

Annex A. IPIG Profile Conformance Statement Requirements List

(Normative)

This Annex forms an integral part of the *IPIG Profile for the ISO Protocol*. It provides a series of tables indicating the requirements, parameter by parameter, for compliance with the IPIG Profile for the ISO ILL Protocol. Implementors wishing to assert conformance to this Profile **SHALL**:

- Complete a copy of this Annex, the IPIG Profile Conformance Statement Requirements List, indicating the capabilities supported by their implementations, as a statement of static conformance to this Profile;
- Make a completed Requirements List network-accessible via a URL;
- Inform the ILL ASMA of the URL for listing in the central registry of completed Conformance Statement Requirements Lists.

The ILL ASMA maintains a central registry of completed Conformance Statement Requirements Lists.

A.1. Notations Used in the IPIG Profile Conformance Statement Requirements List

A.1.1. Notation for Column Headings

IPIG Defined in the IPIG Profile. This column indicates the level of support required for conformance to this Profile.

Impl Implementation Indicator. This column is to be completed by the implementor to indicate the level at which the implementation supports each service or parameter.

A.1.2. Notation used in the IPIG Column

M Mandatory: Mandatory support of an ILL service implies that the implementation **SHALL** be capable of invoking the specified service, including the initiation and receipt of the APDU(s) associated with the service, as appropriate to the user role (Requester, Responder, or Intermediary).

Mandatory support of a parameter implies that an implementation **SHALL** be capable of transmitting data values for that parameter in APDUs according to the protocol specifications in ISO 10161-1:1997. If data are available, having been explicitly supplied or able to be generated by a user application, that data **SHALL** be carried in the APDU.

Mandatory support of a data type within a parameter implies that an implementation **SHALL** be capable of transmitting values for that specific data type if the parent parameter is transmitted. For example, if the optional **maximum-cost** parameter is supported, it is mandatory that values for **currency-code** and **monetary-value** data types are included.

O Optional: Optional support of an ILL service or parameter implies that it is permitted but not mandatory for the IPIG Profile. However, if this feature is implemented, it **SHALL** conform to the specifications and restrictions contained in the IPIG Profile.

C Conditional: Support of this ILL service or parameter depends on certain conditions identified for the feature in the **Reference, Usage or Range of Values** column, or elsewhere in this IPIG Profile.

X Out-of-scope: Support of this ILL service or parameter is not addressed in the IPIG Profile.

-- Not applicable.

A.1.3. Notation used in the Impl Column

This notation is to be supplied by the implementor when stating the conformance of an ILL implementation to the IPIG Profile.

Y Yes, this ILL service or parameter has been implemented.

N No, this ILL service or parameter has not been implemented.

Non-support of a service implies that an implementation does not have the capability to transmit the APDUs associated with the service, and has no support for the service beyond the capability to receive the associated APDUs without failure.

A.1.4. Numbering

In the tables of Annex A, each row that requires implementation details to be supplied is numbered at the left-hand edge of the row. This numbering is included as a means of uniquely identifying all possible implementation details within the Requirements List.

A.1.5. Completion by the Implementor

The implementor, when stating conformance with the IPIG Profile for the ISO ILL Protocol, **SHALL** complete all "[]"marked entries in the **Impl** column of the IPIG Profile Conformance Statement Requirements List and all other appropriate sections in the IPIG Profile. Implementors may remove the contents of the "References, Usage or Range of Values" column and add details specific to their implementation. However, they should not make any other changes to this established proforma when preparing a Conformance Statement. Where the response exceeds the space available, references may be made to additional annexes where complete descriptions are provided.

A.2. Implementation Details

A.2.1. Date of Statement

Date of Statement (YYYY-MM-DD)	
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A.2.2. Identification of the Implementation

1	Implementation Supplier (i.e., Company name)	
2	Implementation Name	
3	Implementation Version Number	
4	Implementation Contact Information	

A.2.3. Statement of Conformance

Ref.		Impl	Comments
1	All mandatory features of version 1.0 of the <i>IPIG Profile for the ISO ILL Protocol</i> have been implemented.	[]	
1.1	All static constraints identified in Clause 6 of version 1.0 of the <i>IPIG Profile for the ISO ILL Protocol</i> have been implemented.	[]	
1.2	The implementation exhibits behaviour consistent with dynamic constraints as specified in Clause 7 of version 1.0 of the <i>IPIG Profile for the ISO ILL Protocol</i> .	[]	

A.3. General Details

A.3.1. ISO 10161 Details

1	Protocol Version Number	
2	Other Version Number(s) supported	
3	Defect Report Number(s) implemented	
4	Amendment(s) implemented	

A.3.2. Roles Supported

See Clause 6.1 for details on the dynamic constraints imposed by the IPIG Profile concerning support of the ILL-Service-User roles.

Ref.		IPIG	Impl
1	Requester	O	[]
2	Responder	O	[]
3	Intermediary	O	[]

A.3.3. Transaction Types Supported

See Clause 6.2 for details on the static constraints imposed by the IPIG Profile concerning support of Transaction Types.

Ref.	Transaction Type	Requester		Responder		Intermediary	
		IPIG	Impl	IPIG	Impl	IPIG	Impl
1	Simple	M	[]	M	[]	--	[]
2	Chained	O	[]	O	[]	C	[]
3	Partitioned	O	[]	O	[]	C	[]

A.3.4. ILL Service Types Supported

See 7.4 for details on the dynamic constraints imposed by the IPIG Profile concerning support for **ILL-REQUEST.iLL-service-type**.

Ref.	Service Type	Requester		Responder		Intermediary	
		IPIG	Impl	IPIG	Impl	IPIG	Impl
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.3.5. Maximum Field Lengths: System-Id and Transaction-Id

See 6.5 for details on the static constraints imposed by the IPIG Profile on the maximum lengths of specific data parameters.

Ref No.	Parameter	IPIG	Impl
1	System-Id	Total of 175 characters	
1.2	- person-or-institution-symbol	25 characters	
1.3	- name-of-person-or-institution	150 characters	
2	Transaction-Id	Total of 250 characters	
2.1	- initial-requester-id	175 characters	
2.1.1	- - person-or-institution-symbol	25 characters	
2.1.2	- - name-of-person-or-institution	150 characters	
2.2	- transaction-group-qualifier	25 characters	
2.3	- transaction-qualifier	25 characters	
2.4	- sub-transaction-qualifier	25 characters	

A.3.6. Transfer Syntax

See 6.10.1 *Transfer Syntax* for a more detailed discussion of the Transfer Syntax requirements for implementations conforming to the IPIG Profile.

Ref.		IPIG	Impl
1	ASN.1BER	M	[]
2	EDIFACT	X	--

A.3.7. Transport Services

See 6.10.2 *Communication Services*, 6.10.3 *Using Internet Mail*, and 6.10.4 *Using Direct Transfer over TCP* for more detailed discussions of the Transport Services requirements for implementations conforming to the IPIG Profile.

Ref.		IPIG	Impl
1	Internet mail	M	[]
1.1	- MIME encoding	M	[]
2	Direct Transfer over TCP	O	[]
2.1	- Listen on port 1611	M	[]
2.2	- Connect to port 1611	M	[]
2.3	- Listen on port 499	O	[]
2.4	- Connect to port 499	O	[]

A.3.8. Character Sets Support

See 6.11 *Character Sets* for a more detailed discussion of the requirements for the handling of character sets by implementations conforming to the IPIG Profile.

Ref.		IPIG	Impl
1	Supports ISO Latin-1 (ISO 8859-1)	M	[]
2	Recognizes escape sequences for other sets	M	[]
3	Supports Unicode UTF-8	O	[]
4	Supports additional character sets, as specified	O	[]
4.1	- character set 1	O	[]
4.2	- character set 2	O	[]
4.3	- etc.	O	[]

Note to implementors: Add additional rows in the A.4 table, e.g., 4.3, 4.4, etc., as required to specify the character set escape sequences supported.

A.4. Syntaxes

This section identifies requirements for support of the various possible syntaxes associated with the ILL Protocol. Support of a particular syntax implies that an implementation can generate and receive information defined by that syntax.

