

Book Industry Communication



Library Interoperability Standards Library Data Communication Framework for Terminal Applications (LCF)¹

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This document defines data frameworks for messages to meet the data communication requirements of a standard set of business functions for terminal applications within libraries.

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Terminal applications typically involve the use of terminal devices and systems by library staff and patrons to carry out a range of business functions that involve data communication between a user terminal and a Library Management System (LMS). The user terminal communicates with the LMS to request that a specific function be executed. Execution of the function will normally involve retrieval of or changes to information held in the LMS. The LMS will respond to the request in a variety of ways, depending upon the nature of the request. Terminal applications include self-service applications used by library patrons, as well as other applications used by library staff.

The standard business functions defined by this document are applicable both in circulation management and in stock / holdings management. User terminals may implement any reasonable subset of the functions defined by this document in either of these areas of application, or in others.

Each function is defined in terms of a pair of messages exchanged between the user terminal and the LMS. In terms of the client-server model for system architectures, the user terminal and LMS respectively take the roles of "client" and "server". In the execution of each function the user terminal issues a request to the LMS and receives a response in return.

The information that these functions retrieve or change related to a number of "entities" that are fundamental to library management. The principal entities involved are:

- manifestations (titles) in a library's catalogues
- items – individual copies of manifestations – in a library's stock / holdings
- patrons – users entitled to borrow items from a library
- locations – where items may be located, usually inside a library; or the "home" location of a patron
- loans – of items to patrons
- reservations – of manifestations or specific copies of manifestations for patrons
- charges – fees and fines incurred by patrons for various reasons
- payments – made by patrons in respect of charges incurred
- contacts – contact details for persons or organizations represented by patrons.

Each entity and each request and response message-pair is defined in terms of a data framework², or schema. A data framework specifies how to describe an entity in terms of a collection of properties (identifiers, name, etc.), and how to construct a message (request or response) in terms of entity descriptions and other parameters. Each data element and composite is defined in terms of what data it may contain and its meaning.

¹ The acronym "LCF" derives from an informal, abbreviated name for the standard, coined during its development: "Library Communication Framework".

² The term 'data model' is avoided here, because it could lead to confusion between this specification and specifications of other standard data models used in library applications, especially in RFID applications.

This document is inevitably influenced by the widespread use of the 3M™ Standard Interchange Protocol Version 2.00 (SIP2) by library systems. Where appropriate, the relationship between an LCF function or data element and the corresponding SIP2 message type or field is indicated, to promote interoperability wherever possible between SIP2 and the LCF standard.

Data frameworks for terminal applications

Information entity types

Data frameworks are defined for the following principal types of information entity:

- Manifestations
- Items (individual copies of manifestations)
- Patrons (identified library users)
- Locations
- Loans
- Reservations
- Charges
- Payments
- Contacts (contact details for persons or organisations represented by patrons)

The data frameworks for the following other types of information entity are also defined:

- Classification schemes (e.g. for manifestation classification)
- Classification codes
- Entity properties recognised by the LMS (used for constructing entity selection criteria)

Each of the data frameworks for entity types defines the properties associated with that entity type. These properties may be either simple data elements or composites: more complex structures, being groupings of data elements and other composites.

Terminal application functions

Data frameworks are defined for the following terminal application functions:

- Core functions that can theoretically be applied to any type of information entity
 - Create new entity record
 - Retrieve entity list
 - Retrieve entity record
 - Modify existing entity record
 - Terminate entity record
- Applications of the core functions to circulation management
 - Check-out / renewal of item to patron
 - Check-in item from patron
 - Make / confirm patron payment
 - Reserve title
 - Block patron account
 - Un-block patron account
- Applications of the core functions to stock management
 - Retrieve location list
 - Retrieve item classification scheme list
 - Retrieve classification list
 - Retrieve stock / holding list
 - Retrieve selection criterion type list

Each of the data frameworks for terminal application functions assumes that a function is implemented as a pair of messages exchanged between the terminal application and the LMS, connected over a network. The terminal application initiates the exchange by sending a request to the LMS to execute the function in question. The LMS then sends a response to the terminal application, indicating the outcome of the request.

Each entity and function is defined in terms of data elements. Data elements may be grouped into composites. Each element is identified by a number prefixed by 'D' for simple data elements and by 'C' for composite data elements.

In addition to defining data frameworks for each function, this standard also defines a data framework for common data components used to convey user identification information and other messaging control data in request and response messages.

NOTE – This document does not mandate that any specific underlying communication infrastructure be employed for connecting the terminal application and the LMS, and therefore does not mandate whether or how the common data components should be used. Their inclusion is to facilitate mapping between existing legacy messaging protocols (e.g. SIP2) and LCF.

Status and future development of this standard

Version 1.0 of this standard has been prepared by BIC following pilot implementation and a detailed review of Version 0.9 in self-service applications in circulation management by a BIC Working Group representing self-service terminal developers, library management system developers and libraries. This detailed review has resulted in significant changes both to the technical content of the standard and to the way that the standard is organised.

This document should be read in conjunction with the latest issue of the LCF code lists.

This document is subject to revision from time to time. The latest versions of this document, the LCF code lists and resources supporting specific implementations of this standard may be found at <http://www.bic.org.uk/114/LCF/>.

It is intended to maintain and develop further this standard. Future development will continue to be guided by the requirements of libraries and carried out in collaboration with device and system developers. Details of how to report errors, request changes and contribute to future developments of the standard are to be found at <http://www.bic.org.uk/114/LCF/>.

Data frameworks for information entity types

E01 MANIFESTATION

Description

An identified manifestation of an abstract work, e.g. a book, magazine, newspaper or recording (analogue or digital). Sometimes informally referred to as a "title", but this term is reserved in LCF for the title of a manifestation.

