

IPIG Profile: ILL Protocol Worksheet

D=Defined in ISO 10161

m = mandatory
o = optional
c = conditions specified

P=Requirement defined in IPIG Profile

m = mandatory
o = optional
c = conditions specified

1 ILL-Request-APDU

m for requester and intermediary roles

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		
1.1	- version-1			Integer (1)
1.2	- version-2			Integer (2)
2	transaction-id	m		
2.1	- initial-requester-id	c		See APDU 1: 21.7.1 system-id m for intermediaries; otherwise o value same as requester-id in the original request
2.2	- transaction-group-qualifier	m		
2.3	- transaction-qualifier	m		
2.4	- sub-transaction-qualifier	c		m for intermediaries; otherwise n.a.
3	service-date-time	m		
3.1	- date-time-of-this-service	m		
3.1.1	-- date	m		ISO Date: YYYYMMDD
3.1.2	-- time	c		ISO Time: HHMMSS m for implementations that permit multiple invocations of the same service for a given ILL-transaction on the day day; otherwise o
3.2	- date-time-of-original-service	c		See APDU 1: 3.1 m for implentations capable of sending repeated APDUs; otherwise n.a.
4	requester-id	c		See APDU 1: 21.7.1 system-id m when using store-and-forward communications; o when using connection-oriented communications if sub-transaction, then value changed to id of intermediary
5	responder-id	c		See APDU 1: 21.7.1 system-id m when using store-and-forward communications; o when using connection-oriented communications

Ref	Parameter	D	P	Reference, Usage or Range of Values
6	transaction-type	c		DEFAULT 1 m for implementations that support chaining or partitioning; otherwise o
6.1	- simple			enum (1) *DEFAULT*
6.2	- chained			enum (2)
6.3	- partitioned			enum (3)
7	delivery-address	o		
7.1	- postal-address	o		
7.1.1	-- name-of-person-or-institution	o		See APDU 1: 21.7.1.2
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		
8.1	- physical-delivery	o		ILL String: Transportation Mode
8.2	- electronic-delivery	o		Use only if protocol -version-num has value of 2 or greater
8.2.1	-- e-delivery-service			
8.2.1.1	--- e-delivery-mode	o		
8.2.1.2	--- e-delivery-parameters	o		
8.2.2	-- document-type			
8.2.2.1	--- document-type-id	o		
8.2.2.2	--- document-type-parameters	o		
8.2.3	-- e-delivery-description	o		
8.2.4	-- e-delivery-details	o		CHOICE
8.2.5	-- name-or-code	o		
8.2.6	-- delivery-time	o		
9	billing-address	o		
9.1	- postal-address	o		See APDU 1: 7.1
9.2	- electronic-address	o		See APDU 1: 7.2
10	ill-service-type	m		
10.1	- loan	o		enum (1)

Ref	Parameter	D	P	Reference, Usage or Range of Values
10.2	- copy-non-returnable	o		enum (2)
10.3	- locations	o		enum (3)
10.4	- estimate	o		enum (4)
10.5	- responder-specific	o		enum (5)
11	responder-specific-service	o		EXTERNAL
12	requester-optional-messages	m		
12.1	- can-send-RECEIVED			T/F
12.2	- can-send-RETURNED			T/F
12.3	- requester-SHIPPED			
12.3.1	-- required			enum (1)
12.3.2	-- desires			enum (2)
12.3.3	-- neither			enum (3)
12.4	- requester-CHECK-IN			See APDU 1: 11.3 for values
13	search-type	o		
13.1	- level-of-service	o		
13.2	- need-before-date	o		ISO-Date: YYYYMMDD
13.3	- expiry-flag	o		
13.3.1	-- need-Before-Date	o		enum (1)
13.3.2	-- other-Date	o		enum (2)
13.3.3	-- no-Expiry	o		enum (3) : Default
13.4	- expiry-date	o		ISO-Date: YYYYMMDD Only present if expiry-flag has value "other-Date"
14	supply-medium-info-type	o		
14.1	- supply-medium-type	m		
14.1.1	- printed			enum (1)
14.1.2	- photocopy			enum (2)
14.1.3	- microform			enum (3)
14.1.4	- film-or-video-recording			enum (4)
14.1.5	- audio-recording			enum (5)
14.1.6	- machine-readable			enum (6)
14.1.7	- other			enum (7)
14.2	- medium-characteristics			
15	place-on-hold	o		DEFAULT 3
15.1	- yes			enum (1)
15.2	- no			enum (2)
15.3	- according-to-responder-policy			enum (3) *DEFAULT*
16	client-id	o		
16.1	- client-name	o		