Indicate in the table below the implementation's degree of support for each abstract syntax listed.

The tables of A.7 indicate the degree of support of specific data parameters defined for use in the external objects associated with each abstract syntax listed below.

The tables of A.6 specify which external objects are defined for use in specific parameters within each APDU.

Ref.	Object Class	Abstract Syntax Name	OID	IPIG	Impl
1	system-no (6)	IPIG-System-Number	1 0 10161 6 1	O	[]
2	supplemental-item-description (7)	SICI	1 0 10161 7 1	O	[]
3	supplemental-item-description (7)	[all MARC record syntaxes registered by Z39.50 MA]	1 2 840 10003 5 +	O	[]
4	e-delivery-mode (9)	Internet Delivery Service	1 0 10161 9 1	O	[]
4.1	e-delivery-mode (9)	- SMTP	1 0 10161 9 1 1	O	[]
4.2	e-delivery-mode (9)	- FTP	1 0 10161 9 1 2	O	[]
5	e-delivery-mode (9)	Fax Delivery Service	1 0 10161 9 2	O	[]
6	e-delivery-parameters	JEDDS ILL Electronic Delivery Parameters	1 0 10161 10 1000 7 1	O	[]
7	extension (13)	APDU-Delivery-Info	1 0 10161 13 3	M	[]
8	extension (13)	ILL-Supplemental-Client-Info	1 0 10161 13 4	O	[]
9	extension (13)	IPIG-Additional-User-Error Information	1 0 10161 13 6	M	[]

10	extension (13)	Internal-Reference-Number	1 0 10161 13 8	O	[]
11	extension (13)	IPIG-ILL-Request-Extension	1 0 10161 13 9	O	[]
12	Access Control Format (Z39.50)	Prompt-1	1 2 840 10003 8 1	M	[]

Note to implementors: The abstract syntax specification (ASN.1) for each external object listed in the above table is available in the online Register of the Maintenance Agency responsible for it.

OIDs beginning with the number sequence "1 0 10161" describe objects registered by the Interlibrary Loan Application Standards Maintenance Agency. Copies of the specifications are accessible through the *Register for the ILL Application Standards (ISO 10160 and ISO 10161-1)*.

If an OID contains "1000" within the number sequence (such as {1 0 10161 10 1000 7 1} **JEDDS ILL Electronic Delivery Parameters**), it is a "local" object, listed in the *Register of Local Object Identifiers* <URL: <http://www.nlc-bnc.ca/iso/ill/regiloid.htm> >.

All other OID beginning with "1 0 10161" represent "public" objects, listed in the *Register of Public Object Identifiers* <URL: <http://www.nlc-bnc.ca/iso/ill/regipoid.htm> >.

OIDs beginning with the number sequence "1 2 840" describe objects registered by the Z39.50 Maintenance Agency. Copies of the specifications are accessible through the *Registry of Z39.50 Object Identifiers* <URL: <http://lcweb.loc.gov/z3950/agency/defns/oids.html> >.

A.5. Interlibrary Loan Application Services

This section describes ILL services rather than APDUs. Invocation of an ILL application service requires the transmission of the APDUs associated with the service.

Indicate in the table below the implementation's degree of support for each ILL Service listed.

Use the tables of A.6 to indicate the degree of support of specific data parameters defined for use in the APDUs associated with each service.

A.5.1. Support of Services

Ref.		Requester		Responder		Intermediary		References, Usage or Range of Values
		IPIG	Impl	IPIG	Impl	IPIG	Impl	
1	ILL-REQUEST	M	[]	M	[]	M	[]	
2	FORWARD	--	--	X	[]	X	[]	Service out-of-scope for the IPIG Profile.
3	FORWARD-NOTIFICATION	X	[]	X	[]	X	[]	Service out-of-scope for the IPIG Profile.
4	SHIPPED	M	[]	M	[]	M	[]	
5	ILL-ANSWER	M	[]	M	[]	M	[]	
6	CONDITIONAL-REPLY	M	[]	C	[]	M	[]	Responder implementations supporting transaction-results with the value " <i>conditional</i> " SHALL also support the CONDITIONAL-REPLY service; otherwise it is not applicable.
7	CANCEL	O	[]	M	[]	M	[]	
8	CANCEL-REPLY	C	[]	M	[]	M	[]	Requester implementations

Ref.		Requester		Responder		Intermediary		References, Usage or Range of Values
		IPIG	Impl	IPIG	Impl	IPIG	Impl	
								supporting the CANCEL service SHALL also support the CANCEL-REPLY service; otherwise it is not applicable.
9	RECEIVED	M	[]	M	[]	M	[]	
10	RECALL	C	[]	C	[]	C	[]	Implementations supporting the "loan" service type SHALL also support the RECALL service; otherwise it is not applicable.
11	RETURNED	C	[]	C	[]	C	[]	Implementations supporting the "loan" service type SHALL also support the RETURNED service; otherwise it is not applicable.
12	CHECKED-IN	C	[]	C	[]	C	[]	Implementations supporting the "loan" service type SHALL also support the CHECKED-IN service; otherwise it is not applicable.
13	OVERDUE	C	[]	C	[]	C	[]	Implementations supporting the "loan" service type SHALL also support the OVERDUE service; otherwise it is not applicable.
14	RENEW	O	[]	C	[]	C	[]	This service is applicable only for implementations that also support the "loan" service type. Implementations functioning as Responder or Intermediary SHALL support the RENEW service. However, if functioning only as a Requester, it is optional to support the RENEW service.
15	RENEW-ANSWER	C	[]	C	[]	C	[]	This service is applicable only for implementations that support the "loan" service type. Implementations, functioning as Responder and Intermediary, SHALL support the RENEW-ANSWER service. Requester implementations that support the RENEW service SHALL also support the RENEW-ANSWER service.
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	M	[]	M	[]	M	[]	Requester and Intermediary implementations SHALL have the capability to accept an EXPIRY APDU.

Ref.		Requester		Responder		Intermediary		References, Usage or Range of Values
		IPIG	Impl	IPIG	Impl	IPIG	Impl	
								Responder and Intermediary implementations SHALL maintain an expiry-timer.

A.6. Support of APDU Parameters

In ISO 10161-1:1997, an implementation capable of receiving an APDU **SHALL** be capable of accepting data for all parameters defined for the APDU. This section is used to identify the capability of an IPIG implementation conforming to the IPIG Profile to transmit specific data parameters within each APDU.

Indicate in the tables below the degree of support of the data parameters defined in clause 9 of ISO 10161-1:1997. If the implementation supports different values (or has different constraints) for different roles, this **SHALL** be indicated.

Use the table in A.5 to indicate the degree of support for associated ILL Services.

NOTE: In the tables following in A.6, the first occurrence of a data parameter is expanded to include its component data types. In all subsequent instances where identical expansions of data types occur, table and row number references point back to these expansions.

A.6.1. ILL-Request APDU

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2". See 6.6 for a discussion of the requirements for this data parameter.
2	transaction-id	M	[]	See <i>IPIG Guidelines 6.1.3</i> for a discussion of the use of the transaction-id parameter.
2.1	- initial-requester-id	M	[]	See 6.4.2 for a discussion on the maximum length set for this data parameter.
2.1.1	-- person-or-institution-symbol	O	[]	Maximum length: 25 characters. See 6.5.2 and 6.5.3 for a discussion on the maximum length set for this data parameter. <i>Format:</i> <identifier of name authority>:<symbol> <i>Examples:</i> NLC-BNC:UK0013 OCLC:BRI RLG:UKBW For details on formatting this parameter, see 7.1.
2.1.1.1	--- person-symbol	O	[]	
2.1.1.2	--- institution-symbol	O	[]	
2.1.2	-- name-of-person-or-institution	O	[]	Maximum length: 150 characters. See 6.5.2 and 6.5.3 for a discussion on the maximum length set for this data parameter. See <i>IPIG Guidelines 6.1.1</i> for a discussion of the use of the name-of-person-or-institution parameter.