Properties

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.³</i>	<i>Format</i>	<i>Description</i>
E01D01	Identifier		1⁴	String	The primary LMS identifier normally used when referring to this manifestation.
<i>E01C02</i>	<i>Additional identifier</i>		1-n		Composite element containing details of an additional identifier for the manifestation.
E01D02.1	Identifier type		1	Code	LCF code list MNI
E01D02.2	Identifier type name		0-1	String	If the identification scheme is proprietary, the name of the scheme.
E01D02.3	Identifier value		1	String	The identifier string.
<i>E01C03</i>	<i>Media type / format</i>	CK	0-n		
E01D03.1	Media type / format scheme		1	Code	LCF code list MES Allowed values to include ONIX code lists 150 and 175, SIP2 media type and proprietary
E01D03.2	Scheme name		0-1	String	Name or description of proprietary scheme
E01D03.3	Scheme code		1	String	Code from the specified scheme
<i>E01C04</i>	<i>Title</i>	AJ	0-n		Composite element containing a title of the manifestation. Repeatable for multiple types of title (e.g. full title, abbreviated title)

³ The "cardinality" of an element is the number of times that an element is allowed to be included at that point in a message. The allowed values are '0-1', '1', '0-n' and '1-n'. These are equivalent to 'non-mandatory and non-repeatable', 'mandatory and non-repeatable', 'non-mandatory and repeatable' and 'mandatory and repeatable'.

⁴ NOTE – Elements in responses that are specified to be mandatory, i.e. they have cardinality '1' or '1-n', are mandatory *unless there is an exception condition*, in which case none of the specific response elements is included. If appropriate, information from the request may be included in the exception description element to assist in determining the cause of the exception condition.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.³</i>	<i>Format</i>	<i>Description</i>
E01D04.1	Title type		1	Code	LCF code list TTL
E01D04.2	Title text		1	String	
E01D04.3	Subtitle		0-1	String	
<i>E01C05</i>	<i>Contributor</i>		0-n		Composite element containing author or other contributor. Repeatable for multiple contributors.
E01D05.1	Contributor role		1	Code	Contributor role code from ONIX Code List 17 ⁵ .
E01D05.2	Contributor name		0-1	String	Either a contributor name or an unnamed contributor code must be included in each item contributor composite.
E01D05.3	Unnamed contributor		0-1	Code	LCF code list UNC
<i>E01C06</i>	<i>Series</i>		0-1		Composite element containing information about a series of which this manifestation is a member.
<i>E01C06.1</i>	<i>Series title</i>		0-n		Composite element containing the title of the series. Repeatable for multiple types of title.
E01D06.1.1	Title type		1	Code	LCF code list TTL
E01D06.1.2	Title text		1	String	
E01D06.1.3	Subtitle		0-1	String	
E01D06.2	Volume or part		0-1	String	Volume or part number within series
E01D06.3	Identifier of other manifestation within series		0-n	String	The primary identifier of another manifestation in the same series. Repeatable if there is more than one other manifestation in the same series.
E01D07	Edition statement		0-1	String	Edition of the item
E01D08	Publisher name		0-1	String	Name of the publisher of the manifestation

⁵ The ONIX code lists are maintained by EDItEUR. For the latest issue of the ONIX code lists see <http://www.editeur.org/14/Code-Lists/>.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.³</i>	<i>Format</i>	<i>Description</i>
E01D09	Year of publication		0-1	YYYY	Year of publication of the manifestation
<i>E01C10</i>	<i>Classification</i>		0-n		
E01D10.1	Classification scheme		1	Code	LCF code list LCS
E01D10.2	Scheme name		0-1	String	Name or description of proprietary scheme
E01D10.3	Scheme code		1	String	
E01D11	Item cover art		0-n	URI	URI reference to cover art resource
E01D12	Other description		0-1	String	Other descriptive information about the manifestation.
<i>E01C13</i>	<i>Check-out restriction</i>		0-n		Composite element containing details of a restriction on check-out of this manifestation. Repeatable for multiple restriction types.
E01D13.1	Restriction type		1	Code	LCF code list CRT The type of restriction imposed.
E01D13.2	Restriction code / value		1	String	Restriction value of the specified type.
E01D13.3	Restriction note		0-1	String	Free-text note or description of the restriction.
<i>E01C14</i>	<i>Check-out fee</i>	BO	0-n		Composite element containing details of any fee required to check out this manifestation. Repeatable if there are fees of different types. NOTE – Infrequently used, as fees are rarely fixed for an individual manifestation and must be calculated at check-out time, based upon a variety of factors.
E01D14.1	Fee type	BT	1	Code	LCF code list CHT
E01D14.2	Fee amount	BV	1	Value	Currency value
E01D14.3	Fee currency	BH	0-1	Code	ISO three-letter currency code, e.g. 'GBP'

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.³</i>	<i>Format</i>	<i>Description</i>
E01D15	Number of patrons in hold queue	CF	0-1	Integer	
E01D16	Manifestation record reference		0-1	String	A reference (e.g. URI or query string) for retrieving a catalogue record for this manifestation from the LMS or online catalogue.
E01D17	Manifestation status		1	Code	LCF code list MNS
E01D18	Number of copies in stock / holding		0-1	Integer	
E01D19	Item reference		0-n	String	Reference to an item that is a copy of this manifestation
E01D20	Reservation reference		0-n	String	If this manifestation has been reserved, a reference to the reservation record in the hold queue. Repeatable if there are multiple reservations in the "hold queue".
<i>E01C21</i>	<i>Manifestation note</i>		0-n		A note attached to the LMS record for this title.
E01D21.1	Note type		0-1	Code	LCF code list NOT
E01D21.2	Note date-time		0-1	DateTime	
E01D21.3	Note text		1	String	

E02 ITEM**Description**

An identified copy of a manifestation that is in a library's stock / holding.