Ref	Parameter	D	P	Reference, Usage or Range of Values
16.2	- client-status	o		
16.3	- client-identifier	o		
17	item-id	m		
17.1	- item-type	o		
17.1.1	-- monograph			enum (1)
17.1.2	-- serial			enum (2)
17.1.3	-- other			enum (3)
17.2	- held-medium-type	o		See APDU 1: 14.1 for list of values for "medium." All values except (2) photocopy valid for "held-medium-type"
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		x.520 locality
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		
17.18.1	-- national-bibliography			
17.18.1.1	--- british-national-bibliography			enum (1)
17.18.1.2	--- canadiana			enum (2)
17.18.1.3	--- lccn			enum (3)
17.18.1.4	--- other			enum (4)
17.18.2	-- record-no.			
17.19	- isbn	o		ISO 2108-1978
17.20	- issn	o		ISO 3297-1986
17.21	- system-no	o		
17.21.1	-- system	o		
17.21.1.	--- dobis (AMICUS)			enum (1)
17.21.1.	--- candoc			enum (2)

Ref	Parameter	D	P	Reference, Usage or Range of Values
17.21.1.	- - - oclc			enum (3)
17.21.1.	- - - riin			enum (4)
17.21.1.	- - - utlas			enum (5)
17.21.1.	- - - other			enum (6)
17.21.2	- - record-no	o		
17.22	- additional-no-letters	o		
17.23	- verification-reference-source	o		
18	supplemental-item-description	o		e.g., bar code format, ISO 2709 (mag tape format)
19	cost-info-type	o		
19.1	- account-number	o		
19.2	- maximum-cost	o		
19.2.1	- - currency-code	o		Alphabetic values defined in ISO 4217-1981
19.2.2	- - monetary-value	m		Format: place decimal point marker 2 characters in from right
19.3	- reciprocal-agreement	o		
19.4	- will-pay-fee	o		T\F
19.5	- payment-provided	o		T\F
20	copyright-compliance	o		
21	third-party-info-type	c		m for implementation that permit or support forwarding, chaining or partitioning; otherwise, o
21.1	- permission-to-forward	o		T\F "FWD" protocol variable --See ISO 10161-1: 1996 7.3, 8.3.1
21.2	- permission-to-chain	o		T\F"CHAIN" protocol variable -- See ISO 10161-1: 1996 8.3.2
21.3	- permission-to-partition	o		T\F"PART" protocol variable -- See ISO 10161-1: 1996 8.3.3
21.4	- permission-to-change-send-to-list	o		T\F
21.5	- initial-requester-address	c		See APDU 1: 7.2 for break-down of "system-address" data elements m for responders that support forwarding & for intermediaries that support partitioning; otherwise o
21.6	- preference	o		See ISO 10161-1:1996 8.2.4
21.6.1	- - ordered			enum (1)
21.6.2	- - unordered			enum (2)
21.7	- send-to-list	o		See ISO 10161-1:1996 8.2.4 IPIG: No restriction on number of entries
21.7.1	- - system-id	m		
21.7.1.1	- - - person-or-institution-symbol	o		
21.7.1.1.1	- - - - person-symbol	o		
21.7.1.1.2	- - - - institution-symbol	o		
21.7.1.2	- - - name-of-person-or-	o		

Ref	Parameter	D	P	Reference, Usage or Range of Values
	institution			
21.7.1.2.1	--- name-of-person	o		
21.7.1.2.2	--- name-of-institution	o		
21.7.2	-- account-number	o		
21.7.3	-- system-address	o		See APDU 1: 7.2 for break-down of "system-address" data elements
21.8	- already-tried-list	c		See APDU 1: 21.7.1 system-id ; See ISO 10161-1:1996 8.2.5 m for responders that support forwarding and for all intermediaries; otherwise o IPIG: No restriction on number of entries
22	retry-flag	o		Boolean: DEFAULT FALSE
23	forward-flag	c		Boolean: DEFAULT FALSE TRUE: m for responders that support forwarding; otherwise o
24	requester-note	o		
25	forward-note	c		o for responders that support forwarding; otherwise n.a.
26	ill-request-extensions	o		
26.1	- identifier	m		
26.1.1	-- implementor extensions			integer 1 ISO 10161 1993/pDAM2
26.2	- critical	o		TF Default FALSE
26.3	- item	m		if identifier=1 then item ::=EXTERNAL

