentation* Subcommittee SC 4, *Computer applications in information and documentation*.

ISO 10161 consists of the following parts, under the general title *Information and documentation — Open Systems Interconnection — Interlibrary Loan Application Protocol Specification*:

- *Part 1: Protocol specification*
- *Part 2: Protocol implementation conformance statement (PICS) proforma*

Annex A forms an integral part of this part of ISO 10161. Annex B is for information only.

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Introduction

To evaluate conformance of a particular implementation of an OSI protocol, it is necessary to have a description of the capabilities and options which have been implemented. Such a description is called a Protocol Implementation Conformance Statement (PICS).

A PICS *Proforma* is developed as a companion standard to an OSI protocol standard. It is developed in the form of a questionnaire to be filled out by a supplier of a product claiming to implement the protocol. The filled-out questionnaire becomes the PICS for the product. It indicates which capabilities and options have been implemented and what limitations might prevent interworking. It allows a customer of the product to evaluate its conformance to the standard and to determine whether the product meets the customer's requirements.

This part of ISO 10161 defines a Protocol Implementation Conformance Statement (PICS) proforma for the detailed expression of the conformance requirements of ISO 10161-1:1997 which incorporates Defect Reports 1-22 and Amendment 1: ILL Support for Electronic Document Delivery. Details of the use of this proforma are provided in this part of ISO 10161.

The level of detail required in the proforma exceeds that of the protocol specification by requiring details of the implementor in addition to details of the implementation.

**Information and documentation — Open Systems Interconnection —
Interlibrary Loan Application Protocol Specification —
Part 2: Protocol implementation conformance statement (PICS) proforma**

1 Scope

This part of ISO 10161 defines the PICS proforma for the ILL protocol as specified in ISO 10161-1, in compliance with the relevant requirements, and in accordance with the relevant guidance for a PICS proforma, given in ISO 9646-2. Implementors claiming conformance to ISO 10161-1 shall complete the proforma as part of the conformance requirements.

2 Normative References

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 10161. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 10161 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO/IEC 8825:1990, *Information technology - Open Systems Interconnection - Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)*.

ISO/IEC 9646-1:1994, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts*.

NOTE - ISO/IEC 9646-1:1994 supersedes ISO 9646-1:1991. However, when this part of ISO 10161 was under development, the previous edition was valid and this part of ISO 10161 is therefore based on this edition, which is given below.

ISO/IEC 9646-1:1991, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts*.

ISO/IEC 9646-2:1994, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite specification*.

NOTE - ISO/IEC 9646-2:1994 supersedes ISO 9646-2:1991. However, when this part of ISO 10161 was under development, the previous edition was valid and this part of ISO 10161 is therefore based on this edition, which is given below.

ISO/IEC 9646-2:1991, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract test suite specification*.

ISO 9735:1988, *Electronic data interchange for administration, commerce and transport (EDIFACT) - Application level syntax rules*.

ISO 10161-1:1997, *Information and documentation - Open Systems Interconnection - Interlibrary Loan Application Protocol Specification - Part 1: Protocol specification*.

3 Definitions

This part of ISO 10161 uses the following terms defined in ISO 9646-1:1990.

3.1 PICS proforma: A document, in the form of a questionnaire, designed by the protocol specifier or conformance test suite specifier, which when completed for an OSI implementation or system becomes the PICS.

3.2 protocol implementation conformance statement [PICS]: A statement made by the supplier of an OSI implementation or system, stating which capabilities have been implemented, for a given OSI protocol.

4 Abbreviations

This part of ISO 10161 uses the following abbreviations:

APDU - Application Protocol Data Unit

ASN.1 - Abstract Syntax Notation One

EDIFACT - Electronic Data Interchange for Administration, Commerce and Transport

IEC - International Electrotechnical Commission

ILL - Interlibrary Loan

ISO - International Organization for Standardization

OSI - Open Systems Interconnection

PICS - Protocol Implementation Conformance Statement

TC - Technical Committee

5 Layout

Annex A contains the actual proforma to be filled in by an implementor claiming conformance to ISO 10161-1. The PICS proforma has been designed to be a self-contained section of this part of ISO 10161, for use in testing and procurement.

6 Conformance

A conforming PICS shall:

- a. be technically equivalent to the ISO published PICS proforma and shall preserve the numbering and ordering of the items in the ISO PICS proforma.
- b. include the information necessary to uniquely identify both the supplier and the implementation.

A supplier shall complete this PICS proforma in accordance with the instructions for completion given in clauses 7 and 9.

7 Notations Defined in the Proforma

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

For column headings:

- ‘D’: Defined in ISO 10161-1. This column indicates the level of support required for conformance to ISO 10161-1.
- ‘I’: Implementation indicator. This column shows which parameters or other details have or have not been implemented.

7.1 ‘D’ Column

- ‘m’: mandatory: support for this feature is required for conformance to ISO 10161-1.
- ‘o’: optional: support for this feature is permitted, but is not required for conformance to ISO 10161-1. However, if this feature is implemented, it must conform to the specifications and restrictions contained in ISO 10161-1. These restrictions may affect the optionality of other features.

