
**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
oeuvre du protocole (PICS)*





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Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Abbreviations	2
5 Layout	2
6 Conformance	2
7 Notations defined in the proforma	2
7.1 General	2
7.2 “D” Column	2
7.3 “I” Column	3
7.4 “Reference, usage or range of values” column	3
8 PICS Numbers	3
9 Completion of the PICS	3
Annex A (normative) Protocol Implementation Conformance Statement (PICS) proforma for the Interlibrary Loan Protocol	4
Bibliography	34

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 46, *Information and documentation*, Subcommittee SC 4, *Technical interoperability*.

This second edition cancels and replaces the first edition (ISO 10161-2:1997) of which it constitutes a minor revision.

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*

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 which incorporates Defect Reports 1-22 and Amendment 1: ILL Support for Electronic Document Delivery. Detail of the use of this proforma is 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 implementer 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 protocol implementation conformance statement (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/IEC 9646-2.

Implementers claiming conformance to ISO 10161-1 complete the proforma as part of the conformance requirements.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

ISO 10161-1:2014, *Information and documentation — Open Systems Interconnection — Interlibrary Loan Application Protocol Specification — Part 1: Protocol specification*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 9646-1 and the following apply.

3.1

PICS proforma

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

statement made by the supplier of an OSI implementation or system stating which capabilities have been implemented for a given OSI protocol

1) ISO/IEC 9646-1:1994 supersedes ISO/IEC 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 that edition.

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
ILL	Interlibrary Loan
OSI	Open Systems Interconnection
PICS	Protocol Implementation Conformance Statement

5 Layout

[Annex A](#) contains the actual proforma to be filled in by an implementer 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

7.1 General

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. This column indicates the level of support required for conformance to ISO 10161.

“I”: Implementation indicator. This column shows which parameters or other details have or have not been implemented.

7.2 “D” Column

“m”: mandatory: support for this feature is required for conformance to ISO 10161.

“o”: optional: support for this feature is permitted, but is not required 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 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.

7.3 “I” Column

The “I” column shall be completed by the supplier or implementer 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

7.4 “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 implementer 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 implementer 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 implementer may continue the response on separate paper (so indicating in the space provided) and provide a reference (see [Clause 8](#)).

Annex A (normative)

Protocol Implementation Conformance Statement (PICS) proforma for the Interlibrary Loan Protocol²⁾

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?	[]
---	--	--------

2) 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 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	o	[]
2	Responder	o	[]
3	Intermediary	o	[]

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	o	[]	o	[]	o	[]
2	Copy/Non-returnable	o	[]	o	[]	o	[]
3	Locations	o	[]	o	[]	o	[]
4	Estimate	o	[]	o	[]	o	[]
5	Responder-specific	o	[]	o	[]	o	[]

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	[]

NOTE 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 subtransactions.

NOTE 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.

NOTE 3 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	[]		

A.8.2 Transfer syntaxes

For each abstract syntax identified in [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).

For each abstract syntax name shown as supported in [A.8.1](#), state below which transfer syntax(es) is/are supported.

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 [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 mean 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	[]

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 [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 [A.6](#).

c5 Support for the RENEW service is optional for requesters the support the "loan" service type; otherwise it is not applicable. See [A.6](#).

c6 Support for the RENEW-ANSWER service is mandatory for requesters that support the RENEW service; otherwise it is not applicable.

Ref	Service	Requester		Responder		Intermediary	
		D	I	D	I	D	I
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 [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 [A.6](#).
- c5 Support for the RENEW service is optional for requesters the support the "loan" service type; otherwise it is not applicable. See [A.6](#).
- c6 Support for the RENEW-ANSWER service is mandatory for requesters that support the RENEW service; otherwise it is not applicable.

NOTE 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.

NOTE 2 The Shipped, Received, Returned and Checked-In APDUs are optional; they need not be sent even though the corresponding services are invoked. See [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.