2 Forward-Notification APDU

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4 m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	m		See APDU 1: 5
6	responder-address	o		See APDU 1: 7.2 for break-down of "system-address" data elements
7	intermediary-id	m		See APDU 1: 21.7.1 system-id
8	notification-note	o		
9	forward-notification-extensions	o		See APDU 1: 26 for EXTENSIONS pattern

3 Shipped APDU

o for simple ILL transaction, m for chained and partitioned transactions
 m for responder and intermediary

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4 m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	c		See APDU 1: 5 m when using store-and-forward communications; o when using connection-oriented communications
6	responder-address	c		See APDU 2: 6 m for implementations that support partitioning or chaining; otherwise o
7	intermediary-id	c		See APDU 1: 21.7.1 system-id m for implementations that support partitioning or chaining; otherwise o
8	supplier-id	c		See APDU 1: 21.7.1 system-id m if implementation permits supplier of the item to be different from final responder; e.g., if implementation supports acting as the agent for other, possibly non-automated, suppliers
9	client-id	m		See APDU 1: 16
10	transaction-type	c		See APDU 1: 6 DEFAULT 1 m for implementations that support chaining or partitioning; otherwise o
11	supplemental-item-description	o		See APDU 1: 18
12	shipped-service-type	m		subtype of ILL-service-type
12.1	- loan			enum (1) sets RETURN variable to True
12.2	- copy-non-returnable			enum (2) sets RETURN variable to False
13	responder-optional-messages	o		
13.1	- can-send-SHIPPED			T/F
13.2	- can-send-CHECKED-IN			T/F
13.3	- responder-RECEIVED			See APDU 1: 12.3 for values
13.4	- responder-RETURNED			See APDU 1: 12.3 for values
14	supply-details	m		
14.1	- date-shipped	o		ISO date: YYYYMMDD

Ref	Parameter	D	P	Reference, Usage or Range of Values
14.2	- date-due	c		o for implementations that support "loan" service; otherwise n.a.
14.2.1	-- date-due-field	m		ISO date: YYYYMMDD
14.2.2	-- renewable			T/F values defined in ISO 10161
14.3	- chargeable units	o		
14.4	- cost	o		See APDU 1: 19.1 for break-down of "amount" data elements
14.5	- shipped-conditions	o		
14.5.22	-- for-library-use-only			enum (22)
14.5.23	-- no-reproduction			enum (23)
14.5.24	-- client-signature-required			enum (24)
14.5.25	-- special-collections-supervision-required			enum (25)
14.5.27	-- other			enum (27)
14.6	- shipped-via	o		
14.6.1	-- physical-delivery	o		
14.6.2	-- electronic-delivery	o		See APDU 1: 8.2 Use only if protocol -version-num has value of 2 or greater
14.7	- insured-for	o		See APDU 1: 19.1 for break-down of "amount" data elements
14.8	- return-insurance-required	o		See APDU 1: 19.1 for break-down of "amount" data elements
14.9	- no-of-units-per-medium	o		
14.9.1	-- medium	m		See APDU 1: 14.1 for list of values for "medium."
14.9.2	-- no-of-units	m		
15	return-to-address	o		See APDU 1: 7.1 for details on postal-address
16	responder-note	o		
17	shipped-extensions	o		See APDU 1: 26 for EXTENSIONS pattern

4 III-Answer APDU

m for responder & intermediary

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4 m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	c		See APDU 1: 5