Properties

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
E02D01	Identifier	AB	1	String	The primary LMS identifier normally used when referring to this item.
<i>E02C02</i>	<i>Additional identifier</i>		0-n		Composite element containing details of an additional identifier for this item.
E02D02.1	Identifier type		1	Code	LCF code list IMI The identification scheme.
E02D02.2	Identifier type name		0-1	String	If the identification scheme is proprietary, the name of the scheme.
E02D02.3	Identifier value		1	String	The identifier string.
E02D03	Manifestation reference		1	String	Reference to the manifestation of which this item is an instance.
E02D04	Item properties	CH	0-1	String	Descriptive information about this item.
E02D05	Item owner	BG	0-1	String	Library identifier for owner of this item.
<i>E02C06</i>	<i>Associated location</i>		0-n		A location associated with this item.
E02D06.1	Location association type		1	Code	LCF code list LAT
E02D06.2	Location reference		1-n	String	
E02D07	Item sensitive media warning		1	Code	LCF code list MEW Flag indicating that the item contains a media component that is sensitive to some security setting devices.
E02D08	Desensitize item security		0-1	Code	LCF code list SCD Flag indicating that the security should or should not be desensitized / removed on check-out.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
<i>E02C09</i>	<i>Check-out restriction</i>		0-n		Composite element containing details of a restriction on check-out of this item. Repeatable for multiple restriction types. Overrides the same check-out restrictions specified for the title.
E02D09.1	Restriction type		1	Code	LCF code list CRT
E02D09.2	Restriction code / value		1	String	Restriction value of the specified type.
E02D09.3	Restriction note		0-1	String	Free-text note or description of the restriction.
<i>E02C10</i>	<i>Check-out fee</i>	BO	0-n		Composite element containing details of any fee required to check out this item. Repeatable if there are fees of different types. NOTE – Rarely used, as fees are rarely fixed for an item and must be calculated at check-out time, based upon a variety of factors. If included, Overrides the same check-out fees specified for the title.
E02D10.1	Fee type	BT	1	Code	LCF code list CHT
E02D10.2	Fee amount	BV	1	Value	Currency value
E02D10.3	Fee currency	BH	0-1	Code	ISO three-letter currency code, e.g. 'GBP'
E02D11	Circulation status		1	Code	LCF code list CIS
E02D12	Reservation reference		0-n	String	If this item has been reserved, a reference to the reservation record in the hold queue. Repeatable if there are multiple reservations in the "hold queue".
E02D13	Number of patrons in hold queue	CF	0-1	Integer	Included only if this specific item is specified in the hold queue.
E02D14	Loan reference		0-1	String	If this item is on loan, a reference to the active loan record is mandatory.
E02D15	Condition code / value		0-n	Code	A proprietary (i.e. LMS-specific) code value indicating the condition of the item.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
E02D16	Condition description		0-1	String	A textual description of the condition of the item.
<i>E02C17</i>	<i>Item note</i>		0-n		A note attached to the LMS record for this item.
E02D17.1	Note type		0-1	Code	LCF code list NOT
E02D17.2	Note date-time		0-1	DateTime	
E02D17.3	Note text		1	String	

E03 PATRON

Description

An identified person or organization permitted to borrow an item from a library.

NOTE – Contact information is held in separate contact records for security and privacy reasons. See E09 below.

Properties

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
E03D01	Identifier	AA	1	String	The primary LMS identifier normally used when referring to this patron.
E03D02	Contact reference		0-1	String	A contact person or organisation represented by this patron
<i>E03C03</i>	<i>Associated location</i>		0-n		A location associated with this patron.
E03D03.1	Location association type		1	Code	LCF code list LAT
E03D03.2	Location reference		1-n	String	
<i>E03C04</i>	<i>Patron status</i>		1		Composite element containing a combination of zero or more conditions.
E03D04.1	Condition		1-n	Code	LCF code list PNS
E03D05	Library card status		0-1	Code	LCF code list PCS Only codes '02' and '03' would be relevant in this context.
E03D06	Blocked card message	AL	0-1	String	Only included if E03D05 is included.
E03D07	Loan reference		0-n	String	A loan made to this patron. May include references to past as well as current (active) loans until the loan records are deleted.
E03D08	Number of items on loan		0-1	Integer	Only applies to active loans.
E03D09	Loan items limit	CB	0-1	Integer	
E03D10	Number of overdue items		0-1	Integer	
E03D11	Overdue items limit	CA	0-1	Integer	

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
E03D12	Number of recalled items		0-1	Integer	
E03D13	Number of items for which fees other than fines are due		0-1	Integer	
E03D14	Number of items for which fines are due		0-1	Integer	
E03D15	Reservation reference		0-n	String	A reservation associated with this patron
E03D16	Number of available hold items		0-1	Integer	
E03D17	Number of unavailable hold items		0-1	Integer	
E03D18	Hold items limit	BZ	0-1	Integer	
E03D19	Charge reference		0-n	String	A charge associated with this patron. It is recommended that a patron record should include references to all unpaid charges.
<i>E03C20</i>	<i>Charge limit</i>	CC	0-n		Composite element. The limit on charges (fees or fines) that this patron is allowed to owe. Repeatable if separate limits are specified for charges of different types.
E03D20.1	Charge type	BT	0-1	Code	LCF code list CHT May only be omitted if there is only one occurrence of the charge limit composite, in which case the amount is the limit on the aggregate of charges of all types.
E03D20.2	Charge amount	BV	1	Value	Currency value
E03D20.3	Charge currency	BH	0-1	Code	ISO three-letter currency code, e.g. 'GBP'
<i>E03C21</i>	<i>Patron note</i>		0-n		A note attached to the LMS record for this patron.
E03D21.1	Note type		0-1	Code	LCF code list NOT
E03D21.2	Note date-time		0-1	DateTime	
E03D21.3	Note text		1	String	

E04 LOCATION

Description

An identified place where an item may be located, either inside or outside a library.