It is never an error to send an optional APDU; 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 10161-1:2014, 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 10161-1:2014. 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 A.11 ref.1
3	service-date-time	m	[]	see A.11 ref.2
4	requester-id	cc	[]	see A.11 ref.3
5	responder-id	cc	[]	see A.11 ref.4
6	transaction-type	c1	[]	see A.7
7	delivery-address	o	[]	
7.1	- postal-address	o	[]	
7.1.1	- name-of-person-or-institution	o	[]	see 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 A.12 , ref. 8
9	billing-address	o	[]	
9.1	- postal-address	o	[]	
9.1.1	- name-of-person-or-institution	o	[]	see A.12 ref. 5
9.1.2	- extended-postal-delivery-address	o	[]	
9.1.3	- street 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	[]	

Ref	Parameter	D	I	Reference, usage or range of values
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 A.6
11	responder-specific-service	o	[]	see A.8.1 ref.2
12	requester-optional-messages	m	[]	see 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 A.13 ref.20
13.4	- expiry-date	o	[]	
14	supply-medium-info-type	o	[]	
14.1	- supply-medium-type	m	[]	see A.13 ref. 22
14.2	- medium-characteristics	o	[]	
15	place-on-hold	o	[]	see A.13 , ref. 10
16	client-id	o	[]	see A.11 , ref. 7
17	item-id	m	[]	
17.1	- item-type	o	[]	see A.13 , ref. 8
17.2	- held-medium-type	o	[]	see 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 A.8.1 , ref. 3
17.19	- ISBN	o	[]	
17.20	- ISSN	o	[]	
17.21	- system-no	o	[]	see 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	[]	

Ref	Parameter	D	I	Reference, usage or range of values
18	supplemental-item-description	o	[]	see 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-charge-send-to-list	o	[]	
21.5	- initial-requester-address	o	[]	
21.5.1	- telecom-service-identifier	o	[]	
21.5.2	- telecom-service-address	c3	[]	
21.6	- preference	o	[]	see A.13 , ref. 23
21.7	- send-to-list	o	[]	see A.11 , ref. 5
21.8	- already-tried-list	c4	[]	see 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	[]	

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.

Ref	Parameter	D	I	Reference, usage or range of values
26.2	- critical	o	[]	
26.3	- item	m	[]	
<p>Conditions</p> <p>c1 Support for sending the transaction-type parameter is mandatory for implementations that support chaining or partitioning. Support is optional otherwise.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>c5 Support for sending the forward-flag parameter with the value "TRUE" is mandatory for responders that support forwarding. Support is optional otherwise.</p> <p>c6 Support for sending the forward-note parameter is optional for responders that support forwarding. It is not applicable otherwise.</p>				

NOTE 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 A.11 , ref.1
3	service-date-time	m	[]	see A.11 , ref.2
4	requester-id	cc	[]	see A.11 , ref.3
5	responder-id	m	[]	see A.11 , ref.4
6	responder-address	o	[]	see A.11 , ref. 9
7	intermediary-id	m	[]	see 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 A.11 , ref.1
3	service-date-time	m	[]	see A.11 , ref.2
4	requester-id	cc	[]	see A.11 , ref.3
5	responder-id	cc	[]	see A.11 , ref.4
6	responder-address	c1	[]	see A.11 , ref. 9
7	intermediary-id	c1	[]	see A.11 , ref. 8
8	supplier-id	c2	[]	see A.11 , ref. 10