Ref	Parameter	D	P	Reference, Usage or Range of Values
				m when using store-and-forward communications; o when using connection-oriented communications
6	transaction-results	m		
6.1	-- conditional			enum (1)
6.2	-- retry			enum (2)
6.3	-- unfilled			enum (3)
6.4	-- locations-provided			enum (4)
6.5	-- will-supply			enum (5)
6.6	-- hold-placed			enum (6)
6.7	-- estimate			enum (7)
7	results-explanation	c		CHOICE m for responders that support transmission of transaction-results with the values "conditional", "locations-provided" or "estimate"; otherwise o
7.1	- conditional-results	m		choice (1) ; chosen if transaction-results =CONDITIONAL
7.1.1	-- conditions	m		
7.1.1.13	--- cost-exceeds-limit			enum (13)
7.1.1.14	--- charges			enum (14)
7.1.1.15	--- prepayment-required			enum (15)
7.1.1.16	--- lacks-copyright-compliance			enum (16)
7.1.1.22	--- library-use-only			enum (22)
7.1.1.23	--- no-reproduction			enum (23)
7.1.1.24	--- client-signature-required			enum (24)
7.1.1.25	--- special-collections-supervision-required			enum (25)
7.1.1.27	--- other			enum (27)
7.1.1.28	--- responder-specific			enum (28)
7.1.1.30	--- proposed-delivery-service			enum (30)
7.1.2	-- date-for-reply	o		ISO-date YYYYMMDD
7.1.3	-- locations	o		
7.1.3.1	- location-id	m		See APDU 1: 21.7.1 system-id
7.1.3.2	- location-address	o		See APDU 1: 7.2 for break-down of "system-address" data elements
7.1.3.3	- location-note	o		
7.1.4	-- proposed-delivery-service	o		
7.1.4.1	--- physical-delivery	o		
7.1.4.2	--- electronic-delivery	o		See APDU 1: 8.2 Use only if protocol-version-num has value of 2 or greater
7.2	- retry-results	o		choice (2) ; chosen if transaction-results=RETRY
7.2.1	-- reason-not-available	o		

Ref	Parameter	D	P	Reference, Usage or Range of Values
7.2.1.1	--- in-use-on-loan			enum (1)
7.2.1.2	--- in-process			enum (2)0
7.2.1.6	--- on-order			enum (6)
7.2.1.7	--- volume-issue-not-yet-available			enum (7)
7.2.1.8	--- at-bindery			enum (8)
7.2.1.13	--- cost-exceeds-limit			enum (13)
7.2.1.14	--- charges			enum (14)
7.2.1.15	--- prepayment-required			enum (15)
7.2.1.16	--- lacks-copyright-compliance			enum (16)
7.2.1.17	--- not-found-as-cited			enum (17)
7.2.1.19	--- on-hold			enum (19)
7.2.1.27	--- other			enum (27)
7.2.1.28	--- responder-specific			enum (28)
7.2.2	-- retry-date	o		ISO-date YYYYMMDD
7.2.3	-- locations	o		See APDU 4: 7.1.3
7.3	- unfilled-results	o		choice (3) ; chosen if transaction-results=UNFILLED
7.3.1	-- reason-unfilled	m		
7.3.1.1	--- in-use-on-loan			enum (1)
7.3.1.2	--- in-process			enum (2)
7.3.1.3	--- lost			enum (3)
7.3.1.4	--- non-circulating			enum (4)
7.3.1.5	--- not-owned			enum (5)
7.3.1.6	--- on-order			enum (6)
7.3.1.7	--- volume-issue-not-yet-available			enum (7)
7.3.1.8	--- at-bindery			enum (8)
7.3.1.9	--- lacking			enum (9)
7.3.1.10	--- not-on-shelf			enum (10)
7.3.1.11	--- on-reserve			enum (11)
7.3.1.12	--- poor-condition			enum (12)
7.3.1.13	--- cost-exceeds-limit			enum (13)
7.3.1.14	--- charges			enum (14)
7.3.1.15	--- prepayment-required			enum (15)
7.3.1.16	--- lacks-copyright-compliance			enum (16)
7.3.1.17	--- not-found-as-cited			enum (17)
7.3.1.18	--- locations-not-found			enum (18)
7.3.1.19	--- on-hold			enum (19)
7.3.1.20	--- policy-problem			enum (20)