‘c’: conditional: support for this feature is mandatory if certain conditions as specified in ISO 10161-1 are met. The conditions to be met are indicated by an integer referencing a table of conditions at the end of each proforma section.

‘cc’: conditional on supporting communication service: support for this feature is mandatory if the supporting communication service is store-and-forward service; support is optional if the supporting communication service is connection-oriented.

‘-’: not applicable.

7.2 ‘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

7.3 ‘Reference, Usage or Range of Values’ Column

The ‘Reference, Usage or Range of Values’ column requires the specification of information pertaining to the usage or range of values implemented for a feature, where relevant and/or where the implementation has restrictions or limits not present in ISO 10161-1.

If the proforma has insufficient room for a complete description of the usage or range of values for any particular feature, a reference to an attachment on a separate page may be given here.

8 PICS Numbers

Each line in the PICS proforma which requires implementation detail to be supplied is numbered at the left-hand edge of the line. This numbering is included as a means of uniquely identifying all possible implementation details within the proforma. The need for such unique referencing has been identified by testing bodies.

The means of referencing individual responses shall be to specify the smallest subclause enclosing the relevant item and the reference number of the row in which the response appears.

9 Completion of the PICS

The implementor shall complete all “[]” entries in the proforma, in addition to other specifically identified sections. In certain clauses, further guidance for completion is included. Such guidance supplements the guidance given in this clause

and its scope is restricted to the clause in which it appears.

Other specifically identified information shall be provided by the implementor where requested.

No changes shall be made to the proforma except the addition of responses as required. Recognizing that the level of detail required may, in some instances, exceed the space available for responses, the implementor may continue the response on separate paper (so indicating this in the space provided) and provide a reference (see clause 8).

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Annex A (normative)

Protocol Implementation Conformance Statement (PICS) Proforma for the Interlibrary Loan Protocol¹⁾

Section One - General Information

A.1 Implementation Details

A.1.1 Date of Statement

1	Date of Statement(YYYY-MM-DD):	
---	--------------------------------	--

A.1.2 Identification of the Implementation

1	Implementation Supplier:	
2	Implementation Name:	
3	Implementation Version Number:	
4	Machine Name:	
5	Machine Version Number:	
6	Operating System Name:	
7	Operating System Version Number:	
8	Other Operating Systems:	
9	Other Hardware:	
10	System Name (if different):	
11	Resources Required:	
12	Contact Name:	
13	Contact Address:	
14	Contact Telephone:	

A.2 Global Statement of Conformance

1	Are all mandatory features of ISO 10161-1 implemented?	()
---	--	--------

¹⁾ Copyright release for PICS proforma: Users of this part of ISO 10161 may freely reproduce this PICS proforma so that it can be used for its intended purpose and may further publish the completed PICS.

Section Two - General Details

A.3 ISO 10161-1 Details

1	Protocol Version Number(s) that this PICS describes:	
2	Other Version Number(s) supported:	
3	Defect Report Number(s) implemented:	
4	Amendment(s) implemented:	

A.4 Application-Context Names

List the names and object identifiers of the application-contexts recognized or provided by this implementation.

Ref.	Application-Context Name	Object Identifier

A.5 Roles Supported

Ref.		D	I
1	Requester	☐	()
2	Responder	☐	()
3	Intermediary	☐	()

NOTE — At least one role must be supported by an implementation.

A.6 ILL Service Types Supported

Ref.	Service Type	Requester		Responder		Intermediary	
		D	I	D	I	D	I
1	Loan	☐	()	☐	()	☐	()
2	Copy/Non-returnable	☐	()	☐	()	☐	()
3	Locations	☐	()	☐	()	☐	()
4	Estimate	☐	()	☐	()	☐	()
5	Responder-specific	☐	()	☐	()	☐	()

A.7 Transaction Types Supported

Ref.	Transaction Type	Requester		Responder		Intermediary	
		D	I	D	I	D	I
1	Simple	m	()	m	()	—	()
2	Chained	o	()	o	()	o	()
3	Partitioned	o	()	o	()	o	()

NOTES

- 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 subtransactions.
- 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.
- Implementation of the intermediary role implies support for at least one of the chained or partitioned transaction types.

Section Three - Syntaxes

A.8 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.

A.8.1 Abstract Syntaxes Supported

Indicate below what abstract syntaxes are supported by the implementation. Registered syntaxes may be identified by citing the assigned object identifier; other syntaxes should be fully defined using ASN.1 notation, if appropriate, in an attachment.

Ref.	Parameter	D	I	Abstract-Syntax Name	Object Identifier
1	ILL-APDU	m	()	ill-apdus	1.0.10161.2.1
2	responder-specific-service	o	{ }		
3	national-bibliography-no	o	{ }		
4	system-no	o	{ }		
5	responder-specific-results (for reason-unfilled)	o	{ }		
6	responder-specific-results (for reason-locs-provided)	o	{ }		
7	responder-specific-results (for reason-not-available)	o	{ }		
8	responder-specific-results (for conditions)	o	{ }		
9	responder-specific-results (for reason-will-supply))	o	{ }		
10	supplemental-item- description	o	{ }		

For each abstract syntax identified in section A.8.1, multiple transfer syntaxes are possible. Two transfer syntaxes for ILL APDUs have been identified in the base standard, one based on ASN.1 encoding rules (ISO 8825, “basic-encoding”), and the other based on the EDIFACT syntax (ISO 9735).