Ref	Parameter	D	I	Reference, usage or range of values
9	client-id	m	[]	see A.11 , ref. 7
10	transaction-type	c1	[]	see A.7
11	supplemental-item-description	o	[]	see A.8.1 , ref. 10
12	shipped-service-type	m	[]	see A.6
13	responder-optional-messages	o	[]	see A.9.2
14	supply-details	m	[]	
14.1	- date-shipped	o	[]	
14.2	- date-due	c3	[]	see A.11 , ref. 12
14.3	- chargeable-units	o	[]	
14.4	- cost	o	[]	
14.4.1	- currency-code	o	[]	
14.4.2	- monetary-value	o	[]	
14.5	- shipped-conditions	o	[]	see A.13 , ref. 21
14.6	- shipped-via	o	[]	see A.12 , ref. 10
14.7	- ensured-for	m	[]	
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 A.13 , ref. 22
14.9.2	- no-of-units	m	[]	
15	return-to-address	o	[]	see 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-id and transaction-type parameters are 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 A.11 , ref.1
3	service-date-time	m	[]	see A.11 , ref.2
4	requester-id	cc	[]	see A.11 , ref.3
5	responder-id	cc	[]	see A.11 , ref.4
6	transaction-results	m	[]	see A.13 , ref. 25
7	results-explanation	c1	[]	see A.12 , ref. 7
8	responder-specific-results	o	[]	see A.8.1
9	supplemental-item-description	o	[]	see A.8.1 , ref. 10
10	send-to-list	o	[]	see A.11 , ref. 5
11	already-tried-list	o	[]	see A.11 , ref. 6
12	responder-optional-messages	o	[]	see 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 A.11 , ref.1
3	service-date-time	m	[]	see A.11 , ref.2
4	requester-id	cc	[]	see A.11 , ref.3
5	responder-id	cc	[]	see 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 A.11 , ref.1
3	service-date-time	m	[]	see A.11 , ref.2
4	requester-id	cc	[]	see A.11 , ref.3
5	responder-id	cc	[]	see 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 A.11 , ref.1
3	service-date-time	m	[]	see A.11 , ref.2
4	requester-id	cc	[]	see A.11 , ref.3
5	responder-id	cc	[]	see 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 A.11 , ref.1
3	service-date-time	m	[]	see A.11 , ref.2
4	requester-id	cc	[]	see A.11 , ref.3
5	responder-id	cc	[]	see A.11 , ref.4
6	supplier-id	c1	[]	see A.11 , ref. 10
7	supplemental-item-id	o	[]	see A.8.1 , ref. 10
8	date-received	m	[]	
9	shipped-service-type	m	[]	see 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 A.11 , ref.1
3	service-date-time	m	[]	see A.11 , ref.2
4	requester-id	cc	[]	see A.11 , ref.3
5	responder-id	cc	[]	see 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 A.11 , ref.1
3	service-date-time	m	[]	see A.11 , ref.2
4	requester-id	cc	[]	see A.11 , ref.3
5	responder-id	cc	[]	see A.11 , ref.4
6	supplemental-item-description	o	[]	see A.8.1 , ref. 10
7	date-returned	m	[]	
8	returned-via	o	[]	
9	ensured-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 A.11 , ref.1
3	service-date-time	m	[]	see A.11 , ref.2
4	requester-id	cc	[]	see A.11 , ref.3
5	responder-id	cc	[]	see 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 A.11 , ref.1
3	service-date-time	m	[]	see A.11 , ref.2
4	requester-id	cc	[]	see A.11 , ref.3
5	responder-id	cc	[]	see 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 A.11 , ref.1
3	service-date-time	m	[]	see A.11 , ref.2
4	requester-id	cc	[]	see A.11 , ref.3
5	responder-id	cc	[]	see A.11 , ref.4
6	desired-due-date	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 A.11 , ref.1
3	service-date-time	m	[]	see A.11 , ref.2
4	requester-id	cc	[]	see A.11 , ref.3
5	responder-id	cc	[]	see A.11 , ref.4
6	answer	m	[]	
7	date-due	c1	[]	see 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 A.11 , ref.1
3	service-date-time	m	[]	see A.11 , ref.2
4	requester-id	cc	[]	see A.11 , ref.3
5	responder-id	cc	[]	see 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 A.11 , ref.1
3	service-date-time	m	[]	see A.11 , ref.2
4	requester-id	cc	[]	see A.11 , ref.3
5	responder-id	cc	[]	see A.11 , ref.4
6	damaged-details	o	[]	
6.1	- document-type-id	o	[]	
6.2	- damaged portion	m	[]	
7	note	o	[]	
8	damaged-extensions	o	[]	
8.1	- identifier	m	[]	
8.2	- critical	o	[]	
8.3	- 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 A.11 , ref.1
3	service-date-time	m	[]	see A.11 , ref.2
4	requester-id	cc	[]	see A.11 , ref.3
5	responder-id	cc	[]	see 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 A.11 , ref.1
3	service-date-time	m	[]	see A.11 , ref.2
4	requester-id	cc	[]	see A.11 , ref.3
5	responder-id	cc	[]	see 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 APDU