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
2.1.2.1	--- name-of-person	O	[]	
2.1.2.2	--- name-of-institution	O	[]	
2.2	- transaction-group-qualifier	M	[]	Maximum length: 25 characters. See 6.5.3 for a discussion on the maximum length set for this data parameter.
2.3	- transaction-qualifier	M	[]	Maximum length: 25 characters. See 6.5.3 for a discussion on the maximum length set for this data parameter. See <i>IPIG Guidelines 6.1.4</i> for a discussion of the use of the transaction-qualifier parameter.
2.4	- sub-transaction-qualifier	C	[]	Maximum length: 25 characters. See 6.5.3 for a discussion on the maximum length set for this data parameter. Intermediaries SHALL have the ability to provide values for the sub-transaction-qualifier .
3	service-date-time	M	[]	
3.1	- date-time-of-this-service	M	[]	
3.1.1	-- date	M	[]	
3.1.2	-- time	M	[]	Implementations conforming to the IPIG Profile SHALL express time values as UTC, rather than as local time. For details on formatting this parameter, see 6.7.1.
3.2	- date-time-of original-service	O	[]	
3.2.1	-- date	M	[]	
3.2.2	-- time	M	[]	See A.6.1, Ref. 3.1.2.
4	requester-id	M	[]	See 6.4.1 for a discussion of the requirements for requester-id and responder-id . At least one element SHALL be present.
4.1	- person-or-institution-symbol	O	[]	See A.6.1, Ref. 2.1.1. For details on formatting this parameter, see 7.1.
4.2	- name-of-person-or-institution	O	[]	See A.6.1, Ref. 2.1.2.
5	responder-id	M	[]	See 6.4.1 for a discussion of the requirements for requester-id and responder-id . At least one element SHALL be present.
5.1	- person-or-institution-symbol	O	[]	See A.6.1, Ref. 2.1.1. For details on formatting this parameter, see 7.1.
5.2	- name-of-person-or-institution	O	[]	See A.6.1, Ref. 2.1.2.
6	transaction-type	C	[]	ISO 10161-1:1997 specifies the default value for the transaction-type parameter as (1) " <i>simple</i> ". Implementations that support chaining or partitioning SHALL support values (2) " <i>chained</i> " and (3) " <i>partitioned</i> " for this parameter. DEFAULT: <i>simple</i> (1)
7	delivery-address	O	[]	
7.1	- postal-address	O	[]	

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
7.1.1	-- name-of-person-or-institution	O	[]	
7.1.1.1	--- name-of-person	O	[]	
7.1.1.2	--- name-of-institution	O	[]	
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	[]	To specify a System-Address for electronic delivery, use of Delivery-Service.e-delivery-address electronic-delivery.e-delivery-details is required. If ILL-Request.delivery-address.electronic-address is also present in an APDU, it SHALL be ignored. See also A.6.1, Ref. 8.2.4.1. For details on formatting this parameter, see 7.2. See also 7.3 for a discussion of the data parameters to be used for electronic delivery addresses.
7.2.1	-- telecom-service-identifier	O	[]	For details on formatting this parameter, see 7.2.1.
7.2.2	-- telecom-service-address	O	[]	For details on formatting this parameter, see 7.2.2.
8	delivery-service	O	[]	See 7.3 for a discussion of the data parameters to be used for electronic delivery addresses.
8.1	- physical-delivery	O	[]	
8.2	- electronic-delivery	O	[]	
8.2.1	-- e-delivery-service	O	[]	
8.2.1.1	--- e-delivery-mode	O O	[] []	For details on the use of this parameter, see 6.9.3. The following external objects have been defined for use in this parameter: {1 0 10161 9 1} Internet Delivery Service {1 0 10161 9 2} Fax Delivery Service
8.2.1.2	--- e-delivery-parameters	O	[]	For details on the use of this parameter, see 6.9.3. The following external object has been defined for use in this parameter: {1 0 10161 10 1000 7 1} JEDDS ILL Electronic Delivery Parameters
8.2.2	-- document-type	O	[]	
8.2.2.1	--- document-type-id	O	[]	The following external object has been defined for use in this parameter: {1 0 10161 11 1} IANA Media Type See 2.2.2.4 for URL for IANA's directory of Media Types assignments.
8.2.2.2	--- document-type-parameters			If the object identifier of document-type-id is {1 0 10161 11 1} IANA Media Type , the content of this parameter is a SEQUENCE OF Visible-String.

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
8.2.3	-- e-delivery-description	O	[]	
8.2.4	-- e-delivery-details	O	[]	
8.2.4.1	--- e-delivery-address	O	[]	Use this parameter to provide a System-Address for electronic delivery, If this parameter is present in an ILL-REQUEST , then Implementations SHALL ignore the presence of delivery-address.electronic-address (See A.6.1, Ref. 7.2) in the same transaction. For details on formatting this parameter, see 7.2. See also 7.3 for a more detailed discussion of the data parameters to be used for electronic delivery addresses.
8.2.4.2	--- e-delivery-id	O	[]	See A.6.1, Ref. 2.1.1 and 2.1.2 for the expansion of component data types for System-Id and details on its use. See A.6.1, Ref. 7.2.
8.2.5	-- name-or-code	O	[]	
8.2.6	-- delivery-time	O	[]	See A.6.1, Ref. 3.1.2.
9	billing-address	O	[]	
9.1	- postal-address	O	[]	See <i>IPIG Guidelines 6.2.6</i> for a discussion of the use of the postal-address parameter.
9.1.1	-- name-of-person-or-institution	O	[]	See A.6.1, Ref. 7.1.1.
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	[]	See A.6.1, Ref. 7.2.
9.2.1	-- telecom-service-identifier	O	[]	For details on formatting this parameter, see 7.2.1.
9.2.2	-- telecom-service-address	O	[]	For details on formatting this parameter, see 7.2.2.
10	iLL-service-type	M	[]	See 7.4 for details on the use of this data parameter. Use the table at A.3.4 to specify the use of iLL-service-type parameter in more detail. See <i>IPIG Guidelines 6.2.7</i> for a discussion of the use of the iLL-service-type parameter.
11	responder-specific-service	O	[]	No OIDs are registered for this external object.
12	requester-optional-messages	M	[]	See 7.5 and <i>IPIG Guidelines 5.3</i> for discussion of treatment of optional APDUs.
12.1	- can-send-RECEIVED	M	[]	
12.2	- can-send-RETURNED	M	[]	
12.3	- requester-SHIPPED	M	[]	

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
12.4	- requester-CHECKED-IN	M	[]	
13	search-type	O	[]	
13.1	- level-of-service	O	[]	See 7.6 for a discussion of abstract levels of service defined for use by IPIG implementors. See <i>IPIG Guidelines 6.2.12</i> for a discussion of the use of the level-of-service parameter.
13.2	- need-before-date	O	[]	
13.3	- expiry-flag	O	[]	DEFAULT: <i>"no-expiry"</i> (3)
13.4	- expiry-date	O	[]	
14	supply-medium-info-type	O	[]	
14.1	- supply-medium-type	M	[]	
14.2	- medium-characteristics	O	[]	
15	place-on-hold	O	[]	DEFAULT: <i>"according-to-responder-policy"</i> (3)
16	client-id	O	[]	See <i>IPIG Guidelines 6.2.1</i> for a discussion of the use of the client-id parameter.
16.1	- client-name	O	[]	
16.2	- client-status	O	[]	
16.3	- client-identifier	O	[]	
17	item-id	M	[]	Although all parameters within the item-id are optional, the item-id SHALL contain sufficient information to identify the requested item. This need be no more than a system number that the responder application can use to identify the item in its database. The ILL-REQUEST may also carry a Supplemental-Item-Description that might contain additional information, e.g., a bibliographic record.
17.1	- item-type	O	[]	
17.2	- held-medium-type	O	[]	
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	[]	