Properties

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
E04D01	Identifier		1	String	The primary LMS identifier normally used when referring to this location.
<i>E04C02</i>	<i>Additional identifier</i>		0-n		Composite element containing details of an additional identifier for this location.
E04D02.1	Identifier type		1	Code	LCF code list LOI The identification scheme
E04D02.2	Identifier type name		0-1	String	If the identification scheme is proprietary, the name of the scheme.
E04D02.3	Identifier value		1	String	The identifier string.
E04D03	Location name		0-1	String	
E04D04	Location type		0-1	Code	LCF code list LOT
E04D05	Location description		0-1	String	
<i>E04C06</i>	<i>Location note</i>		0-n		A note attached to the LMS record for this location.
E04D06.1	Note type		0-1	Code	LCF code list NOT
E04D06.2	Note date-time		0-1	DateTime	
E04D06.3	Note text		1	String	

E05 LOAN**Description**

An identified event in which one or more items have been loaned to a patron.

Properties

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
E05D01	Loan identifier		1	String	The LMS identifier used when referring to this loan.
E05D02	Patron reference	AA	1	String	
E05D03	Item reference	AB	1	String	A loan applies to a single item
E05D04	Loan start date-time		1	DateTime	
E05D05	Loan end due date-time		0-1	DateTime	Omitted only if the loan is permanent or doesn't have a specific end date-time.
E05D06	Loan end date-time		0-1	DateTime	Actual end date-time. Used when recording past loans.
E05D07	Loan status		1-n	Code	LCF code list LOS
E05D08	Previous loan reference		0-1	String	Used when loan is a renewal
E05D09	Renewal loan reference		0-1	String	Used when loan is superceded by a renewal loan
E05D10	Recall notice date-time	CJ	0-n	DateTime	The date on which a recall notice for the item on loan was issued.
E05D11	Charge reference		0-n	String	
<i>E05C12</i>	<i>Loan note</i>		0-n	String	A note attached to the LMS record for this loan.
E05D12.1	Note type		0-1	Code	LCF code list NOT
E05D12.2	Note date-time		0-1	DateTime	
E05D12.3	Note text		1	String	

E06 RESERVATION

Description

An identified event in which one or more titles have been reserved for a patron.

Properties

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
E06D01	Reservation identifier		1	String	The LMS identifier used when referring to this reservation.
E06D02	Reservation type		1	Code	LCF code list RVT
E06D03	Patron reference	AA	1	String	
E06D04	Manifestation reference		0-1	String	A reservation applies to either a single manifestation or a single item. Each reservation must have one or the other but not both.
E06D05	Item reference		0-1	String	
E06D06	Reservation start date-time		0-1	DateTime	
E06D07	Pick-up site reference	AO	0-1	String	The LMS identifier of the branch library or other site where the items are to be picked up by the patron. Normally only included if the reservation type is '04'.
E06D08	Pick-up location reference		0-1	String	The LMS identifier of the location within the site where the items are to be picked up by the patron. Normally only included if the reservation type is '04', either instead of or additional to E06D07.
E06D09	Pickup by date-time	CM	0-1	DateTime	The date and optionally time by which the reserved item must be collected by the patron.
E06D10	End date-time		0-1	DateTime	The date-time when the reservation ended, when the item was checked-out to the patron who had reserved it. Used when recording past reservations.
E06D11	Reservation status		1	Code	LCF code list RVS
E06D12	Loan reference		0-1	String	Only included if maintaining records of reservations that have ended with the item being loaned to the patron.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
E06D13	Charge reference		0-n	String	Reference to a charge incurred by this reservation.
<i>E06C14</i>	<i>Reservation note</i>		0-n	String	A note attached to this reservation.
E06D14.1	Note type		0-1	Code	LCF code list NOT
E06D14.2	Note date-time		0-1	DateTime	
E06D14.3	Note text		1	String	

E07 CHARGE

Description

An identified charge made to a patron. May be a fee or a fine.

Properties

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
E07D01	Charge identifier	CG	1	String	The LMS identifier used when referring to this charge.
E07D02	Patron reference	AA	1	String	
E07D03	Charge type	BT	1	Code	LCF code list CHT The type or category of charge.
E07D04	Charge status		1	Code	LCF code list CHS
E07D05	Charge description		0-1	String	Free-text description of charge.
E07D06	item reference	AB	0-1	String	An item to which this charge relates. Normally the single most precise reference (e.g. loan) will be sufficient.
E07D07	Manifestation reference		0-1	String	A manifestation to which this charge relates. Normally the single most precise reference (e.g. loan) will be sufficient.
E07D08	Loan reference		0-1	String	A loan to which this charge relates. Normally the single most precise reference (e.g. loan) will be sufficient.
E07D09	Reservation reference		0-1	String	A reservation to which this charge relates. Normally the single most precise reference (e.g. loan) will be sufficient.
E07D10	Charge creation date-time		0-1	DateTime	The date and optionally time on which the charge was created / recorded.
E07D11	Payment due date-time		0-1	DateTime	The date and optionally time on which the charge becomes due for payment.
E07D12	Gross charge amount	BV	1	Value	Currency value of original charge
E07D13	Charge amount paid		0-1	Value	Used if charge has been paid in part or in full

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
E07D14	Net charge amount due		0-1	Value	Charge remaining
E07D15	Payment date-time		0-1	DateTime	The date on which the charge was paid in full. Used when recording past charges.
E07D16	Payment reference		0-n	String	Reference to a payment that wholly or partly clears this charge.
E07D17	Charge currency	BH	0-1	Code	ISO three-letter currency code, e.g. 'GBP'
<i>E07C18</i>	<i>Charge note</i>		0-n	String	A note attached to this charge.
E07D18.1	Note type		0-1	Code	LCF code list NOT
E07D18.2	Note date-time		0-1	DateTime	
E07D18.3	Note text		1	String	

E08 PAYMENT

Description

An identified payment made by a patron to settle one or more charges.