Ref	Parameter	D	I	Reference, usage or range of values
1	protocol-version-num	m	[]	
2	transaction-id	m	[]	see A.11 , ref. 1
3	service-date-time	m	[]	see A.11 , ref. 2
4	requester-id	cc	[]	see A.11 , ref. 3
5	responder-id	cc	[]	see A.11 , ref. 4
6	reason-no-report	c1	[]	see 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-transaction	m	[]	
7.1.7	- most-recent-service	m	[]	see 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 A.12 , ref. 6
7.1.9.2	- name-of-person-or-institution	o	[]	see A.12 , ref. 5

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.

Ref	Parameter	D	I	Reference, usage or range of values
7.1.10	- shipped-service-type	o	[]	see A.6
7.1.11	- transaction-results	o	[]	see A.13 , ref. 25
7.1.12	- most recent-service	o	[]	
7.2	- provider-status-report	m		see A.13 , ref. 2
8	error-report	c2	[]	
8.1	- correlation-information	m	[]	
8.2	- report-source	m	[]	see A.13 , ref. 14
8.3	- user-error-report	c3	[]	see A.12 , ref. 3
8.4	- provider-error-report	c4	[]	see 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	[]	
<p>Conditions</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>				

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 A.11 , ref.1
3	service-date-time	m	[]	see A.11 , ref.2
4	requester-id	cc	[]	see A.11 , ref.3
5	responder-id	cc	[]	see 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	[]	

Ref	Parameter	D	I	Reference, usage or range of values
1	transaction-id		[]	
1.1.1	- person-or-institution-symbol	o	[]	see A.12 , ref. 6
1.1.2	- name-of-person-or-institution	o	[]	see 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 A.12 , ref. 6
3.2	- name-of-person-or-institution	o	[]	see A.12 , ref. 5
4	responder-id			
4.1	- person-or-institution-symbol	o	[]	see A.12 , ref. 6
4.2	- name-of-person-or-institution	o	[]	see A.12 , ref. 5
5	send-to-list			
5.1	- system-id	m	[]	
5.1.1	- person-or-institution-symbol	o	[]	see A.12 , ref. 6
5.1.2	- name-of-person-or-institution	o	[]	see 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 A.12 , ref. 6
6.2	- name-of-person-or-institution	o	[]	see 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 A.12 , ref. 6
8.2	- name of person or institution	o	[]	see A.12 , ref. 5
9	responder-address			
9.1	- telecom-service-identifier	o	[]	
9.2	- telecom-service-address	o	[]	

Ref	Parameter	D	I	Reference, usage or range of values
10	supplier-id			
10.1	- person-or-institution-symbol	o	[]	see A.12 , ref. 6
10.2	- name-of-person-or-institution	o	[]	see A.12 , ref. 5
11	locations			
11.1	- location-id	m	[]	
11.1.1	- person-or-institution-symbol	o	[]	see A.12 , ref. 6
11.1.2	- name-of-person-or-institution	o	[]	see 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 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	[]	