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
17.16	- title-of-article	O	[]	
17.17	- pagination	O	[]	
17.18	- national-bibliography-no	O	[]	Use IPIG-System-Number {1 0 10161 6 1}. Several commonly used system numbers are defined within the data structure of the external object, IPIG-System-Number {1 0 10161 6 1}. If a national bibliography number is not enumerated in this object, use the "other" data type and enter the database identification database-ID and number as ILL-Strings. See <i>IPIG Guidelines 6.2.8</i> for a discussion of the use of the national-bibliography-no parameter.
17.19	- ISBN	O	[]	
17.20	- ISSN	O	[]	
17.21	- system-no	O	[]	Use IPIG-System-Number {1 0 10161 6 1}. Several commonly used system numbers are defined within the data structure of the external object, IPIG-System-Number {1 0 10161 6 1}. If a system number is not enumerated in this object, use the "other" data type and enter the database identification database-ID and number as ILL-Strings.
17.22	- additional-no-letters	O	[]	
17.23	- verification-reference-source	O	[]	
18	supplemental-item-description	O	[]	The following external objects have been defined for use in this parameter: {1 0 10161 7 1} SICI In addition, the Record Syntax for MARC record formats as registered with Z39.50 Maintenance Agency (values 1-99) may be used in this parameter. For example: {1 2 840 10003 5 10} USMARC {1 2 840 10003 5 11} UK MARC {1 2 840 10003 5 10} CANMARC {1 2 840 10003 5 20} AUSMARC See 2.2.2.2 for URL of <i>Registry of Z39.50 Object Identifiers</i> .
19	cost-info-type	O	[]	See <i>IPIG Guidelines 6.2.3</i> for scenarios on interaction of various data elements in the cost-info-type parameter.
19.1	- account-number	O	[]	
19.2	- maximum-cost	O	[]	
19.2.1	- - currency-code	M	[]	See 6.4.3 for a discussion of the requirements for this data parameter.
19.2.2	- - monetary-value	M	[]	
19.3	- reciprocal-agreement	O	[]	DEFAULT: "false" See <i>IPIG Guidelines 6.2.4</i> for a discussion of the use of the reciprocal-agreement parameter.
19.4	- will-pay-fee	O	[]	DEFAULT: "false"
19.5	- payment-provided	O	[]	DEFAULT: "false"

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
20	copyright-compliance	C	[]	Because copyright compliance information is country-specific, implementations conforming to the IPIG Profile SHALL support the copyright compliance types of those countries in which their systems are used, or as appropriate for the institutions to which requests are sent. For details on formatting this parameter, see 7.7. See <i>IPIG Guidelines 6.2.2</i> for a discussion of the use of the copyright-compliance parameter.
21	third-party-info-type	C	[]	Implementations that permit or support chaining or partitioning SHALL have the ability to transmit values for the third-party-info-type parameter. See <i>IPIG Guidelines 6.2.13</i> for a discussion of the various third-party-info-type permissions.
21.1	- permission-to-forward	X	--	DEFAULT: <i>"false"</i> NOTE: The Forward Service is out of scope for the IPIG Profile.
21.2	- permission-to-chain	O	[]	DEFAULT: <i>"false"</i>
21.3	- permission-to-partition	O	[]	DEFAULT: <i>"false"</i>
21.4	- permission-to-change-send-to-list	O	[]	DEFAULT: <i>"false"</i>
21.5	- initial-requester-address	C	[]	Intermediaries that support partitioning SHALL have the ability to transmit values for the initial-requester-address parameter.
21.5.1	-- telecom-service-identifier	O	[]	For details on formatting this parameter, see 7.2.1.
21.5.2	-- telecom-service-address	O	[]	For details on formatting this parameter, see 7.2.2.
21.6	- preference	O	[]	DEFAULT: <i>"unordered"</i> (2)
21.7	- send-to-list	O	[]	ILL-REQUESTs generated by implementations conforming to the IPIG Profile SHALL contain no more than 5 entries in the send-to-list . Individual entries in the send-to-list SHALL NOT be truncated.
21.7.1	-- system-id	M	[]	
21.7.1.1	--- person-or-institution-symbol	O	[]	See A.6.1, Ref. 2.1.1. For details on formatting this parameter, see 7.1.
21.7.1.2	--- name-of-person-or-institution	O	[]	See A.6.1, Ref. 2.1.2.
21.7.2	-- account-number	O	[]	
21.7.3	-- system-address	O	[]	
21.7.3.1	--- telecom-service-identifier	O	[]	For details on formatting this parameter, see 7.2.1.
21.7.3.2	--- telecom-service-address	O	[]	For details on formatting this parameter, see 7.2.2.
21.8	- already-tried-list	C	[]	Intermediaries SHALL be able to transmit values for the already-tried-list . ILL-REQUESTs generated by implementations conforming to the IPIG Profile SHALL contain no more than 25 entries in the already-tried-list . Individual entries in the already-tried-list SHALL NOT be truncated.

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
21.8.1	-- person-or-institution-symbol	O	[]	See A.6.1, Ref. 2.1.1. For details on formatting this parameter, see 7.1.
21.8.2	-- name-of-person-or-institution	O	[]	See A.6.1, Ref. 2.1.2.
22	retry-flag	O	[]	DEFAULT: <i>"false"</i> See <i>IPIG Guidelines 6.2.11</i> for a discussion of the use of the retry-flag parameter.
23	forward-flag	X	--	DEFAULT: <i>"false"</i> NOTE: The Forward Service is out of scope for the IPIG Profile.
24	requester-note	O	[]	
25	forward-note	X	--	NOTE: The Forward Service is out of scope for the IPIG Profile.
26	ill-request-extensions	M O O O C	[] [] [] [] []	The following external objects have been defined for use in this parameter: {1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 4} ILL-Supplemental-Client-Info {1 0 10161 13 8} Internal-Reference-Number {1 0 10161 13 9} IPIG-ILL-Request-Extension {1 2 840 10003 8 1} Prompt-1 Mandatory if user authentication is required by the recipient of the APDU.
26.1	- identifier	M	[]	Implementations conforming to the IPIG Profile SHALL support the value "1", as defined in ISO 10161-1:1997 AM 1.
26.2	- critical	O	[]	DEFAULT: <i>"false"</i>
26.3	- item	M	[]	

A.6.2. Forward-Notification APDU

Service not supported by IPIG Profile.

A.6.3. Shipped APDU

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2".
2	transaction-id	M	[]	See A.6.1, Ref. 2.
3	service-date-time	M	[]	See A.6.1, Ref. 3.
4	requester-id	M	[]	See A.6.1, Ref. 4.
5	responder-id	M	[]	See A.6.1, Ref. 5.
6	responder-address	C	[]	See A.6.1, Ref. 7.2. Implementation supporting partitioning or chaining SHALL be able to supply the responder-address , intermediary-id , and transaction-type parameters.
6.1	- telecom-service-identifier	O	[]	For details on formatting this parameter, see 7.2.1.

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
6.2	- telecom-service-address	O	[]	For details on formatting this parameter, see 7.2.2.
7	intermediary-id	C	[]	Implementation supporting partitioning or chaining SHALL be able to supply the responder-address , intermediary-id , and transaction-type parameters.
7.1	- person-or-institution-symbol	O	[]	See A.6.1, Ref. 2.1.1. For details on formatting this parameter, see 7.1.
7.2	- name-of-person-or-institution	O	[]	See A.6.1, Ref. 2.1.2.
8	supplier-id	C	[]	If an implementation permits the supplier of the item to be different from the final responder, that is, if an implementation supports acting as the agent for other, possibly non-automated, suppliers, then the supplier-id parameter SHALL be transmitted.
8.1	- person-or-institution-symbol	O	[]	See A.6.1, Ref. 2.1.1. For details on formatting this parameter, see 7.1.
8.2	- name-of-person-or-institution	O	[]	See A.6.1, Ref. 2.1.2.
9	client-id	C	[]	If client-id data were supplied on the initial ILL-REQUEST , implementations conforming to the IPIG Profile SHALL transmit data for this parameter in the SHIPPED APDU. Otherwise, it is optional. See ISO 10160:1997 Clause 7.3.4.1. See A.6.1, Ref. 16 for the expansion of component data types for client-id . See <i>IPIG Guidelines 6.3.1</i> for a discussion of the use of the client-id parameter.
10	transaction-type	C	[]	DEFAULT: "simple" (1) Implementations supporting partitioning or chaining SHALL be able to supply the responder-address , intermediary-id , and transaction-type parameters.
11	supplemental-item-description	O	[]	See A.6.1, Ref. 18.
12	shipped-service-type	M	[]	Values for this parameter (a subset of ILL-service-type) are limited to (1) "loan" and (2) "copy/non-returnable". See 7.4.2 for guidelines on the use of this parameter. See <i>IPIG Guidelines 6.3.3</i> for a discussion of the use of the shipped-service-type parameter.
13	responder-optional-messages	M	[]	See 7.5 and <i>IPIG Guidelines 5.3</i> for discussion of the treatment of Optional APDUs.
13.1	- can-send-SHIPPED	M	[]	
13.2	- can-send-CHECKED-IN	M	[]	
13.3	- responder-RECEIVED	M	[]	
13.4	- responder-RETURNED	M	[]	
14	supply-details	M	[]	At least one of the component types of supply-details SHALL be present.
14.1	- date-shipped	O	[]	
14.2	- date-due	C	[]	If the "loan" service type is supported, then the implementation must be able to transmit values for the date-due parameter.