Properties

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
E08D01	Payment identifier	AA	1	String	The LMS identifier used when referring to this payment.
E08D02	Patron reference		1	String	
E08D03	Payment type		1	Code	LCF code list PYT The type or method of payment.
E08D04	Payment description		0-1	String	Further information on type or method of payment.
E08D05	Charge reference		1-n	String	One or more charges to which this payment relates.
E08D06	Payment date-time		0-1		The date and optionally time at which the payment was made.
E08D07	Payment amount	BV	1	Value	Currency value
E08D08	Payment currency	BH	0-1	Code	ISO three-letter currency code, e.g. 'GBP'
E08D09	Payment status		0-1	Code	LCF code list PYS
E08D10	Transaction reference		0-1	String	Is a separate reference needed to a financial transaction record?
<i>E08C11</i>	<i>Payment note</i>		0-n	String	A note attached to this payment.
E08D11.1	Note type		0-1	Code	LCF code list NOT
E08D11.2	Note date-time		0-1	DateTime	
E08D11.3	Note text		1	String	

E09 CONTACT**Description**

The contact details for a person or organization represented by a patron.

Properties

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
E09D01	Contact identifier		1	String	
E09D02	Name	AE	1	String	Name of person or organization.
E09D03	Patron ref		1-n	String	
E09D04	Address	BD	0-n	String	Repeatable if address is divided into multiple lines. Not included if a location entity exists for this address.
E09C05	<i>Communication details</i>		0-n		Composite element containing a single communication number, address or locator for the patron. Repeatable for different communication types.
E09D05.1	Communication type		1	Code	LCF code list CMT
E09D05.2	Communication locator		1	String	The number, address or locator
E09D06	Language		1	Code	Language for communication with contact ISO three-letter language code, e.g. 'eng'
<i>E09C07</i>	<i>Contact note</i>		0-n		A note attached to the LMS record for this contact.
E09D07.1	Note type		0-1	Code	LCF code list NOT
E09D07.2	Note date-time		0-1	DateTime	
E09D07.3	Note text		1	String	

E10 TITLE CLASSIFICATION SCHEME**Description**

An identified scheme for classification of titles.

Properties

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
E10D01	Classification scheme identifier		1	String	The LMS identifier used when referring to this scheme.
E10D02	Scheme name		1	String	A name or short description of the scheme
<i>E10C03</i>	<i>Scheme description / note</i>		0-1		Further, more extensive description of the scheme
E10D03.1	Note type		0-1	Code	LCF code list NOT
E10D03.2	Note date-time		0-1	DateTime	
E10D03.3	Note text		1	String	

E11 TITLE CLASSIFICATION CODE**Description**

An identified scheme for classification of titles.

Properties

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
E11D01	Classification identifier		1	String	A system identifier for the classification
E11D02	Classification code		1	String	A code or number used as a label for the classification.
E11D03	Classification scheme reference		1	String	The LMS identifier for the classification scheme to which this classification code belongs
E11D04	Classification heading		0-1	String	A heading or name for the classification.
<i>E11C05</i>	<i>Classification description / note</i>		0-1		
E11D05.1	Note type		0-1	Code	LCF code list NOT
E11D05.2	Note date-time		0-1	DateTime	
E11D05.3	Note text		1	String	

NOTE – If the scheme is appropriate, the classification identifier may be chosen to be the same as the classification code.

E12 SELECTION CRITERION

Description

An identified property of an entity that can be used as a selection criterion when retrieving a list of instances of that entity.

Properties

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
E12D01	Identifier		1	String	System identifier of the selection criterion type
E12D02	Criterion type name		1	String	Name of the selection criterion type, to be used in item list requests.
E12D03	Entity type		0-n	Code	ONIX code list ENT If applicable, the types of entity for which this is a valid selection criterion.
E12D04	Criterion type description		0-1	String	A description of the criterion type and the domain and range of its values.
E12D05	Criterion value scheme		0-1	String	Identifier of the scheme from which values of this criterion type are drawn, to be used in item list requests.
E12C06	Criterion note		0-n		
E12D06.1	Note type		0-1	Code	LCF code list NOT
E12D06.2	Note date-time		0-1	DateTime	
E12D06.3	Note text		1	String	

NOTE – The selection criterion identifier may be the same as the name. In any case, the name must be unique.

Common components

The following data elements and composites are typically used for control of message handling and authentication between the terminal application and the LMS. In some implementations these may be used in message headers and trailers, but in many, if not most, implementations these will be handled at a different level in the messaging protocol stack (e.g. in HTTP or SSL) and not in the message payload. They are primarily included here because of their inclusion in SIP2.