Ref	Parameter	D	I	Reference, usage or range of values
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-organization	o	[]	
14.3	- e-delivery-description	o	[]	
14.4	- e-delivery-details	o	[]	
14.5	- name-or-code	o	[]	
14.8	- 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 A.9
2	Provider-Error-Report			
2.1	- General-Problem	o	[]	see A.13 , ref. 3
2.2	- Transaction-Id-Problem	o	[]	see A.13 , ref. 24
2.3	- State-Transition-Prohibited	o	[]	
2.3.1	- APDU-type	m	[]	see A.13 , ref. 5
2.3.2	- current-state	m	[]	see A.13 , ref. 2
3	User-Error-Report			
3.1	- Already-Forwarded	o	[]	
3.1.1	- responder-id	m	[]	see A.11 , ref. 4
3.1.2	- responder-address	o	[]	see A.11 , ref. 9
3.2	- Intermediary-Problem	o	[]	see A.13 , ref. 7
3.3	- Security-Problem	o	[]	
3.4	- Unable-To-Perform	o	[]	see A.13 , ref. 27

Ref	Parameter	D	I	Reference, usage or range of values
4	ILL-String			
4.1	- GeneralString	c1	[]	
4.2	- EDIFACTString	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 A.11 , ref. 1
7.1.2	- date-for-reply	o	[]	
7.1.3	- locations	o	[]	see A.11 , ref. 11
7.1.4	- proposed-delivery-service	o	[]	see A.13 , ref. 8
7.2	- retry-results	o	[]	
7.2.1	- reason-not-available	o	[]	see A.13 , ref. 19
7.2.2	- retry-date	o	[]	

Ref	Parameter	D	I	Reference, usage or range of values
7.2.3	- locations	o	[]	see A.11 , ref. 11
7.3	- unfilled-results	o	[]	
7.3.1	- reason-unfilled	m	[]	see A.13 , ref. 13
7.3.2	- locations	o	[]	see A.11 , ref. 11
7.4	- locations-results	c2	[]	
7.4.1	- reason-locs-provided	o	[]	see A.13 , ref. 11
7.4.2	- locations	m	[]	see A.11 , ref. 11
7.5	- will-supply-results	o	[]	
7.5.1	- reason-will-supply	m	[]	see A.13 , ref. 28
7.5.2	- supply-date	o	[]	
7.5.3	- return-to-address	o	[]	see A.11 , ref. 13
7.5.4	- locations	o	[]	see A.11 , ref. 11
7.5.5	- electronic-delivery-service	o	[]	see A.11 , ref. 14
7.6	- hold-placed-results	o	[]	
7.6.1	- estimated-date-available	o	[]	
7.6.2	- hold-placed-medium-type	o	[]	see A.13 , ref. 9
7.6.3	- locations	o	[]	see A.11 , ref. 11
7.7	- estimate-results	c2	[]	

Conditions

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

c2 Support for sending conditional-results or location-results or estimate-results is mandatory for implementations that support sending the transaction-results parameter with the values “conditional”, “locations-provided” or “estimate” respectively.

Ref	Parameter	D	I	Reference, usage or range of values
7.7.1	- cost-estimate	m	[]	
7.7.2	- locations	o	[]	see A.11 , ref. 11
8	Delivery-Service			
8.1	- physical-delivery	o	[]	
8.2	- electronic-delivery	o	[]	see A.11 , ref. 14
9	e-delivery-details			
9.1	- e-delivery-address	o	[]	
9.2	- e-delivery-id	o	[]	
10	shipped-via			
10.1	- physical-delivery	o	[]	
10.2	- electronic-delivery	o	[]	see A.11 , ref. 14
11	damaged-portion			
11.1	- complete-document	o	[]	
11.2	- specific-units	o	[]	
Conditions				
c1 Support for the GeneralString choice is incompatible with the use of EDIFACT-encoding as the transfer syntax.				
c2 Support for sending conditional-results or location-results or estimate-results is mandatory for implementations that support sending the transaction-results parameter with the values "conditional", "locations-provided" or "estimate" respectively.				

A.13 Enumerated types

Indicate in the tables below whether the implementation is capable of sending each value of the ENUMERATED data types. State any constraints on the interpretation of the value "other".

