INTERNATIONAL STANDARD

ISO 10161-2

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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)

Reference number
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Contents

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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.

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 identifiying 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).

Annex A
(normative)

Protocol Implementation Conformance Statement (PICS)
Proforma for the Interlibrary Loan Protocol[1)]

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	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	( )

NOTES

1 For chained transactions, requester support implies the ability to permit chained transactions; responder support implies the ability to send the SHIPPED message; intermediary support implies the ability to initiate chained subtransactions.

2 For partitioned transactions, requester support implies the ability to permit partitioned transactions and to interact with different parties for the processing and tracking phases of a transaction; responder support implies the ability to send the SHIPPED message and to interact directly with the requester during the tracking phase of the transaction; intermediary support implies the ability to initiate partitioned sub-transactions.

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

Section Three - Syntaxes

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 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).

For each abstract syntax name shown as supported in section 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 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.