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
14.2.1	- - date-due-field	O	[]	
14.2.2	- - renewable	O	[]	DEFAULT: "true"
14.3	- chargeable units	O	[]	
14.4	- cost	O	[]	
14.4.1	- - currency-code	M	[]	See 6.4.3 for a discussion of the requirements for this data parameter.
14.4.2	- - monetary-value	M	[]	
14.5	- shipped-conditions	O	[]	
14.6	- shipped-via	O	[]	
14.6.1	- - physical-delivery	O	[]	
14.6.2	- - electronic-delivery	O	[]	See A.6.1, Ref. 8.2.
14.7	- insured-for	O	[]	
14.7.1	- - currency-code	M	[]	See 6.4.3 for a discussion on the requirements for this data parameter.
14.7.2	- - monetary-value	M	[]	
14.8	- return-insurance-required	O	[]	
14.8.1	- - currency-code	M	[]	See 6.4.3 for a discussion on the requirements for this data parameter.
14.8.2	- - monetary-value	M	[]	
14.9	- no-of-units-per-medium	O	[]	
14.9.1	- - medium	M	[]	
14.9.2	- - no-of-units	M	[]	
15	return-to-address	O	[]	
15.1	- name-of-person-or-institution	O	[]	See A.6.1, Ref. 7.1.1.
15.2	- extended-postal-delivery-address	O	[]	
15.3	- street-and-number	O	[]	
15.4	- post-office-box	O	[]	
15.5	- city	O	[]	
15.6	- region	O	[]	
15.7	- country	O	[]	
15.8	- postal-code	O	[]	
16	responder-note	O	[]	
17	shipped-extensions	M O O C	[] [] [] []	See A.6.1, Ref. 26 for data types included in any "extensions" parameter. The following external objects have been defined for use in this parameter: {1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 4} ILL-Supplemental-Client-Info {1 0 10161 13 8} Internal-Reference-Number {1 2 840 10003 8 1} Prompt-1

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
				Mandatory if user authentication is required by the recipient of the APDU.

A.6.4. ILL-Answer APDU

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2".
2	transaction-id	M	[]	See A.6.1, Ref. 2.
3	service-date-time	M	[]	See A.6.1, Ref. 3.
4	requester-id	M	[]	See A.6.1, Ref. 4.
5	responder-id	M	[]	See A.6.1, Ref. 5.
6	transaction-results	M	[]	See 7.4.3 for a discussion on the use of this parameter.
7	results-explanation	C	[]	If the value of transaction-results is " <i>conditional</i> ", " <i>locations-provided</i> ", or " <i>estimate</i> ", the results-explanation parameter SHALL be present. See <i>IPIG Guidelines 6.4.2</i> for examples of values used in the estimate-results.cost-estimate parameter.
7.1	- conditional-results	C	[]	Mandatory if the value of transaction-results is " <i>conditional</i> ". See <i>IPIG Guidelines 6.4.1</i> for recommendations on handling multiple conditions.
7.1.1	-- conditions	M	[]	
7.1.2	-- date-for-reply	O	[]	
7.1.3	-- locations	O	[]	
7.1.3.1	--- location-id	M	[]	
7.1.3.1.1	---- person-or-institution-symbol	O	[]	See A.6.1, Ref. 2.1.1. For details on formatting this parameter, see 7.1.
7.1.3.1.2	---- name-of-person-or-institution	O	[]	See A.6.1, Ref. 2.1.2.
7.1.3.2	--- location-address	O	[]	See A.6.1, Ref. 7.2.
7.1.3.3	--- location-note	O	[]	
7.1.4	-- proposed-delivery-service	O	[]	See A.6.1, Ref. 8.
7.2	- retry-results	O	[]	See <i>IPIG Guidelines 6.4.5</i> for an example of the use of retry .
7.2.1	-- reason-not-available	O	[]	
7.2.2	-- retry-date	O	[]	
7.2.3	-- locations	O	[]	See A.6.4, Ref. 7.1.3.
7.3	- unfilled-results	O	[]	See 6.8 for a discussion of the use of this results-explanation if an unrecognized or unsupported critical extension occurs in an ILL-REQUEST APDU.
7.3.1	-- reason-unfilled	M	[]	
7.3.2	-- locations	O	[]	See A.6.4, Ref. 7.1.3.

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
7.4	- locations-results	C	[]	Mandatory if the value of transaction-results is "locations-provided".
7.4.1	-- reason-locs-provided	O	[]	See <i>IPIG Guidelines 6.4.3</i> for a discussion of the use of the reason-locs-provided parameter.
7.4.2	-- locations	M	[]	See A.6.4, Ref. 7.1.3.
7.4.2.1	--- location-id	M	[]	
7.4.2.1.1	---- person-or-institution-symbol	O	[]	See A.6.1, Ref. 2.1.1. For details on formatting this parameter, see 7.1.
7.4.2.1.2	---- name-of-person-or-institution	O	[]	See A.6.1, Ref. 2.1.2.
7.4.2.2	--- location-address	O	[]	See A.6.1, Ref. 7.2.
7.4.2.3	--- location-note	O	[]	
7.5	- will-supply-results	O	[]	
7.5.1	-- reason-will-supply	M	[]	
7.5.2	-- supply-date	O	[]	
7.5.3	-- return-to-address	O	[]	See A.6.1, Ref. 7.1 for the expansion of component data types for postal-address .
7.5.4	-- locations	O	[]	See A.6.4, Ref. 7.1.3.
7.5.5	-- electronic-delivery-service	O	[]	See A.6.1, Ref. 8.2.
7.6	- hold-placed-results	O	[]	
7.6.1	-- estimated-date-available	M	[]	
7.6.2	-- hold-placed-medium-type	O	[]	
7.6.3	-- locations	O	[]	See A.6.4, Ref. 7.1.3.
7.7	- estimate-results	C	[]	Mandatory if the value of transaction-results is "estimate".
7.7.1	-- cost-estimate	M	[]	
7.7.2	-- locations	O	[]	See A.6.4, Ref. 7.1.3.
8	responder-specific-results	O	[]	No OIDs are registered for this external object.
9	supplemental-item-description	O	[]	See A.6.1, Ref. 18.
10	send-to-list	O	[]	See A.6.1, Ref. 21.7.
11	already-tried-list	O	[]	See A.6.1, Ref. 21.8.
12	responder-optional-messages	M	[]	See A.6.3, Ref. 13. See 7.5 and <i>IPIG Guidelines 5.3</i> for discussion of treatment of optional APDUs.
13	responder-note	O	[]	
14	iLL-answer-extensions	M O C	[] [] []	See A.6.1, Ref. 26 for data types included in any "extensions" parameter. The following external objects have been defined for use in this parameter: {1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 8} Internal-Reference-Number {1 2 840 10003 8 1} Prompt-1

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
				Mandatory if user authentication is required by the recipient of the APDU.

A.6.5. Conditional-Reply APDU

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2".
2	transaction-id	M	[]	See A.6.1, Ref. 2.
3	service-date-time	M	[]	See A.6.1, Ref. 3.
4	requester-id	M	[]	See A.6.1, Ref. 4.
5	responder-id	M	[]	See A.6.1, Ref. 5.
6	answer	M	[]	
7	requester-note	O	[]	
8	conditional-reply-extensions	M O C	[] [] []	See A.6.1, Ref. 26 for data types included in any "extensions" parameter. The following external objects have been defined for use in this parameter: {1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 8} Internal-Reference-Number {1 2 840 10003 8 1} Prompt-1 Mandatory if user authentication is required by the recipient of the APDU.