Ref	ENUMERATED Type	D	I	Reference, usage or constraints
1	conditions	o	[]	
1.13	- cost-exceeds-limit	o	[]	
1.14	- charges	o	[]	
1.15	- prepayment-required	o	[]	
1.16	- lacks-copyright-compliance	o	[]	
1.22	- library-use-only	o	[]	
1.23	- no-reproduction	o	[]	
1.24	- client-signature-required	o	[]	
1.25	- special-collections-supervision-required	o	[]	
1.27	- other	o	[]	
1.28	- responder-specific	o	[]	
1.30	- proposed-delivery-service	o	[]	
2	Current-State			implementations must be capable of sending all values consistent with the services and ILL-service-types supported: see A.6 and A.9.1
3	General-Problem	o	[]	
3.1	- unrecognized = ADPU	o	[]	
3.2	- mistyped-ADPU	o	[]	

Ref	ENUMERATED Type	D	I	Reference, usage or constraints
3.3	- badly-structured-ADPU	o	[]	
3.4	- protocol-version-not-supported	o	[]	
3.5	- other			
4	most-recent-service			implementations must be capable of sending all values consistent with the services and ILL-service-types supported: see A.6 and A.9.1
5	ILL-APDU-TYPE			implementations must be capable of sending all values consistent with the services and ILL-service-types supported: see A.6 and A.9.1
6	ILL-Service-Type			see A.6
7	Intermediary-Problem			
7.1	- cannot-send-forward	o	[]	

Ref	Parameter	D	I	Reference, usage or range of values
8	item-type			
8.1	- monograph	o	[]	
8.2	- serial	o	[]	
8.3	- other	o	[]	
9	Medium-type			
9.1	- printed	o	[]	
9.3	- microform	o	[]	
9.4	- film-or-video-recording	o	[]	
9.5	- audio-recording	o	[]	
9.6	- machine-readable	o	[]	
9.7	- other	o	[]	
10	Place-On-Hold-Type			
10.1	- yes	o	[]	
10.2	- no	o	[]	
10.3	- according-to-responder-policy	o	[]	
11	Reason-Locs-Provided			
11.1	- in-use-on-loan	o	[]	
11.2	- in-process	o	[]	
11.3	- lost	o	[]	
11.4	- non-circulating	o	[]	
11.5	- not-owned	o	[]	
11.6	- on-order	o	[]	
11.7	- volume-issue-not-yet-available	o	[]	
11.8	- at-bindery	o	[]	
11.9	- lacking	o	[]	
11.10	- not-on-shelf	o	[]	
11.11	- on-reserve	o	[]	
11.12	- poor-condition	o	[]	
11.13	- cost-exceeds-limit	o	[]	

Ref	Parameter	D	I	Reference, usage or range of values
11.19	- on-hold	o	[]	
11.27	- other	o	[]	
11.28	- responder-specific	o	[]	
12	Reason-No = Report			
12.1	- temporary	o	[]	
12.2	- permanent	o	[]	

Ref	Parameter	D	I	Reference, usage or range of values
13	Reason-Unfilled			
13.1	- in-use-on-loan	o	[]	
13.2	- in-process	o	[]	
13.3	- lost	o	[]	
13.4	- non-circulating	o	[]	
13.5	- not-owned	o	[]	
13.6	- on-order	o	[]	
13.7	- volume-issue-not-yet-available	o	[]	
13.8	- at-bindery	o	[]	
13.9	- lacking	o	[]	
13.10	- not-on-shelf	o	[]	
13.11	- on-reserve	o	[]	
13.12	- poor-condition	o	[]	
13.13	- cost-exceeds-limit	o	[]	
13.14	- charges	o	[]	
13.15	- prepayment-required	o	[]	
13.16	- lacks-copyright-compliance	o	[]	
13.17	- not-found-as-cited	o	[]	
13.18	- locations-not-found	o	[]	
13.19	- on-hold	o	[]	
13.20	- policy-problem	o	[]	
13.21	- mandatory-messaging-not-supported	o	[]	
13.22	- expiry-not-supported	o	[]	
13.23	- requested-delivery-service-not-supported	o	[]	
13.24	- preferred-delivery-service-not-possible	o	[]	
13.27	- other	o	[]	
13.28	- responder-specific	o	[]	
14	Report-Source			
14.1	- user	o	[]	
14.2	- provider	o	[]	
15	requester-SHIPPED			see A.9.2