Ref.	Abstract Syntax	Object Identifier	Transfer Syntax	Object Identifier	D	I
1.1	ill-apdus	1 0 10161 2 1	basic-encoding	2 1 1	m	()
1.2	ill-apdus	1 0 10161 2 1	EDIFACT-encoding	1 0 10161 3 1	o	()

Section Four - Interlibrary Loan Protocol

A.9 Interlibrary Loan Application Services

Except for optional APDUs, addressed in section A.9.2, support for an ILL service implies support for sending and/or 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.

A.9.1 Support for Services

Ref.	Service	Requester		Responder		Intermediary	
		D	I	D	I	D	I
1	ILL-REQUEST	m	()	m	()	m	()
2	FORWARD	—	—	o	()	o	()
3	FORWARD-NOTIFICATION	c1	()	—	—	c1	()
4	SHIPPED	m	()	m	()	m	()
5	ILL-ANSWER	m	()	m	()	m	()
6	CONDITIONAL-REPLY	m	()	c2	()	m	()
7	CANCEL	o	()	m	()	m	()
8	CANCEL-REPLY	c3	()	m	()	m	()
9	RECEIVED	m	()	m	()	m	()
10	RECALL	c4	()	c4	()	c4	()
11	RETURNED	c4	()	c4	()	c4	()
12	CHECKED-IN	c4	()	c4	()	c4	()
13	OVERDUE	c4	()	c4	()	c4	()
14	RENEW	c5	()	c4	()	c4	()
15	RENEW-ANSWER	c6	()	c4	()	c4	()
16	LOST	m	()	m	()	m	()
17	DAMAGED	o	()	o	()	m	()
18	MESSAGE	o	()	o	()	m	()
19	STATUS-QUERY	o	()	o	()	m	()
20	STATUS-OR-ERROR-REPORT	m	()	m	()	m	()
21	EXPIRY	o	()	o	()	m	()

Conditions

- c1 Support for the FORWARD-NOTIFICATION service is mandatory for requesters and intermediaries that support permission-to-forward with the value "TRUE"; otherwise it is not applicable. See section A.10.1, ref. 21.1.
- c2 Support for the CONDITIONAL-REPLY service is mandatory for responders that support transaction-results with the value "CONDITIONAL"; otherwise it is not applicable.

- c3 Support for the CANCEL-REPLY indication service is mandatory for requesters that support the CANCEL service; otherwise it is not applicable.
- c4 Support for the RECALL, RETURNED, CHECKED-IN, OVERDUE and RENEW-ANSWER services is mandatory for implementations that support the "loan" service type; otherwise they are not applicable. See section A.6.
- c5 Support for the RENEW service is optional for requesters that support the "loan" service type; otherwise it is not applicable. See section A.6.
- c6 Support for the RENEW-ANSWER service is mandatory for requesters that support the RENEW service; otherwise it is not applicable.

NOTES

1. Invocation of the FORWARD service by a responder results in the transmission to the new responder of an ILL-Request APDU with the forward-flag set to true and the transmission of a Forward-Notification APDU to the requester. The FORWARD-NOTIFICATION service is an indication service only and is only supported in the requester role.
2. The Shipped, Received, Returned and Checked-In APDUs are optional; they need not be sent even though the corresponding services are invoked. See section A.9.2

A.9.2 Optional APDUs

This section requests information about the extent to which optional APDUs can be transmitted, and about the extent to which the implementation requires the receipt of optional APDUs.

Note that it is never an error to send an optional APDU and that implementations must always be capable of receiving an optional APDU. The issues are the extent to which an implementation is capable of sending them, and to which an implementation requires the receipt of them.

A.9.2.1 Requester Role

A.9.2.1.1 Capabilities on Transmission

Indicate the value(s) transmitted for each of the parameters of the data type Requester-Optional-Messages-Type.

Ref.	Parameter	Value
1	can-send-RECEIVED	TRUE/FALSE
2	can-send-RETURNED	TRUE/FALSE
3	requester-SHIPPED	
3.1	- requires	()
3.2	- desires	()
3.3	- neither	()
4	requester-CHECKED-IN	
4.1	- requires	()
4.2	- desires	()
4.3	- neither	()

A.9.2.1.2 Requirements on Receipt

Indicate the value(s) supported on receipt for each parameter of the data type Responder-Optional-Messages-Type.

Ref.	Parameter	Value
1	can-send-SHIPPED	TRUE/FALSE
2	can-send-CHECKED-IN	TRUE/FALSE
3	responder-RECEIVED	
3.1	- requires	()
3.2	- desires	()
3.3	- neither	()
4	responder-RETURNED	
4.1	- requires	()
4.2	- desires	()
4.3	- neither	()

A.9.2.2 Responder Role

A.9.2.2.1 Capabilities on Transmission

Indicate the value(s) transmitted for each of the parameters of the data type Responder-Optional-Messages-Type.