Q00 Elements common to requests

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
Q00C01	<i>User ID</i>	CN	0-1		Composite element.
Q00D01.1	Encryption algorithm		0-1	Code	LCF code list ECR The specific encryption algorithm, if any, employed by the terminal application for encrypting the user ID. If omitted, the string value may or may not be encrypted.
Q00D01.2	String value		1	String	The encrypted or unencrypted string. Element Q00D01.1 may indicate the encryption algorithm employed, if any. Mandatory in each composite.
Q00C02	<i>Password</i>	CO	0-1		Composite element. It would be unusual for the password not to be encrypted.
Q00D02.1	Encryption algorithm		0-1	Code	LCF code list ECR The specific encryption algorithm, if any, employed by the terminal application for encrypting the password. If omitted, the string value may or may not be encrypted.
Q00D02.2	String value		1	String	The encrypted or unencrypted string. Element Q00D02.1 may indicate the encryption algorithm employed, if any. Mandatory in each composite.
Q00D03	Institution identifier	AO	0-1	String	LMS identifier for the institution, if terminals may be in one of several institutions.
Q00C04	<i>Terminal ID</i>		0-1	String	LMS identifier for the device or terminal on which the terminal application is running.
Q00D04.1	Encryption algorithm		0-1	Code	LCF code list ECR The specific encryption algorithm, if any, employed by the terminal application for encrypting the terminal ID. If omitted, the string value may or may not be encrypted.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
Q00D04.2	String value		1	String	The encrypted or unencrypted string. Element Q00D04.1 may indicate the encryption algorithm employed, if any. Mandatory in each composite.
<i>Q00C05</i>	<i>Terminal password</i>		0-1		
Q00D05.1	Encryption algorithm		0-1	Code	LCF code list ECR
Q00D05.2	String value		1	String	The encrypted or unencrypted string.
Q00D06	Terminal location reference	CP	0-1	String	The identifier for the location of the device or terminal on which the terminal application is running.
Q00D07	Request ID		0-1	String	An ID of a request. If included in a request, it must also be included in the LMS response.
Q00D08	Request date-time		0-1	DateTime	ISO date-time The date-time at which the terminal application user submitted the request. Normally generated by the application.
Q00D09	Previous request ID		0-1	String	Used when cancelling a previous request, in which case this element contains the identifier of the previous request (see element Q00D07).

R00 Elements common to responses

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
R00D01	Response ID		0-1	String	An ID of a response.
R00D02	Response type		0-1	Code	LCF code list RST
R00D03	Request reference		0-1	String	The ID of the request to which this is the response. Mandatory if the request included a request ID.
R00D04	Response date-time		0-1	DateTime	The date and time of the response.
<i>R00C05</i>	<i>Exception condition</i>		0-n		Response if there is an exception condition, in which case this and, optionally, one or more of the following message elements terminate the response.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
R00D05.1	Condition type		1	Code	LCF code list EXC Response code will often be specific to the function requested.
R00D05.2	Reason request denied		0-1	Code	LCF code list RDN Used if R00D05.1 contains '08' (request denied)
R00D05.3	Element reference		0-1	String	A reference (e.g. the LCF element ID) that uniquely identifies the element in the request payload that generated the exception condition.
<i>R00C06</i>	<i>Response message</i>	AF / AG	0-n		Composite element containing text to display or print on terminal.
R00D06.1	Message display type		1	Code	LCF code list MGT
R00D06.2	Message to display		1-n	String	Repeatable if display type is 'single line'

Core functions

NOTE ON CARDINALITIES IN RESPONSE MESSAGES - The cardinalities for the elements of responses assume that there is no exception condition, which would be indicated by the inclusion of element R00D05 in a response. If there is an exception condition, only elements in table R00 above would be included in the response.

01 Retrieve entity instance information

This function may be used to retrieve information about an instance of an entity of any type. In practice the most likely uses of the function are to retrieve information about **titles**, **items** and **patrons**, but it could also be used to retrieve information about instances of any entity type, such as locations or charges.

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
Q01D01	Entity type		1	Code	LCF code list ENT The entity type of the item about which information is requested. Information may be requested for any of the entity types E01 to E12 defined above.
Q01D02	Entity instance identifier	*	1	String	The primary (LMS) identifier for the entity instance.
Q01D03	Requested item detailed information		0-n	Code	LCF code list MND , IMD or PNT , depending upon entity type specified in Q01D01. Indicates the type of information to be included in the response. May be repeated if several types of information are requested, unless the code indicates that all details are to be included. If omitted, the details to be included are determined by the LMS.

* The correspondence with a SIP2 element depends upon the entity type. For entity types 'patron' and 'item' the correspondence is with SIP2 elements AA and AB respectively. The only other entity type that is likely to be specified with any frequency is 'manifestation'.

Response

NOTE – The elements included in the response will depend upon both the entity type and whether a specific level of detail has been requested, by the inclusion of one or more elements Q01D03 in the request. Elements marked as mandatory may only be omitted if there has been an exception condition and the response is in effect empty.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
R01C01	Entity element as determined by the specified entity type – see E01 to E12 above – taking into account any instances of element Q01D03 in the request.		0-n		

02 Retrieve entity instance list

This function may be used to retrieve a list of entity instances, with or without detailed information for each entity instance in the list. Normally the list would be retrieved with minimal information (mandatory elements only) or no detailed information apart from the identifier of the item.

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
Q02D01	Entity type		1	Code	LCF code list ENT The entity type of the item about which information is requested. Information may be requested for any of the entity types E01 to E12 defined above.
Q02C02	Selection criterion		0-n		A criterion for selecting instances to be retrieved. If multiple selection criteria are specified, all must apply to all items retrieved. If no selection criteria are specified, all items of the specified entity type are to be included in the list.
Q02D02.1	Selection criterion reference		1	String	A reference to an identified selection criterion (see E12 above)
Q02D02.2	Criterion value		1	String	
Q02D03	Requested instance detailed information		0-n	Code	LCF code list MND , IMD or PNT , depending upon entity type specified in Q02D01. Indicates the type of information to be included in the response. May be repeated if several types of information are requested, unless the code indicates that all details are to be included. If omitted, minimal details are included as determined by the LMS.
Q02D04	Requested maximum number of instances in response		0-1	Positive integer	If present, the maximum number of instances from the list matching the specified selection criteria that are desired in the response. If not present, the entire list of instances matching the specified selection criteria should be included in the response. Responses should, wherever possible, honour this maximum when requested.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
Q02D05	Index, in the complete list of instances found, of first instance in the response		0-1	Positive integer or zero	If present, the desired index of the first instance in the response in the list of instances that match the specified selection criteria. For example, an offset value '10' would imply that the first instance in the response should be the eleventh instance in the list. Responses should, wherever possible, honour this index when requested.