Ref	Parameter	D	P	Reference, Usage or Range of Values
7.3.1.21	--- mandatory-messaging-not-supported			enum (21)
7.3.1.22	--- expiry-not-supported			enum (22)
7.3.1.23	--- requested-delivery-services-not-supported			enum (23)
7.3.1.24	--- preferred-delivery-time-not-possible			enum (24)
7.3.1.25	critical-extension-not-supported			enum (25) ISO 10161 1993/pDAM2
7.3.1.27	--- other			enum (27)
7.3.1.28	--- responder specific			enum (28)
7.3.2	-- locations	o		See APDU 4: 7.1.3
7.4	- locations-results	m		choice (4) ; chosen if transaction-results =LOCATIONS-PROVIDED
7.4.1	-- reason-locs-provided	o		
7.4.1.1	--- in-use-on-loan			enum (1)
7.4.1.2	--- in-process			enum (2)
7.4.1.3	--- lost			enum (3)
7.4.1.4	--- non-circulating			enum (4)
7.4.1.5	--- not-owned			enum (5)
7.4.1.6	--- on-order			enum (6)
7.4.1.7	--- volume-issue-not-yet-available			enum (7)
7.4.1.8	--- at-bindery			enum (8)
7.4.1.9	--- lacking			enum (9)
7.4.1.10	--- not-on-shelf			enum (10)
7.4.1.11	--- on-reserve			enum (11)
7.4.1.12	--- poor-condition			enum (12)
7.4.1.13	--- cost-exceeds-limit			enum (13)
7.4.1.19	--- on-hold			enum (19)
7.4.1.27	--- other			enum (27)
7.4.1.28	--- responder specific			enum (28)
7.4.2	-- locations	m		See APDU 4: 7.1.3
7.5	- will-supply-results	o		choice (5) ; chosen if transaction-results=WILL-SUPPLY
7.5.1	-- reason-will-supply	m		
7.5.1.1	--- in-use-on-loan			enum (1)
7.5.1.2	--- in-process			enum (2)
7.5.1.6	--- on-order			enum (6)
7.5.1.8	--- at-bindery			enum (8)
7.5.1.19	--- on-hold			enum (19)
7.5.1.26	--- being-processed-for-supply			enum (26)

Ref	Parameter	D	P	Reference, Usage or Range of Values
7.5.1.27	- - - other			enum (27)
7.5.1.28	- - - responder specific			enum (28)
7.5.1.30	- - - electronic-delivery			enum (30)
7.5.2	- - supply-date	o		ISO-Date YYYYMMDD
7.5.3	- - return-to-address	o		See APDU 1: 7.1 for details on postal-address
7.5.4	- - locations	o		See APDU 4: 7.1.3
7.5.5	- - electronic-delivery-service	o		See APDU 1: 8.2 Parameter added in ISO 10161 1993/AM1
7.6	- hold-placed-results	o		choice (6) ; chosen if transaction-results=HOLD-PLACED
7.6.1	- - estimated-date-available	m		ISO-Date YYYYMMDD
7.6.2	- - hold-placed-medium-type	o		See APDU 1: 14.1 for list of values for "medium." All values except (2) photocopy valid for "hold-placed-medium-type"
7.6.3	- - locations	o		See APDU 4: 7.1.3
7.7	- estimate-results	m		choice (7) ; chosen if transaction-results=ESTIMATE
7.7.1	- - cost-estimate	m		
7.7.2	- - locations	o		See APDU 4: 7.1.3
8	responder-specific-results	o		EXTERNAL m if results-explanation chosen for any result as the value "responder-specific"
9	supplemental-item-description	o		See APDU 1: 18 EXTERNAL
10	send-to-list	o		See APDU 1: 21.7
11	already-tried-list	o		See APDU 1: 21.8 m for responders that support forwarding & for all intermediaries; otherwise o
12	responder-optional-messages	o		See APDU 3: 13
13	responder-note	o		
14	ill-answer-extensions	o		See APDU 1: 26 for EXTENSIONS pattern

5 Conditional-Reply APDU

m for requester & intermediary

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4

Ref	Parameter	D	P	Reference, Usage or Range of Values
				m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	c		See APDU 1: 5 m when using store-and-forward communications; o when using connection-oriented communications
6	answer	m		Boolean: Y/N
7	requester-note	o		
8	conditional-reply-extensions	o		See APDU 1: 26 for EXTENSIONS pattern

6 Cancel APDU

m for intermediary

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4 m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	c		See APDU 1: 5 m when using store-and-forward communications; o when using connection-oriented communications
6	requester-note	o		
7	cancel-extensions	o		See APDU 1: 26 for EXTENSIONS pattern

7 Cancel-Reply APDU

m for responder & intermediary

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4 m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	c		See APDU 1: 5 m when using store-and-forward communications; o when using connection-oriented communications
6	answer	m		Boolean: Y/N
7	responder-note	o		
8	cancel-reply-extensions	o		See APDU 1: 26 for EXTENSIONS pattern

8 Received APDU

o for simple, chained and partitioned ILL transactions.
 m for requester & intermediary. Intermediary acting as a requester, must be capable of generating a RECEIVED APDU if so required by the responder.