Ref.	Parameter	Value
1	can-send-SHIPPED	TRUE/FALSE
2	can-send-CHECKED-IN	TRUE/FALSE
3	responder-RECEIVED	
3.1	- requires	()
3.2	- desires	()
3.3	- neither	()
4	responder-RETURNED	
4.1	- requires	()
4.2	- desires	()
4.3	- neither	()

A.9.2.2.2 Requirements on Receipt

Indicate the value(s) supported on receipt for each of the parameters of the data type Requester-Optional-Messages-Type.

Ref.	Parameter	Value
1	can-send-RECEIVED	TRUE/FALSE
2	can-send-RETURNED	TRUE/FALSE
3	requester-SHIPPED	
3.1	- requires	()
3.2	- desires	()
3.3	- neither	()
4	requester-CHECKED-IN	
4.1	- requires	()
4.2	- desires	()
4.3	- neither	()

A.10 Support for APDU Parameters

The base standard, ISO 10161-1 (clause 10.1 g), requires that an implementation shall be capable of receiving APDUs with data for all parameters. This section, therefore, deals with the requirements for support of parameters in sent APDUs.

NOTE — This does not imply that all parameters shall necessarily be acted upon, nor that the capabilities implicit in different values of a parameter shall necessarily be implemented. For instance, all implementations, receiving an ILL-Request APDU must be prepared to accept all values of the parameter permission-to-chain; this does not imply that all implementations must support chaining. What local action is taken by an implementation or a user in response to a value of a parameter, other than the maintenance of timers and variables as specified in the protocol, is not addressed by ISO 10161-1.

Mandatory support for a parameter thus requires that an implementation shall always be capable of sending data for that parameter and that, if the implementation has or can generate data for that parameter, then it shall always send it. For instance, the transaction-id parameter is mandatory in all APDUs, and implementations shall always send data in this parameter; however, the client-id parameter in the Shipped APDU is also mandatory, but data can only be sent in this parameter if a client-id was provided in the original ILL-Request — if this data was provided, then the parameter must be sent.

Indicate in the tables below the degree of support or otherwise for the APDU parameters as defined in clause 9 of ISO 10161-1. If the implementation supports different values (or has different constraints) for different roles, this should be indicated.

A.10.1 ILL-Request-APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	cc	()	see section A.11, ref.4
6	transaction-type	cl	()	see section A.7
7	delivery-address	o	()	
7.1	- postal-address	o	()	
7.1.1	-- name-of-person-or-institution	o	()	see section A.12, ref.5
7.1.2	-- extended-postal-delivery-address	o	()	
7.1.3	-- street-and-number	o	()	
7.1.4	-- post-office-box	o	()	
7.1.5	-- city	o	()	
7.1.6	-- region	o	()	
7.1.7	-- country	o	()	
7.1.8	-- postal-code	o	()	
7.2	- electronic-address	o	()	
7.2.1	-- telecom-service-identifier	o	()	
7.2.2	-- telecom-service-address	o	()	
8	delivery-service	o	()	see section A.12, ref. 8
9	billing-address	o	()	
9.1	- postal-address	o	()	
9.1.1	-- name-of-person-or-institution	o	()	see section A.12, ref.5
9.1.2	-- extended-postal-delivery-address	o	()	
9.1.3	-- street-and-number	o	()	
9.1.4	-- post-office-box	o	()	
9.1.5	-- city	o	()	
9.1.6	-- region	o	()	
9.1.7	-- country	o	()	
9.1.8	-- postal-code	o	()	
9.2	- electronic-address	o	()	
9.2.1	-- telecom-service-identifier	o	()	
9.2.2	-- telecom-service-address	o	()	

Ref.	Parameter	D	I	Reference, Usage or Range of Values
10	ill-service-type	m	()	see section A.6
11	responder-specific-service	o	()	see section A.8.1, ref.2
12	requester-optional-messages	m	()	see section A.9.2
13	search-type	o	()	
13.1	- level-of-service	o	()	
13.2	- need-before-date	o	()	
13.3	- expiry-flag	o	()	see section A.13, ref.20
13.4	- expiry-date	o	()	
14	supply-medium-info-type	o	()	
14.1	- supply-medium-type	m	()	see section A.13, ref. 22
14.2	- medium-characteristics	o	()	
15	place-on-hold-type	o	()	see section A.13, ref. 10
16	client-id	o	()	see section A.11, ref. 7
17	item-id	m	()	
17.1	- item-type	o	()	see section A.13, ref. 8
17.2	- held-medium-type	o	()	see section A.13, ref. 9
17.3	- call number	o	()	
17.4	- author	o	()	
17.5	- title	o	()	
17.6	- sub-title	o	()	
17.7	- sponsoring-body	o	()	
17.8	- place-of-publication	o	()	
17.9	- publisher	o	()	
17.10	- series-title-number	o	()	
17.11	- volume-issue	o	()	
17.12	- edition	o	()	
17.13	- publication-date	o	()	
17.14	- publication-date-of-component	o	()	
17.15	- author-of-article	o	()	
17.16	- title-of-article	o	()	
17.17	- pagination	o	()	
17.18	- national-bibliography-no	o	()	see section A.8.1, ref. 3
17.19	- ISBN	o	()	
17.20	- ISSN	o	()	
17.21	- system-no	o	()	see section A.8.1, ref. 4