* The correspondence with a SIP2 element depends upon the entity type. For entity types 'patron' and 'item' the correspondence is with SIP2 elements AA and AB respectively. The only other entity type that is likely to be specified with any frequency is 'title'.

Response

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
R02D01	Entity type		0-1	Code	LCF code list ENT - Mandatory if the number of instances in the response is greater than zero.
Q02C02	Selection criterion		0-n		A criterion used for selecting instances, as specified in the request. It is recommended that if selection criteria are included in the request, they should also be included in the response for reference purposes.
Q02D02.1	Selection criterion reference		1	String	A reference to an identified selection criterion (see E12 above)
Q02D02.2	Criterion value		1	String	
R02D03	Number of instances in the list matching the selection criteria specified in the request		0-1	Positive integer	
R02D04	Number of instances in this response		0-1	Positive integer	
R02D05	Offset from beginning of the ordered list to first instance in this response		0-1	Positive integer or zero	If present, the integer value added to '1' to determine the first instance in the list of instances that match the specified selection criteria to be included in the response. For example, an offset value '10' would imply that the first item in the response should be the eleventh instance in the list. If omitted, the default value is zero.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
R02D06	Entity identifier		0-n	String	If the number of selected instances is greater than zero, either one or more of this element or one or more of R02C07 must be included in the response.
R02C07	Entity elements as determined by the specified entity type – see E01 to E11 above – and taking into account any instances of element Q02D03 in the request.		0-n		

03 Create entity item

This function is used to create a new item of a specific entity type. In practice it is most often used to create a new reservation or a new loan.

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
Q03D01	Entity type		1	Code	LCF code list ENT The entity type of the item to be created.
	Other elements, excluding the LMS identifier, as determined by the specified entity type – see E01 to E112above				

Response

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
R03D01	Entity type		1	Code	LCF code list ENT The entity type of the item created in response to the request.
R03D02	Item identifier		1	String	The primary identifier for the inventory item, assigned by the LMS if a new item has been successfully created.

04 Modify entity item

This function is used to modify an existing item of a specific entity type.

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
Q04D01	Entity type		1	Code	LCF code list ENT
Q04D02	Item identifier		1	String	The identifier of the item to be modified.
Q04D03	Modification type		1	Code	LCF code list MOT
	Other elements as determined by the specified entity type – see E01 to E12 above				

Response

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
R04D01	Entity type		1	Code	LCF code list ENT The entity type of the item created in response to the request.
R04D02	Item identifier		1	String	The identifier for the item that has been successfully modified.

05 Delete entity item

This function is used to delete an item of a specific entity type. Since deletion of an item involves removal of all references to this item, this function would not normally be implemented as a terminal application.

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
Q05D01	Entity type		1	Code	LCF code list ENT
Q05D02	Item identifier		1	String	The identifier of the item to be deleted.

Response

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
R05D01	Entity type		1	Code	LCF code list ENT The entity type of the item created in response to the request.
R05D02	Item identifier		1	String	The identifier of the item that has been successfully deleted

Circulation management functions

11 Check-out / renewal (create loan)

The check-out / renewal function combines the following core functions:

- Unless this is a confirmation or cancellation of check-out or renewal, retrieve the patron, item and manifestation records to check the patron's status and ensure that check-out is permitted and to check for any applicable fees.
- If check-out / renewal is to proceed, create a loan record for the specified patron and item. If cancelling a check-out or renewal, search for and either delete or modify the loan record.
- Search for any reservation record for the specified patron and manifestation (or item) and modify to change its status.
- If fees apply, create a charge record for the applicable fee. If cancelling a check-out or renewal, search for and either delete or modify the charge record.
- Modify the item record to update its circulation status and location and (optionally) add a reference to the loan record. If cancelling a previous check-out or renewal and deleting the associated loan record, remove any reference to this record from the item record.
- Modify the patron record to update patron status and the number of items on loan and (optionally) add a reference to the loan record. If cancelling a previous check-out or renewal and deleting the associated loan record, remove any reference to this record from the patron record.

The terminal application must provide all the information required for all the necessary core functions to be performed.

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
Q11D01	Request type		1	Code	LCF code list RQT Indicates type of check-out request.
Q11D02	Renewal type		0-1	Code	LCF code list RNQ Indicates that the request is a renewal request and which type
Q11D03	Patron reference	AA	0-1	String	Reference to the patron record. Mandatory in a new check-out.
Q11D04	Item reference	AB	0-1	String	Reference to the item in question. Mandatory unless cancelling a check-out / renewal.
Q11D05	Loan reference		0-1	String	Mandatory when renewing or cancelling a check-out or renewal.
Q11D06	Loan end date		0-1	DateTime	If confirming check-out / renewal, the due date-time given to the patron for this item.
Q11D07	Charge acknowledged	BO	0-1	Flag	Empty element indicating that a charge may be created.

Response

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
R11D01	Loan reference		0-1	String	LMS identifier for loan. Either a loan reference, or a copy of the loan record must be included in the response.
R11C02	Loan entity record		0-1		See E05
R11D03	Item sensitive media warning		0-1	Code	LCF code list MEW Same as E02D07. Flag indicating that the item contains a media component that is sensitive to some security setting devices. Mandatory on a new check-out unless the loan entity record is included in the response.
R11D04	Desensitize item security		0-1	Code	LCF code list SCD Same as E02D08. Flag indicating whether the security should or should not be desensitized / removed on check-out. Mandatory on a new check-out unless the loan entity record is included in the response.
R11D05	Charge reference		0-1	String	Reference to charge created with this loan.

12 Check-in

The check-in function combines the following core functions:

- Retrieve the item record and modify to update circulation status and location.
- Retrieve the loan record for this item and modify it to update its status.
- Retrieve the patron record and modify it to update the number of items on loan.