A.6.6. Cancel APDU

See *IPIG Guidelines 6.6* for a discussion of the use of the CANCEL APDU.

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2".
2	transaction-id	M	[]	See A.6.1, Ref. 2.
3	service-date-time	M	[]	See A.6.1, Ref. 3.
4	requester-id	M	[]	See A.6.1, Ref. 4.
5	responder-id	M	[]	See A.6.1, Ref. 5.
6	requester-note	O	[]	
7	cancel-extensions	M O C	[] [] []	See A.6.1, Ref. 26 for data types included in any "extensions" parameter. The following external objects have been defined for use in this parameter: {1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 8} Internal-Reference-Number {1 2 840 10003 8 1} Prompt-1 Mandatory if user authentication is required by the recipient of the APDU.

A.6.7. Cancel-Reply APDU

See *IPIG Guidelines 6.7* for a discussion of the use of the CANCEL-REPLY APDU.

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2".
2	transaction-id	M	[]	See A.6.1, Ref. 2.
3	service-date-time	M	[]	See A.6.1, Ref. 3.
4	requester-id	M	[]	See A.6.1, Ref. 4.
5	responder-id	M	[]	See A.6.1, Ref. 5.
6	answer	M	[]	
7	responder-note	O	[]	
8	cancel-reply-extensions	M O C	[] [] []	See A.6.1, Ref. 26 for data types included in any "extensions" parameter. The following external objects have been defined for use in this parameter: {1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 8} Internal-Reference-Number {1 2 840 10003 8 1} Prompt-1 Mandatory if user authentication is required by the recipient of the APDU.

A.6.8. Received APDU

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2".
2	transaction-id	M	[]	See A.6.1, Ref. 2.
3	service-date-time	M	[]	See A.6.1, Ref. 3.
4	requester-id	M	[]	See A.6.1, Ref. 4.
5	responder-id	M	[]	See A.6.1, Ref. 5.
6	supplier-id	C	[]	Support of this parameter is required only when a responder is acting as an agent for the actual supplier of the item (and so the supplier-id will differ from the responder-id), or if a value for the system-id has been transmitted as a parameter in the SHIPPED APDU .
7	supplemental-item-description	O	[]	See A.6.1, Ref. 18.
8	date-received	M	[]	
9	shipped-service-type	M	[]	Values for this parameter (a subset of ILL-service-type) are limited to (1) "loan" and (2) "copy/non-returnable". See <i>IPIG Guidelines 6.8.1</i> for a discussion of the use of the shipped-service-type parameter.
10	requester-note	O	[]	
11	received-extensions			See A.6.1, Ref. 26 for data types included in any "extensions" parameter.

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
		M O C	[] [] []	The following external objects have been defined for use in this parameter: {1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 8} Internal-Reference-Number {1 2 840 10003 8 1} Prompt-1 Mandatory if user authentication is required by the recipient of the APDU.

A.6.9. Recall APDU

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2".
2	transaction-id	M	[]	See A.6.1, Ref. 2.
3	service-date-time	M	[]	See A.6.1, Ref. 3.
4	requester-id	M	[]	See A.6.1, Ref. 4.
5	responder-id	M	[]	See A.6.1, Ref. 5.
6	responder-note	O	[]	
7	recall-extensions	M O C	[] [] []	See A.6.1, Ref. 26 for data types included in any "extensions" parameter. The following external objects have been defined for use in this parameter: {1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 8} Internal-Reference-Number {1 2 840 10003 8 1} Prompt-1 Mandatory if user authentication is required by the recipient of the APDU.

A.6.10. Returned APDU

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2".
2	transaction-id	M	[]	See A.6.1, Ref. 2.
3	service-date-time	M	[]	See A.6.1, Ref. 3.
4	requester-id	M	[]	See A.6.1, Ref. 4.
5	responder-id	M	[]	See A.6.1, Ref. 5.
6	supplemental-item-description	O	[]	See A.6.1, Ref. 18.
7	date-returned	M	[]	
8	returned-via	O	[]	
9	insured-for	O	[]	
9.1	- currency-code	M	[]	See 6.4.3 for a discussion of the requirements for this data parameter.
9.2	- monetary-value	M	[]	
10	requester-note	O	[]	

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
11	returned-extensions	M O C	[] [] []	See A.6.1, Ref. 26 for data types included in any "extensions" parameter. The following external objects have been defined for use in this parameter: {1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 8} Internal-Reference-Number {1 2 840 10003 8 1} Prompt-1 Mandatory if user authentication is required by the recipient of the APDU.

A.6.11. Checked-in APDU

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2".
2	transaction-id	M	[]	See A.6.1, Ref. 2.
3	service-date-time	M	[]	See A.6.1, Ref. 3.
4	requester-id	M	[]	See A.6.1, Ref. 4.
5	responder-id	M	[]	See A.6.1, Ref. 5.
6	date-checked-in	M	[]	
7	responder-note	O	[]	
8	checked-in-extensions	M O C	[] [] []	See A.6.1, Ref. 26 for data types included in any "extensions" parameter. The following external objects have been defined for use in this parameter: {1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 8} Internal-Reference-Number {1 2 840 10003 8 1} Prompt-1 Mandatory if user authentication is required by the recipient of the APDU.

A.6.12. Overdue APDU

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2".
2	transaction-id	M	[]	See A.6.1, Ref. 2.
3	service-date-time	M	[]	See A.6.1, Ref. 3.
4	requester-id	M	[]	See A.6.1, Ref. 4.
5	responder-id	M	[]	See A.6.1, Ref. 5.
6	date-due	M	[]	See A.6.3, Ref. 14.2 for an expansion of the component data types of date-due .
7	responder-note	O	[]	
8	overdue-extensions			See A.6.1, Ref. 26 for data types included in any "extensions" parameter. The following external objects have been defined

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
		M O C	[] [] []	<p>for use in this parameter:</p> <p>{1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 8} Internal-Reference-Number {1 2 840 10003 8 1} Prompt-1</p> <p>Mandatory if user authentication is required by the recipient of the APDU.</p>

A.6.13. Renew APDU

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2".
2	transaction-id	M	[]	See A.6.1, Ref. 2.
3	service-date-time	M	[]	See A.6.1, Ref. 3.
4	requester-id	M	[]	See A.6.1, Ref. 4.
5	responder-id	M	[]	See A.6.1, Ref. 5.
6	desired-due-date	O	[]	
7	requester-note	O	[]	
8	renew-extensions	M O C	[] [] []	<p>See A.6.1, Ref. 26 for data types included in any "extensions" parameter.</p> <p>The following external objects have been defined for use in this parameter:</p> <p>{1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 8} Internal-Reference-Number {1 2 840 10003 8 1} Prompt-1</p> <p>Mandatory if user authentication is required by the recipient of the APDU.</p>

A.6.14. Renew-Answer APDU

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2".
2	transaction-id	M	[]	See A.6.1, Ref. 2.
3	service-date-time	M	[]	See A.6.1, Ref. 3.
4	requester-id	M	[]	See A.6.1, Ref. 4.
5	responder-id	M	[]	See A.6.1, Ref. 5.
6	answer	M	[]	
7	date-due	C	[]	<p>If the value of the answer parameter is "true", then a new value for the date-due parameter SHALL be sent as part of this APDU.</p> <p>See A.6.3, Ref. 14.2 for an expansion of the component data types of date-due.</p>
8	responder-note	O	[]	
9	renew-answer-extensions			See A.6.1, Ref. 26 for data types included in any "extensions" parameter.

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
		M O C	[] [] []	The following external objects have been defined for use in this parameter: {1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 8} Internal-Reference-Number {1 2 840 10003 8 1} Prompt-1 Mandatory if user authentication is required by the recipient of the APDU.

A.6.15. Lost APDU

See *IPIG Guidelines 6.15* for a discussion of the use of the LOST APDU.