Ref.	Parameter	D	I	Reference, Usage or Range of Values
17.22	- additional-no-letters	o	()	
17.23	- verification-reference-source	o	()	
18	supplemental-item-description	o	()	see section A.8.1, ref. 10
19	cost-info-type	o	()	
19.1	- account-number	o	()	
19.2	- maximum-cost	o	()	
19.2.1	-- currency-code	o	()	
19.2.2	-- monetary-value	m	()	
19.3	- reciprocal-agreement	o	()	
19.4	- will-pay-fee	o	()	
19.5	- payment-provided	o	()	
20	copyright-compliance	o	()	
21	third-party-info-type	c2	()	
21.1	- permission-to-forward	o	()	
21.2	- permission-to-chain	o	()	
21.3	- permission-to-partition	o	()	
21.4	- permission-to-change-send-to-list	o	()	
21.5	- initial-requester-address	c3	()	
21.5.1	-- telecom-service-identifier	o	()	
21.5.2	-- telecom-service-address	o	()	
21.6	- preference	o	()	see section A.13, ref. 23
21.7	- send-to-list	o	()	see section A.11, ref. 5
21.8	- already-tried-list	c4	()	see section A.11, ref. 6
22	retry-flag	o	()	
23	forward-flag	c5	()	
24	requester-note	o	()	
25	forward-note	c6	()	
26	ill-request-extensions	o	()	
26.1	- identifier	m	()	
26.2	- critical	o	()	
26.3	- item	m	()	

Conditions

- c1 Support for sending the transaction-type parameter is mandatory for implementations that support chaining or partitioning. Support is optional otherwise.
- c2 Support for sending the third-party-info-type parameter is mandatory for implementations that permit or support forwarding, chaining or partitioning. Support is optional otherwise.

- c3 Support for sending the initial-requester-address component of third-party-info is mandatory for responders that support forwarding and for intermediaries that support partitioning. Support is optional otherwise.
- c4 Support for sending the already-tried-list component of third-party-info is mandatory for responders that support forwarding and for all intermediaries. Support is optional otherwise.
- c5 Support for sending the forward-flag parameter with the value "TRUE" is mandatory for responders that support forwarding. Support is optional otherwise.
- c6 Support for sending the forward-note parameter is optional for responders that support forwarding. It is not applicable otherwise.

NOTES

1. Sending the value TRUE for the permission-to-forward, permission-to-chain and permission-to-partition components of the third-party-info-type parameter implies certain capabilities in the requesting implementation. For instance, permission-to-forward implies the ability to accept the Forward-Notification APDU, and to direct subsequent messages to, and receive subsequent messages from, the new responder.

A.10.2 Forward-Notification APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	m	()	see section A.11, ref.4
6	responder-address	o	()	see section A.11, ref. 9
7	intermediary-id	m	()	see section A.11, ref. 8
8	notification-note	o	()	
9	forward-notification-extensions	o	()	
9.1	- identifier	m	()	
9.2	- critical	o	()	
9.3	- item	m	()	

A.10.3 Shipped APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	cc	()	see section A.11, ref.4
6	responder-address	c1	()	see section A.11, ref. 9
7	intermediary-id	c1	()	see section A.11, ref. 8
8	supplier-id	c2	()	see section A.11, ref. 10
9	client-id	m	()	see section A.11, ref. 7
10	transaction-type	c1	()	see section A.7
11	supplemental-item-description	o	()	see section A.8.1, ref. 10
12	shipped-service-type	m	()	see section A.6
13	responder-optional-messages	o	()	see section A.9.2
14	supply-details	m	()	
14.1	- date-shipped	o	()	
14.2	- date-due	c3	()	see section A.11, ref. 12
14.3	- chargeable-units	o	()	
14.4	- cost	o	()	
14.4.1	-- currency-code	o	()	
14.4.2	-- monetary-value	m	()	
14.5	- shipped-conditions	o	()	see section A.13, ref. 21
14.6	- shipped-via	o	()	see section A.12, ref. 10
14.7	- insured-for	o	()	
14.7.1	-- currency-code	o	()	
14.7.2	-- monetary-value	m	()	
14.8	- return-insurance-required	o	()	
14.8.1	-- currency-code	o	()	
14.8.2	-- monetary-value	m	()	
14.9	- no-of-units-per-medium	o	()	
14.9.1	-- medium	m	()	see section A.13, ref. 22
14.9.2	-- no-of-units	m	()	
15	return-to-address	o	()	see section A.11, ref. 13
16	responder-note	o	()	

Ref.	Parameter	D	I	Reference, Usage or Range of Values
17	shipped-extensions	o	()	
17.1	- identifier	m	()	
17.2	- critical	o	()	
17.3	- item	m	()	

Conditions

- c1 Support for the responder-address, intermediary-address and transaction-type parameters is mandatory for implementations that support partitioning or chaining. They are optional otherwise.
- c2 Support for sending the supplier-id parameter is mandatory if the implementation permits the supplier of the item to be different from the final responder, e.g., if the implementation supports acting as the agent for other, possibly non-automated, suppliers.
- c3 Support for sending the date-due parameter is optional for implementations that support the "loan" service type; it is not applicable otherwise.