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4 m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	c		See APDU 1: 5 m when using store-and-forward communications; o when using connection-oriented communications
6	supplier-id	c		See APDU 3: 8 m if implementation permits supplier of the item to be different from final responder; e.g., if implementation supports acting as the agent for other, possibly non-automated, suppliers
7	supplemental-item-description	o		See APDU 1: 18
8	date-received	m		ISO-date YYYYMMDD
9	shipped-service-type	m		See APDU 3: 12
10	requester-note	o		
11	received-extensions	o		See APDU 1: 26 for EXTENSIONS pattern

9 Recall APDU

m for responder & intermediary when supporting "loan" service type

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4 m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	c		See APDU 1: 5 m when using store-and-forward communications; o when using connection-oriented communications
6	responder-note	o		
7	recall-extensions	o		See APDU 1: 26 for EXTENSIONS pattern

10 Returned APDU

o for simple, chained and partitioned ILL transactions. But intermediary acting as a requester, must be capable of generating a RETURNED APDU if so required by the responder.
 m for requester & intermediary when supporting "loan" service type

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4 m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	c		See APDU 1: 5 m when using store-and-forward communications; o when using connection-oriented communications
6	supplemental-item-description	o		See APDU 1: 18
7	date-returned	m		ISO-Date YYYYMMDD
8	returned-via	o		Transportation-Mode
9	insured-for	o		See APDU 1: 19.1 for break-down of "amount" data elements
10	requester-note	o		
11	returned-extensions	o		See APDU 1: 26 for EXTENSIONS pattern

11 Checked-In APDU

o for simple, chained and partitioned ILL transactions. But intermediary acting as a responder, must be capable of generating a CHECKED-IN APDU if so required by the requester.
 m for responder & intermediary when supporting "loan" service type

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4 m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	c		See APDU 1: 5 m when using store-and-forward communications; o when using connection-oriented communications
6	date-checked-in	m		ISO-Date YYYYMMDD
7	responder-note	o		
8	checked-in-extensions	o		See APDU 1: 26 for EXTENSIONS pattern

12 Overdue APDU

m for responder when supporting "loan" service type

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4 m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	c		See APDU 1: 5 m when using store-and-forward communications; o when using connection-oriented communications
6	- date-due	m		See APDU 3: 14.2 o for implementations that support "loan" service; otherwise n.a.
7	responder-note	o		
8	overdue-extensions	o		See APDU 1: 26 for EXTENSIONS pattern

13 Renew APDU

m for intermediary when supporting "loan" service type

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4 m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	c		See APDU 1: 5 m when using store-and-forward communications; o when using connection-oriented communications
6	desired-due-date	o		ISO-date YYYYMMDD
7	requester-note	o		
8	renew-extensions	o		See APDU 1: 26 for EXTENSIONS pattern

14 Renew-Answer APDU

m for responder & intermediary when supporting "loan" service type

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2

Ref	Parameter	D	P	Reference, Usage or Range of Values
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4 m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	c		See APDU 1: 5 m when using store-and-forward communications; o when using connection-oriented communications
6	answer	m		Boolean: Y/N
7	date-due	c		See APDU 3: 14.2 o for implementations that support "loan" service; otherwise n.a.
8	responder-note	o		
9	renew-answer-extensions	o		See APDU 1: 26 for EXTENSIONS pattern

15 Lost APDU

m for requester, responder & intermediary

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4 m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	c		See APDU 1: 5 m when using store-and-forward communications; o when using connection-oriented communications
6	note	o		
7	lost-extensions	o		See APDU 1: 26 for EXTENSIONS pattern

16 Damaged APDU

m for intermediary; o for requester and responder (to receive, but not to send)

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4 m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	c		See APDU 1: 5 m when using store-and-forward communications; o