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2".
2	transaction-id	M	[]	See A.6.1, Ref. 2.
3	service-date-time	M	[]	See A.6.1, Ref. 3.
4	requester-id	M	[]	See A.6.1, Ref. 4.
5	responder-id	M	[]	See A.6.1, Ref. 5.
6	note	O	[]	
7	lost-extensions	M O C	[] [] []	See A.6.1, Ref. 26 for data types included in any "extensions" parameter. The following external objects have been defined for use in this parameter: {1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 8} Internal-Reference-Number {1 2 840 10003 8 1} Prompt-1 Mandatory if user authentication is required by the recipient of the APDU.

A.6.16. Damaged APDU

See *IPIG Guidelines 6.16* for a discussion of the use of the DAMAGED APDU.

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2".
2	transaction-id	M	[]	See A.6.1, Ref. 2.
3	service-date-time	M	[]	See A.6.1, Ref. 3.
4	requester-id	M	[]	See A.6.1, Ref. 4.
5	responder-id	M	[]	See A.6.1, Ref. 5.
6	damaged-details	O	[]	
6.1	- document-type-id	O	[]	The following external object has been defined for use in this parameter: {1 0 10161 11 1} IANA Document Type
6.2	- damaged-portion	M	[]	
7	note	O	[]	

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
8	damaged-extensions	M O C	[] [] []	See A.6.1, Ref. 26 for data types included in any "extensions" parameter. The following external objects have been defined for use in this parameter: {1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 8} Internal-Reference-Number {1 2 840 10003 8 1} Prompt-1 Mandatory if user authentication is required by the recipient of the APDU.

A.6.17. Message APDU

See *IPIG Guidelines 6.17* for a discussion of the use of the MESSAGE APDU

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2".
2	transaction-id	M	[]	See A.6.1, Ref. 2.
3	service-date-time	M	[]	See A.6.1, Ref. 3.
4	requester-id	M	[]	See A.6.1, Ref. 4.
5	responder-id	M	[]	See A.6.1, Ref. 5.
6	note	M	[]	See <i>IPIG Guidelines 6.17.1</i> for a discussion of the use of the note parameter in the MESSAGE APDU.
7	message-extensions	M O C	[] [] []	See A.6.1, Ref. 26 for data types included in any "extensions" parameter. The following external objects have been defined for use in this parameter: {1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 8} Internal-Reference-Number {1 2 840 10003 8 1} Prompt-1 Mandatory if user authentication is required by the recipient of the APDU.

A.6.18. Status-Query APDU

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2".
2	transaction-id	M	[]	See A.6.1, Ref. 2.
3	service-date-time	M	[]	See A.6.1, Ref. 3.
4	requester-id	M	[]	See A.6.1, Ref. 4.
5	responder-id	M	[]	See A.6.1, Ref. 5.
6	note	O	[]	See <i>IPIG Guidelines 6.18.1</i> for a discussion of the use of the note parameter in the STATUS-QUERY APDU.
7	status-query-extensions			See A.6.1, Ref. 26 for data types included in any "extensions" parameter. The following external objects have been defined for use in this parameter:

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
		M O C	[] [] []	{1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 8} Internal-Reference-Number {1 2 840 10003 8 1} Prompt-1 Mandatory if user authentication is required by the recipient of the APDU.

A.6.19. Status-or-Error-Report APDU

See *IPIG Guidelines 6.19* for a discussion of the use of the STATUS-OR-ERROR-REPORT APDU

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2".
2	transaction-id	M	[]	See A.6.1, Ref. 2.
3	service-date-time	M	[]	See A.6.1, Ref. 3.
4	requester-id	M	[]	See A.6.1, Ref. 4.
5	responder-id	M	[]	See A.6.1, Ref. 5.
6	reason-no-report	C	[]	Responders capable of sending an APDU in which neither the status-report nor the error-report parameter is present SHALL support this parameter; otherwise it is not applicable. The circumstances in which no report might be sent are not specified either in the base standard or in the IPIG Profile.
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	[]	Implementations SHALL be capable of sending all values consistent with the INTERLIBRARY LOAN APPLICATION SERVICES (see A.5) and ILL-service-types (see A.3.4) supported.
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	M	[]	For details on formatting this parameter, see 7.1.
7.1.9.2	--- name-of-person-or-institution	O	[]	See A.6.1, Ref. 2.1.2.
7.1.10	-- shipped-service-type	C	[]	If this information has been transmitted in an earlier SHIPPED or RECEIVED APDU, then an implementation conforming to the IPIG Profile SHALL supply the most current information as a value for this parameter.

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
				See A.3.4.
7.1.11	-- transaction-results	C	[]	If this information has been transmitted in an ILL-ANSWER APDU, then an implementation conforming to the IPIG Profile SHALL supply it as a value for this parameter.
7.1.12	-- most-recent-service-note	C	[]	If a note has been supplied in the most recent service APDU received or the most recent service request invoked, then an implementation conforming to the IPIG Profile SHALL supply it as a value for this parameter.
7.2	- provider-status-report	M	[]	Implementations SHALL be capable of sending all values consistent with the INTERLIBRARY LOAN APPLICATION SERVICES (see A.5) and ILL-service-types (see A.3.4) supported.
8	error-report	O	[]	
8.1	- correlation-information	M	[]	This parameter includes Information that permits correlation of the error-report with the ILL service to which it applies.
8.2	- report-source	M	[]	
8.3	- user-error-report	C	[]	If the value of report-source is "user", then the user-error-report parameter SHALL be present. Otherwise it is not applicable.
8.3.1	-- already-forwarded	X	--	The Forward Service is out of scope for the IPIG Profile.
8.3.1.1	--- responder-id	M	[]	See A.6.1, Ref. 5.
8.3.1.2	--- responder-address	O	[]	See A.6.3, Ref. 6.
8.3.2	-- intermediary-problem	O	[]	
8.3.3	-- security-problem	O	[]	
8.3.4	-- unable-to-perform	O	[]	
8.4	- provider-error-report	C	[]	If the value of report-source is "provider", then the provider-error-report parameter SHALL be present. Otherwise it is not applicable.
8.4.1	-- general-problem	O	[]	
8.4.2	-- transaction-id-problem	O	[]	
8.4.3	-- state-transition-prohibited	O	[]	
8.4.3.1	--- aPDU-type	M	[]	For a list of possible values, see A.5.
8.4.3.2	--- current-state	M	[]	
9	note	O	[]	

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
10	status-or-error-report-extensions	M C O C	[] [] [] []	See A.6.1, Ref. 26 for data types included in any "extensions" parameter. The following external objects have been defined for use in this parameter: {1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 6} IPIG Additional User Error Information Mandatory if an implementation supports truncation of data. {1 0 10161 13 8} Internal-Reference-Number {1 2 840 10003 8 1} Prompt-1 Mandatory if user authentication is required by the recipient of the APDU.

A.6.20. Expired APDU

See *IPIG Guidelines 6.6* for a discussion of the use of the EXPIRED APDU.

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	protocol-version-num	M	[]	Implementations conforming to IPIG Profile SHALL support the value "2".
2	transaction-id	M	[]	See A.6.1, Ref. 2.
3	service-date-time	M	[]	See A.6.1, Ref. 3.
4	requester-id	M	[]	See A.6.1, Ref. 4.
5	responder-id	M	[]	See A.6.1, Ref. 5.
6	expired-extensions	M O C	[] [] []	See A.6.1, Ref. 26 for data types included in any "extensions" parameter. The following external objects have been defined for use in this parameter: {1 0 10161 13 3} APDU-Delivery-Info {1 0 10161 13 8} Internal-Reference-Number {1 2 840 10003 8 1} Prompt-1 Mandatory if user authentication is required by the recipient of the APDU.

A.7. External Objects

The table in A.4 indicates the degree of support for the associated abstract syntaxes for which these external objects have been defined.

The tables in A.6 specify which external objects are defined for use in specific parameters within each APDU.

Indicate in the tables below the degree of support of the data parameters defined for use in the external objects to be used by implementations conforming to the IPIG Profile. If the implementation supports different values (or has different constraints) for different roles, this **SHALL** be indicated.

Note to implementors: The abstract syntax specification (ASN.1) for each external object listed in the above table is available in the online Register of the Maintenance Agency responsible for it.