A.10.4 Ill-Answer APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	cc	()	see section A.11, ref.4
6	transaction-results	m	()	see section A.13, ref. 25
7	results-explanation	c1	()	see section A.12, ref. 7
8	responder-specific-results	o	()	see section A.8.1
9	supplemental-item-description	o	()	see section A.8.1, ref. 10
10	send-to-list	o	()	see section A.11, ref. 5
11	already-tried-list	o	()	see section A.11, ref. 6
12	responder-optional-messages	o	()	see section A.9.2
13	responder-note	o	()	
14	ill-answer-extensions	o	()	
14.1	- identifier	m	()	
14.2	- critical	o	()	
14.3	- item	m	()	

Conditions

- c1 Support for the results-explanation parameter is mandatory for responders that support transmission of transaction-results with the values "conditional", "locations-provided" or "estimate"; it is optional otherwise.

A.10.5 Conditional-Reply APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	cc	()	see section A.11, ref.4
6	answer	m	()	
7	requester-note	o	()	
8	conditional-reply-extensions	o	()	
8.1	- identifier	m	()	
8.2	- critical	o	()	
8.3	- item	m	()	

A.10.6 Cancel APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	cc	()	see section A.11, ref.4
6	requester-note	o	()	
7	cancel-extensions	o	()	
7.1	- identifier	m	()	
7.2	- critical	o	()	
7.3	- item	m	()	

A.10.7 Cancel-Reply APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	cc	()	see section A.11, ref.4
6	answer	m	()	
7	responder-note	o	()	
8	cancel-reply-extensions	o	()	
8.1	- identifier	m	()	
8.2	- critical	o	()	
8.3	- item	m	()	

A.10.8 Received APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	cc	()	see section A.11, ref.4
6	supplier-id	c1	()	see section A.11, ref. 10
7	supplemental-item-id	o	()	see section A.8.1, ref. 10
8	date-received	m	()	
9	shipped-service-type	m	()	see section A.6
10	requester-note	o	()	
11	received-extensions	o	()	
11.1	- identifier	m	()	
11.2	- critical	o	()	
11.3	- item	m	()	

Conditions

- c1 Support for sending the supplier-id parameter is mandatory if the implementation permits the supplier of the item to be different from the final responder, e.g., if the implementation supports interaction with a responder acting as the agent for other, possibly non-automated, suppliers.

A.10.9 Recall APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	cc	()	see section A.11, ref.4
6	responder-note	o	()	
7	recall-extensions	o	()	
7.1	- identifier	m	()	
7.2	- critical	o	()	
7.3	- item	m	()	

A.10.10 Returned APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	cc	()	see section A.11, ref.4
6	supplemental-item-description	o	()	see section A.8.1, ref. 10
7	date-returned	m	()	
8	returned-via	o	()	
9	insured-for	o	()	
9.1	- currency-code	o	()	
9.2	- monetary-value	m	()	
10	requester-note	o	()	
11	returned-extensions	o	()	
11.1	- identifier	m	()	
11.2	- critical	o	()	
11.3	- item	m	()	

A.10.11 Checked-In APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	cc	()	see section A.11, ref.4
6	date-checked-in	m	()	
7	responder-note	o	()	
8	checked-in-extensions	o	()	
8.1	- identifier	m	()	
8.2	- critical	o	()	
8.3	- item	m	()	

A.10.12 Overdue APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	cc	()	see section A.11, ref.4
6	date-due	m	()	
7	responder-note	o	()	
8	overdue-extensions	o	()	
8.1	- identifier	m	()	
8.2	- critical	o	()	
8.3	- item	m	()	

A.10.13 Renew APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	cc	()	see section A.11, ref.4
6	desired-date-due	o	()	
7	requester-note	o	()	
8	renew-extensions	o	()	
8.1	- identifier	m	()	
8.2	- critical	o	()	
8.3	- item	m	()	

A.10.14 Renew-Answer APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	cc	()	see section A.11, ref.4
6	answer	m	()	
7	date-due	c1	()	see section A.11, ref. 12
8	responder-note	o	()	
9	renew-answer-extensions	o	()	
9.1	- identifier	m	()	
9.2	- critical	o	()	
9.3	- item	m	()	

Conditions

- c1 Support for the date-due parameter is optional for responders that support the answer parameter with a value "YES"; it is not applicable otherwise.