ISO 10161-2:2014(E)

Ref	Parameter	D	I	Reference, usage or range of values
16	requester-checked-IN			see A.9.2
17	responder-RECEIVED			see A.9.2

Ref	Parameter	D	I	Reference, usage or range of values
18	responder-RETURNED			see A.9.2
19	reason-not-available			
19.1	- in-use-on-loan	o	[]	
19.2	- in-process	o	[]	
19.6	- on-order	o	[]	
19.7	- volume-issue-not-yet-available	o	[]	
19.8	- at-bindery	o	[]	
19.13	- cost-exceeds-limit	o	[]	
19.14	- charges	o	[]	
19.15	- prepayment-required	o	[]	
19.16	- lacks-copyright-compliance	o	[]	
19.17	- not-found-as-cited	o	[]	
19.19	- on-hold	o	[]	
19.27	- other	o	[]	
19.28	- responder-specific	o	[]	
20	expiry-flag			
20.1	- need-Before-Date	o	[]	
20.2	- other-Date	o	[]	
20.3	- no-Expiry	o	[]	
21	Shipped-conditions			
21.22	- for-library-use-only	o	[]	
21.23	- no-reproduction	o	[]	
21.24	- client-signature-required	o	[]	
21.25	- special-collections-supervision-required	o	[]	
21.27	- other	o	[]	
22	Supply-Material-Type			
22.1	- print	o	[]	
22.2	- photocopy	o	[]	
22.3	- microform	o	[]	
22.4	- film-or-video-recording	o	[]	
22.5	- audio-recording	o	[]	
22.6	- machine-readable	o	[]	
22.7	- other	o	[]	

Ref	Parameter	D	I	Reference, usage or range of values
23	preference			
23.1	- ordered	o	[]	

Ref	Parameter	D	I	Reference, usage or range of values
23.2	- unordered	o	[]	
24	Transaction-id-Problem			
24.1	- duplicate-transaction-id	o	[]	
24.2	- invalid-transaction-id	o	[]	
24.3	- unknown-transaction-id	o	[]	
25	- Transaction-Results			
25.1	- conditional	o	[]	
25.2	- retry	o	[]	
25.3	- unfilled	o	[]	
25.4	- locations-provided	o	[]	
25.5	- will-supply	o	[]	
25.6	- hold-placed	o	[]	
25.7	- estimate	o	[]	
26	Transaction-Type			see A.7
27	Unable-To-Perform			
27.1	- not-available	o	[]	
27.2	- resource-limitation	o	[]	
27.3	- other			
28	reason-will-supply	o	[]	
28.1	- in-use-on-loan	o	[]	
28.2	- in-process	o	[]	
28.6	- on-order	o	[]	
28.8	- at-bindery			
28.19	- on-hold	o	[]	
28.26	- being-processed-for-supply	o	[]	
28.27	- other	o	[]	
28.28	- responder-specific	o	[]	
28.30	- electronic-delivery	o	[]	

End of PICS proforma

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- [1] ISO/IEC 8825, *Information technology — Open Systems Interconnection — Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)*
- [2] ISO/IEC 9646-2, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 2: Abstract Test Suite specification³⁾*
- [3] ISO 9735, *Electronic data interchange for administration, commerce and transport (EDIFACT) — Application level syntax rules*

3) ISO/IEC 9646-2:1994 supersedes ISO/IEC 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 that edition.

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