Ref	Parameter	D	P	Reference, Usage or Range of Values
				when using connection-oriented communications
6	damaged-details	o		This parameter may only be present in APDU's with a protocol-version-num value of 2 or greater
6.1	- document-type-id	o		OID identifies an OSI document type registered in accordance with ISO 9834-2, for use in an automated environment
6.2	- damaged portion	m		
6.2.1	-- complete-document	o		Choice (1)
6.2.2	-- specific-units	o		Choice (2)
6	note	o		
7	damaged-extensions	o		See APDU 1: 26 for EXTENSIONS pattern

17 Message APDU

m for intermediary; o for requester and responder (to receive, but not to send)

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4 m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	c		See APDU 1: 5 m when using store-and-forward communications; o when using connection-oriented communications
6	note	m		
7	message-extensions	o		See APDU 1: 26 for EXTENSIONS pattern

18 Status-Query APDU

m for intermediary; o for requester and responder (to receive, but not to send)

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4 m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	c		See APDU 1: 5 m when using store-and-forward communications; o when using connection-oriented communications
6	note	o		

Ref	Parameter	D	P	Reference, Usage or Range of Values
7	status-query-extensions	o		See APDU 1: 26 for EXTENSIONS pattern

19 Status-Or-Error-Report

m for requester responder & intermediary

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4 m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	c		See APDU 1: 5 m when using store-and-forward communications; o when using connection-oriented communications
6	reason-no-report	c		m for responders capable of sending an APDU in which neither the status-report nor error-report parameters are present; otherwise n.a.
6.1	- temporary			enum (1)
6.2	- permanent			enum (2)
7	status-report	o		
7.1	- user-status-report	m		
7.1.1	-- date-requested	o		ISO-Date YYYYMMDD
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		ISO-Date YYYYMMDD This information to be maintained throughout the life of the ILL transaction
7.1.7	-- most-recent-service	m		any of listed APDUs This information to be maintained throughout the life of the ILL transaction
7.1.7.1	--- ILL-REQUEST			enum (1)
7.1.7.21	--- FORWARD			enum (21)
7.1.7.2	--- FORWARD-NOTIFICATION			enum (2)
7.1.7.3	--- SHIPPED			enum (3)
7.1.7.4	--- ILL-aNSWER			enum (4)
7.1.7.5	--- cONDITIONAL-REPLY			enum (5)
7.1.7.6	--- cANCEL			enum (6)
7.1.7.7	--- cANCEL-REPLY			enum (7)

Ref	Parameter	D	P	Reference, Usage or Range of Values
7.1.7.8	--- rECEIVED			enum (8)
7.1.7.9	--- rECALL			enum (9)
7.1.7.10	--- rETURNED			enum (10)
7.1.7.11	--- cHECKED-IN			enum (11)
7.1.7.12	--- oVERDUE			enum (12)
7.1.7.13	--- rENEW			enum (13)
7.1.7.14	--- rENEW-ANSWER			enum (14)
7.1.7.15	--- IOST			enum (15)
7.1.7.16	--- dAMAGED			enum (16)
7.1.7.17	--- mESSAGE			enum (17)
7.1.7.18	--- sTATUS-QUERY			enum (18)
7.1.7.19	--- sTATUS-OR-ERROR-REPORT			enum (19)
7.1.7.20	--- eXPIRED			enum (20)
7.1.8	-- date-of-most-recent-service	m		ISO-Date YYYYMMDD This information to be maintained throughout the life of the ILL transaction
7.1.9	-- initiator-of-most-recent-service	m		See APDU 1: 21.7.1 system-id This information to be maintained throughout the life of the ILL transaction
7.1.10	-- shipped-service-type	o		subtype of ILL-service-type This information to be maintained throughout the life of the ILL transaction
7.1.10.1	--- loan			enum (1)
7.1.10.2	--- copy-non-returnable			enum (2)
7.1.11	-- transaction-results	o		If an ILL-ANSWER APDU has been sent or received, then the value in this parameter must be supplied. This information to be maintained throughout the life of the ILL transaction
7.1.11.1	--- conditional			enum (1)
7.1.11.2	--- retry			enum (2)
7.1.11.3	--- unfilled			enum (3)
7.1.11.4	--- locations-provided			enum (4)
7.1.11.5	--- will-supply			enum (5)
7.1.11.6	--- hold-placed			enum (6)
7.1.11.7	--- estimate			enum (7)
7.1.12	-- most-recent-service-note	o		This information to be maintained throughout the life of the ILL transaction
7.2	- provider-status-report	m		m if report-source is "provider"; not present otherwise See ISO 10161-1:1996 7.2
7.2.1	-- nOT-SUPPLIED			enum (1)