A.10.15 Lost APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	cc	()	see section A.11, ref.4
6	note	o	()	
7	lost-extensions	o	()	
7.1	- identifier	m	()	
7.2	- critical	o	()	
7.3	- item	m	()	

A.10.16 Damaged APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	cc	()	see section A.11, ref.4
6	damaged-details	o	()	
6.1	- document-type-id	o	()	
6.2	- damaged-portion	m	()	see section A.12, ref. 11
6	note	o	()	
7	damaged-extensions	o	()	
7.1	- identifier	m	()	
7.2	- critical	o	()	
7.3	- item	m	()	

A.10.17 Message APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	cc	()	see section A.11, ref.4
6	note	m	()	
7	message-extensions	o	()	
7.1	- identifier	m	()	
7.2	- critical	o	()	
7.3	- item	m	()	

A.10.18 Status-Query APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	cc	()	see section A.11, ref.4
6	note	o	()	
7	status-query-extensions	o	()	
7.1	- identifier	m	()	
7.2	- critical	o	()	
7.3	- item	m	()	

A.10.19 Status-Or-Error-Report

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref. 1
3	service-date-time	m	()	see section A.11, ref. 2
4	requester-id	cc	()	see section A.11, ref. 3
5	responder-id	cc	()	see section A.11, ref. 4
6	reason-no-report	cl	()	see section A.13, ref. 12
7	status-report	o	()	
7.1	- user-status-report	m	()	
7.1.1	-- date-requested	o	()	
7.1.2	-- author	o	()	
7.1.3	-- title	o	()	
7.1.4	-- author-of-article	o	()	
7.1.5	-- title-of-article	o	()	
7.1.6	-- date-of-last-transition	m	()	
7.1.7	-- most-recent-service	m	()	see section A.13, ref. 4
7.1.8	-- date-of-most-recent-service	m	()	
7.1.9	-- initiator-of-most-recent-service	m	()	
7.1.9.1	--- person-or-institution-symbol	o	()	see section A.12, ref. 6
7.1.9.2	--- name-of-person-or-institution	o	()	see section A.12, ref. 5
7.1.10	-- shipped-service-type	o	()	see section A.6
7.1.11	-- transaction-results	o	()	see section A.13, ref. 25
7.1.12	-- most-recent-service-note	o	()	
7.2	- provider-status-report	m	()	see section A.13, ref. 2
8	error-report	c2	()	
8.1	- correlation-information	m	()	
8.2	- report-source	m	()	see section A.13, ref. 14
8.3	- user-error-report	c3	()	see section A.12, ref. 3
8.4	- provider-error-report	c4	()	see section A.12, ref. 2
9	note	o	()	
10	status-or-error-report-extensions	o	()	
10.1	- identifier	m	()	
10.2	- critical	o	()	
10.3	- item	m	()	

Conditions

- c1 Support for sending the reason-no-report parameter is mandatory for responders capable of sending an APDU in which neither the status-report nor error-report parameters are present; otherwise it is not applicable. The circumstances in which no report might be sent are not specified in the base standard.
- c2 Support for sending the error-report parameter with the user-error-report component containing the value "Already-forwarded" is mandatory for implementations that support forwarding.
- c3 Support for sending the user-error-report parameter is mandatory for implementations that support sending report-source with a value of "user"; it is not applicable otherwise.
- c4 Support for sending the provider-error-report parameter is mandatory for implementations that support sending report-source with a value of "provider"; it is not applicable otherwise.

A.10.20 Expired APDU

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	protocol-version-num	m	()	
2	transaction-id	m	()	see section A.11, ref.1
3	service-date-time	m	()	see section A.11, ref.2
4	requester-id	cc	()	see section A.11, ref.3
5	responder-id	cc	()	see section A.11, ref.4
6	expired-extensions	o	()	
6.1	- identifier	m	()	
6.2	- critical	o	()	
6.3	- item	m	()	

A.11 Common Parameters

The following sections contain details of parameters common to more than one APDU.

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	transaction-id		()	
1.1	- initial-requester-id	c1	()	
1.1.1	-- person-or-institution-symbol	o	()	see section A.12, ref. 6
1.1.2	-- name-of-person-or-institution	o	()	see section A.12, ref. 5
1.2	- transaction-group-qualifier	m	()	
1.3	- transaction-qualifier	m	()	
1.4	- sub-transaction-qualifier	c2	()	
2	service-date-time			
2.1	- date-time-of-this-service	m	()	
2.1.1	-- date	m	()	
2.1.2	-- time	c3	()	
2.2	- date-time-of-original-service	c4	()	
2.2.1	-- date	m	()	
2.2.2	-- time	c3	()	
3	requester-id			
3.1	-person-or-institution-symbol	o	()	see section A.12, ref. 6
3.2	- name-of-person-or-institution	o	()	see section A.12, ref. 5
4	responder-id			
4.1	- person-or-institution-symbol	o	()	see section A.12, ref. 6
4.2	- name-of-person-or-institution	o	()	see section A.12, ref. 5
5	send-to-list			
5.1	- system-id	m	()	
5.1.1	-- person-or-institution-symbol	o	()	see section A.12, ref. 6
5.1.2	-- name-of-person-or-institution	o	()	see section A.12, ref. 5
5.2	- account number	o	()	
5.3	- system-address	o	()	
5.3.1	-- telecom-service-identifier	o	()	
5.3.2	-- telecom-service-address	o	()	
6	already-tried-list			
6.1	- person-or-institution-symbol	o	()	see section A.12, ref. 6
6.2	- name-of-person-or-institution	o	()	see section A.12, ref. 5