See the *Note to implementors* following A.4 for guidance on how to identify the Maintenance Agency with which each of the following external objects is registered.

system-no (6)

A.7.1. {1 0 10161 6 1} IPIG-System-Number

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	type	M	[]	
1.1	- well-known-system	O	[]	
1.2	- system-id	O	[]	
2	database-ID	O	[]	
3	number	M	[]	

supplemental-item-description (7)

A.7.2. {1 0 10161 7 1} SICI

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	SICI	M	[]	

A.7.3. {1 2 840 10003 5} Record Syntaxes,

The official and complete Z39.50 MA register of record syntaxes is available online at <http://lcweb.loc.gov/z3950/agency/defns/oids.html#5>

Note to Implementors: This list of record syntaxes provides only a selection of formats registered by the Z39.50 Maintenance Agency. Add additional rows as required to the table below to specify additional MARC record syntax from the list in the Z39.50 register, which are supported by the implementation.

Ref. no.	OID	Record Syntax	IPIG	Impl	References, Usage or Range of Values
1	1.2.840.10003.5.1	Unimarc	O	[]	
2	1.2.840.10003.5.10	USmarc	O	[]	
3	1.2.840.10003.5.11	UKmarc	O	[]	
4	1.2.840.10003.5.17	Canmarc	O	[]	
5	1.2.840.10003.5.20	Ausmarc	O	[]	
6	1.2.840.10003.5.24	JPmarc	O	[]	
7	1.2.840.10003.5.25	SWEMarc	O	[]	
		other (please specify)			

e-delivery-mode (9) & e-delivery-parameters (10)

A.7.4. Internet and Fax Delivery Services

The use of **e-delivery parameters** is contingent on specifications in the external objects defined for **e-delivery-mode**. The external objects currently defined for **e-delivery mode** (Internet Delivery Services (SMTP and FTP) and Fax Delivery Service) require that **any e-delivery-parameters** are also external objects.

Ref. no.	OID	Object Subclass	IPIG	Impl	References, Usage or Range of Values
1	1.0.10161.9.1	Internet Delivery Service	O	[]	
1.1	1.0.10161.9.1.1	- SMTP	O	[]	
1.1.1	1 0 10161 10 1000 7 1	-- JEDDS-ILL-Edelivery-Parameters	O	[]	Values include "GEDI" and "Ariel MIME".
1.2	1.0.10161.9.1.2	- FTP	O	[]	
1.2.1	1 0 10161 10 1000 7 1	-- JEDDS-ILL-Edelivery-Parameters	O	[]	Values include "GEDI" and "Ariel FTP".
2	1.0.10161.9.2	Fax Delivery Service	O	[]	
2.1	1 0 10161 10 1000 7 1	- JEDDS-ILL-Edelivery-Parameters	O	[]	Defined value: "FAX".

extension (13)

A.7.5. {1 0 10161 13 3} APDU-Delivery-Info

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	sender-info	M	[]	
1.1	- encoding	M	[]	Implementations conforming to the IPIG Profile SHALL support the following values: (2) "bER-In-MIME" (3) "bER"

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1.2	- transport	M	[]	
1.3	- aliases	O	[]	
2	recipient-info	M	[]	See A7.5, Ref. 1
3	transponder-info	O	[]	See A7.5, Ref. 1

A.7.6. {1 0 10161 13 4} ILL-Supplemental-Client-Info

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	Client-Info-Type	M	[]	
1.1	- standard	O	[]	
1.2	- local	O	[]	
2	Client-Info-Content	M	[]	
2.1	- string-content	O	[]	
2.2	- postal-address	O	[]	
2.3	- name-or-id	O	[]	
2.4	- status-code	O	[]	
2.5	- defined-number	O	[]	
2.6	- nested	O	[]	
2.7	- amount	O	[]	

A.7.7. {1 0 10161 13 6} IPIG-Additional-User-Error-Information

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	element-truncated	O	[]	
1.1	- element	M	[]	
1.2	- truncated-value	M	[]	
2	missing-required-element	O	[]	
3	unsupported-field-length	O	[]	
3.1	- element	M	[]	
3.2	- min-length	O	[]	
3.3	- max-length	O	[]	
4.	unrecognized-data	O	[]	
4.1	- element	M	[]	
4.2	- data	O	[]	
4.3	- expected-format	O	[]	
4.4	- supported-values	O	[]	
5	inconsistent-data	O	[]	
6	other	O	[]	

A.7.8. {1 0 10161 13 8} Internal-Reference-Number

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	requester-internal-reference	O	[]	Implementors SHALL supply either one of requester-internal-reference and/or responder-internal-

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
				reference when using this object.
1.1	- reference-authority	M	[]	
1.2	- internal-reference	M	[]	
2	responder-internal-reference	O	[]	Implementors SHALL supply either requester-internal-reference and/or responder-internal-reference when using this object.
2.1	- reference-authority	M	[]	
2.2	- internal-reference	M	[]	

A.7.9. {1 0 10161 13 6} IPIG-ILL-Request-Extension

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	uniform-title	O	[]	
2	material-type	O	[]	
3	responder-specific-info	O	[]	
4	dissertation-thesis	O	[]	
4.1	- type	O	[]	
4.2	- details	O	[]	
4.2.1	- - granting-institution	O	[]	
4.2.2	- - date-granted	O	[]	
5	volume	O	[]	
6	issue-numer	O	[]	
7	affiliations	O	[]	
8	requested-material-language	O	[]	
9	form-content-info	O	[]	
10	payment-method	O	[]	
10.1	- reciprocal-agreement	O	[]	
10.2	- prepaid	O	[]	
10.3	-uNESCO-voucher	O	[]	
10.4	- aLIA-voucher	O	[]	
10.5	- iFLA-voucher	O	[]	
10.6	- other-voucher-or-coupon	O	[]	
10.7	- rLG-shares	O	[]	
10.8	- oCLC-IFM	O	[]	
10.9	- other-payment-scheme	O	[]	
10.10	- cash	O	[]	
10.11	- check	O	[]	
10.12	- credit-card	O	[]	
10.12.1	- - type	M	[]	
10.12.2	- - card-number	M	[]	
10.12.3	- - expiry-date	M	[]	

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
10.12.4	-- name-on-card	M	[]	
10.13	- deposit-account	O	[]	
10.13.1	-- account-name	M	[]	
10.13.2	-- account-number	M	[]	
10.14	- bank-electronic-payment	O	[]	
10.14.1	-- bank-name	M	[]	
10.14.2	-- bank-address	M	[]	
10.14.3	-- routing-address	M	[]	
10.14.4	-- account-number	M	[]	
10.15	- other-payment-type	O	[]	
11	this-edition-only	O	[]	
12	unique-item-ID	O	[]	
13	rights-info	O	[]	
13.1	- rights-information-country	M	[]	
13.2	- rights-information-type	M	[]	
13.3	- rights-information-value	M	[]	

Access Control

A.7.10. {1 2 840 10003 8 1} Prompt-1

This object is registered as an Access Control Format in the *Registry of Z39.50 Object Identifiers*, available online at <http://lcweb.loc.gov/z3950/agency/defs/oids.html#8>

The full ASN.1 definition of the Access Control Format Prompt-1 is found in *ANSI/NISO Z39.50-1995, Annex 7*.

[Note, in the revision of Z39.50 released for ballot in 2002, see subsection ASN.1.9.1 of *Appendix 18, ASN.1, Section ASN1.9 Z39.50 ASN.1 Definition for Access Control Formats* for the full ASN.1 definition of Prompt-1.]

Ref. no.	Parameter	IPIG	Impl	References, Usage or Range of Values
1	challenge	X	--	
2	response	M	[]	
2.1	- prompt-id	M	[]	
2.1.1	-- enumerated-prompt	M	[]	
2.1.1.1	--- type	M	[]	Support required for (0) "group-id", (1) "user-id" and (2) "password". Support for other defined values is optional.
2.1.1.2	--- suggested-string	O	[]	
2.1.2	-- non-enumerated-prompt	X	--	
2.2	- prompt-response	M	[]	[1] "String" is the only choice relevant for IPIG implementations.