Ref	Parameter	D	P	Reference, Usage or Range of Values
7.2.2	-- pENDING			enum (2)
7.2.3	-- iN-PROCESS			enum (3)
7.2.4	-- fORWARD			enum (4)
7.2.5	-- cONDITIONAL			enum (5)
7.2.6	-- cANCELLED-PENDING			enum (6)
7.2.7	-- cANCELLED			enum (7)
7.2.8	-- sHIPPED			enum (8)
7.2.9	-- rECEIVED			enum (9)
7.2.10	-- rENEW-PENDING			enum (10)
7.2.11	-- nOT-RECEIVED-OVERDUE			enum (11)
7.2.12	-- rENEW-OVERDUE			enum (12)
7.2.13	-- oVERDUE			enum (13)
7.2.14	-- rETURNED			enum (14)
7.2.15	-- cHECKED-IN			enum (15)
7.2.16	-- rECALL			enum (16)
7.2.17	-- lOST			enum (17)
7.2.18	-- uNKNOWN			enum (18)
8	error-report	c		m if containing value "Already-forwarded" for implementations that support forwarding.
8.1	- correlation-information	m		
8.2	- report-source	m		
8.2.1	-- user			enum (1)
8.2.2	-- provider			enum (2)
8.3	- user-error-report	c		m for implemetations that support sending report-source with a value of "user"; otherwise n.a.
8.3.1	-- Already-Forwarded	o		
8.3.1.1	--- responder-id	m		See APDU 1: 21.7.1 system-id
8.3.1.2	--- responder-address	o		See APDU 2: 6
8.3.2	-- Intermediary-Problem	o		
8.3.2.1	--- cannot-send-forward			enum (1)
8.3.3	-- Security-Problem	o		
8.3.4	-- Unable-To-Perform	o		
8.3.4.1	--- not-available			enum (1)
8.3.4.2	--- resource-limitation			enum (2)
8.3.4.3	--- other			enum (3)
8.3.4.4	--- critical-extension-not-supported			enum (4) ISO 10161 1993/pDAM2
8.4	- provider-error-report	c		m for implementations that support sending report-source with a value of "provide"; otherwise n.a.

Ref	Parameter	D	P	Reference, Usage or Range of Values
8.4.1	-- General-Problem	o		
8.4.1.1	--- unrecognized-APDU			enum (1)
8.4.1.2	--- mistyped-APDU			enum (2)
8.4.1.3	--- badly-structured-APDU			enum (3)
8.4.1.4	--- protocol-version-not-supported			enum (4)
8.4.1.5	--- proposed-delivery-service			enum (5)
8.4.1.6	--- critical-extension-not-recognized			enum (6) ISO 10161 1993/pDAM2
8.4.2	-- Transaction-Id-Problem	o		
8.4.2.1	--- duplicate-transaction-id			enum (1)
8.4.2.2	--- invalid-transaction-id			enum (2)
8.4.2.3	--- unknown-transaction-id			enum (3)
8.4.3	-- State-Transition-Prohibited	o		
8.4.3.1	--- aPDU-type	m		See APDU 19: 7.1.7
8.4.3.2	--- current-state	m		See APDU 19: 7.2 See ISO 10161-1:1996 7.2
9	note	o		
10	status-or-error-report-extensions	o		See APDU 1: 26 for EXTENSIONS pattern

20 Expired APDU

Ref	Parameter	D	P	Reference, Usage or Range of Values
1	protocol-version-num	m		See APDU 1: 1
2	transaction-id	m		See APDU 1: 2
3	service-date-time	m		See APDU 1: 3
4	requester-id	c		See APDU 1: 4 m when using store-and-forward communications; o when using connection-oriented communications
5	responder-id	c		See APDU 1: 5 m when using store-and-forward communications; o when using connection-oriented communications
6	expired-extensions	o		See APDU 1: 26 for EXTENSIONS pattern