Ref.	Parameter	D	I	Reference, Usage or Range of Values
7	client-id			
7.1	- client-name	o	()	
7.2	- client-status	o	()	
7.3	- client-identifier	o	()	
8	intermediary-id			
8.1	- person-or-institution-symbol	o	()	see section A.12, ref. 6
8.2	- name-of-person-or-institution	o	()	see section A.12, ref. 5
9	responder-address			
9.1	- telecom-service-identifier	o	()	
9.2	- telecom-service-address	o	()	
10	supplier-id			
10.1	- person-or-institution-symbol	o	()	see section A.12, ref. 6
10.2	- name-of-person-or-institution	o	()	see section A.12, ref. 5
11	locations			
11.1	- location-id	m	()	
11.1.1	- - person-or-institution-symbol	o	()	see section A.12, ref. 6
11.1.2	- - name-of-person-or-institution	o	()	see section A.12, ref. 5
11.2	- location-address	o	()	
11.2.1	- - telecom-service-identifier	o	()	
11.2.2	- - telecom-service-address	o	()	
11.3	- location-note	o	()	
12	date-due			
12.1	- date-due-field	m	()	
12.2	- renewable	o	()	
13	return-to-address			
13.1	- name-of-person-or-institution	o	()	see section A.12, ref. 5
13.2	- extended-postal-delivery-address	o	()	
13.3	- street-and-number	o	()	
13.4	- post-office-box	o	()	
13.5	- city	o	()	
13.6	- region	o	()	
13.7	- country	o	()	
13.8	- postal-code	o	()	

Ref.	Parameter	D	I	Reference, Usage or Range of Values
14	Electronic-Delivery-Service			
14.1	- e-delivery-service	o	()	
14.1.1	-- e-delivery-mode	o	()	
14.1.2	-- e-delivery-parameters	o	()	
14.2	- document-type	o	()	
14.2.1	-- document-type-id	o	()	
14.2.2	-- document-type-parameters	o	()	
14.3	- e-delivery-description	o	()	
14.4	- e-delivery-details	o	()	
14.5	- name-or-code	o	()	
14.6	- delivery-time	o	()	

Conditions

- c1 Support for sending the initial-requester-id parameter is mandatory for intermediaries; it is optional otherwise.
- c2 Support for sending the sub-transaction-qualifier parameter is mandatory for intermediaries; it is not applicable otherwise.
- c3 Support for sending the time parameter is mandatory for implementations that permit multiple invocations of the same service for a given ILL-transaction on the same day; it is optional otherwise.
- c4 Support for sending the date-time-of-original-service parameter is mandatory for implementations capable of sending repeated APDUs; it is not applicable otherwise.

A.12 Support for CHOICE Types

Indicate the choices which are supported for the various CHOICE types as specified in the abstract-syntax for APDUs, and the values supported for the component parameters:

Ref.	Parameter	D	I	Reference, Usage or Range of Values
1	ILL-APDU			see section A.9
2	Provider-Error-Report			
2.1	- General-Problem	o	()	see section A.13, ref. 3
2.2	- Transaction-Id-Problem	o	()	see section A.13, ref. 24
2.3	- State-Transition-Prohibited	o	()	
2.3.1	-- aPDU-type	m	()	see section A.13, ref. 5
2.3.2	-- current-state	m	()	see section A.13, ref. 2
3	User-Error-Report			
3.1	- Already-Forwarded	o	()	
3.1.1	-- responder-id	m	()	see section A.11, ref. 4
3.1.2	-- responder-address	o	()	see section A.11, ref. 9
3.2	- Intermediary-Problem	o	()	see section A.13, ref. 7
3.3	- Security-Problem	o	()	
3.4	- Unable-To-Perform	o	()	see section A.13, ref. 27
4	ILL-String			
4.1	- General String	c1	()	
4.2	- EDIFACT String	o	()	
5	Name-Of-Person-Or-Institution			
5.1	- name-of-person	o	()	
5.2	- name-of-institution	o	()	
6	Person-Or-Institution-Symbol			
6.1	- person-symbol	o	()	
6.2	- institution-symbol	o	()	
7	results-explanation			
7.1	- conditional-results	c2	()	
7.1.1	-- conditions	m	()	see section A.13, ref. 1
7.1.2	-- date-for-reply	o	()	
7.1.3	-- locations	o	()	see section A.11, ref. 11
7.1.4	-- proposed-delivery-service	o	()	see section A.12, ref. 8
7.2	- retry-results	o	()	
7.2.1	-- reason-not-available	o	()	see section A.13, ref. 19
7.2.2	-- retry-date	o	()	