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
Q12D01	Request type		1	Code	LCF code list RQT
Q12D02	Patron reference	AA	0-1	String	
Q12D03	Item reference	AB	0-1	String	
Q12D04	Loan reference		0-1	String	
Q12D05	Item return date		0-1	DateTime	In confirmation requests, the date the item was returned by the patron.

Response

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
R12D01	Loan reference		0-1	String	
R12D02	Patron reference	AA	0-1	String	
R12D03	Item reference	AB	0-1	String	
R12D04	Item return location reference	CL	0-1	String	LMS identifier for return location, e.g. sort bin.
R12D05	Item sensitive media warning		0-1	Code	LCF code list MEW Flag indicating that the item contains a media component that is sensitive to some security setting devices.
R12D06	Item requires special attention		0-1	Code	LCF code list SPA Flag indicating that this item requires special attention before it is returned to its shelf location.
R12D07	Special attention description		0-1	String	Description of special attention required, if any.
R12D08	Charge reference		0-n	String	LMS identifier of any charge due on this item. Repeatable if more than one charge is due (e.g. loan fee and overdue fine).

13 Patron payment

The patron payment function combines the following core functions:

- Attempt to create a payment record for the amount to be paid. If cancelling a payment, the payment record is deleted or the payment status is modified.
- Retrieve and modify the charge records to update the charge status.

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
Q13D01	Request type		1	Code	LCF code list RQT
Q13D02	Patron reference	AA	1	String	
Q13D03	Charge reference		0-n	String	Charge(s) against which to set this payment. If omitted, the LMS determines the charges against which to set the payment.
Q13D04	Payment type		1	Code	LCF code list PYT
Q13D05	Payment type description		0-1	String	Further information on method of payment
Q13D06	Payment amount		1	Value	Currency value.
Q13D07	Payment currency		0-1	Code	ISO three-letter currency code, e.g. 'GBP'

Response

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
R13D01	Patron reference	AA	1	String	
R13D02	Payment Identifier		0-1	String	Included if attempt to make the payment is successful.
R13D03	Charge reference		0-n		Mandatory if payment of any charge item is accepted or confirmed.

14 Block patron account

Used to prevent unauthorised use of a patron account, such as when the patron's library card is stolen or mislaid. This function is simply an application of core functions to retrieve and modify a patron entity. The patron's current record is retrieved and the patron status and library card status updated as appropriate. If necessary a blocked card message is added.

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
Q14D01	Patron reference	AA	1	String	
Q14D02	Library card status		0-1	Code	LCF code list PCS
Q14D03	Blocked card message	AL	0-1	String	

Response

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
R14D01	Patron reference		1	String	The identifier for the Patron record that has been successfully modified.

15 Un-block patron account

This function is very similar to function 14 Block patron. A patron record is retrieved and the patron status and library card status are updated as appropriate. Any blocked card message is removed.

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
Q15D01	Patron reference	AA	1	String	

Response

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
R15D01	Patron reference		1	String	The identifier for the Patron record that has been successfully modified.

16 Reserve manifestation / item

The reserve function combines the following core functions:

- Unless this is a confirmation or cancellation of reservation, retrieve the patron, item and/or manifestation records to check the patron's status and ensure that reservation is permitted and to check for any applicable fees.
- If reservation is to proceed, create a reservation record for the specified patron and manifestation or item. If cancelling a reservation, search for and either delete or modify the reservation record.
- If fees apply, create a charge record for the applicable fee. If cancelling a reservation, search for and either delete or modify the charge record.
- Modify the manifestation or item record to add a reference to the reservation record. If cancelling a previous reservation and deleting the associated reservation record, remove any reference to this record from the associated manifestation or item record.
- Modify the patron record to update patron status and the number of items on loan and (optionally) add a reference to the reservation record. If cancelling a previous reservation and deleting the associated reservation record, remove any reference to this record from the patron record.

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
Q16D01	Request type	BX / BI	1	Code	LCF code list RQT
Q16D02	Patron identifier	AA	1	String	
Q16D03	Item entity type		1	Code	LCF code list ENT – only code values '01' and '02' are valid
Q16D04	Item identifier	AB	1	String	
Q16D05	Reservation type	BY	0-1	Code	LCF code list RVT
Q16D06	Pick-up institution reference	AO	0-1	String	The LMS identifier of the branch library or other institution where the items are to be picked up by the patron. Normally only included if the reservation type is '04'.
Q16D07	Pick-up location reference	BS	0-1	String	The LMS identifier of the location where the items are to be picked up by the patron. Normally only included if the reservation type is '04', either instead of or additional to Q16D06.
Q16D08	Reservation start date		0-1	DateTime	Only used in confirmations.
Q16D09	Reservation expiry date	AH	0-1	DateTime	The date by which a reserved item will be picked up by the patron.
Q16D10	Charge acknowledged	BO	0-1	Flag	Empty element indicating that a charge may be created.

Response

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>Format</i>	<i>Description</i>
R16D01	Reservation reference		0-1	String	Either a reservation reference or a copy of the reservation record must be included in the response.
R16D02	Reservation entity record		0-1		See E06.
R16D03	Charge reference	BT / BV	0-1	String	LMS identifier for the charge associated with reservation of this manifestation or item.

Stock management functions

21 Retrieve location list

This function is the same as core function 02 for retrieving a list of entities of type E04 Location.

22 Retrieve title classification scheme list

This function is the same as core function 02 for retrieving a list of entities of type E10 Title classification scheme.

23 Retrieve title classification list

This function is the same as core function 02 for retrieving a list of entities of type E11 Title classification code.

24 Retrieve (stock) item list

This function combines the core functions for retrieval of a list of manifestations (entity type E01) and list of stock items (entity type E02).

25 Retrieve selection criterion type list

This function is the same as the core function 02 for retrieving a list of entities of type E12 Selection criterion.