



Book Industry Communication

Library Interoperability Standards Data Communication Framework for Library Systems

Data communication for terminal applications

Version 0.9, 31 March 2011

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.

Terminal applications typically involve the use of terminal devices and systems by library patrons and staff 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. The LMS responds to indicate the outcome (successful or otherwise) 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 in two categories:

- core functions that are required to be implemented by all LMS systems that claim conformance to this standard
- additional functions that are sufficiently well-defined and in sufficiently widespread use to merit inclusion in this standard, but whose implementation is not required to conform to this standard.

User terminals may implement any reasonable subset of the functions defined by this document, according to the terminal applications that they implement.

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.

Each request and response message-pair is defined in terms of a data framework¹, or schema, for the data elements and composites that are used within each message. Each data element and composite is defined in terms of what data it may contain and its meaning. The data framework for each type of message defines which data elements and composites are used in that message type, and how they are used.

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 a message type or data element and the corresponding SIP2 message type or field is indicated, to promote interoperability wherever possible between SIP2 and the BIC standard.

This document defines bindings of the data framework to specific formats for use in "web service" implementations:

- a format using the HTTP GET method for all request message types
- a format using the HTTP POST method, with an XML payload, for all request message types
- a single XML payload format for all response message types.

¹ 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.

Data frameworks for terminal applications

Data frameworks are defined for the following terminal application functions:

- Core functions:
 - Retrieve item information
 - Retrieve patron information
 - Check-out / renew item(s) to patron
 - Check-in item(s) from patron
 - Make / confirm patron payment
 - Block patron account
- Additional functions:
 - Reserve item
 - Modify/update item information
 - Modify/update patron information
 - Un-block patron account

Each of the data frameworks 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 data framework is defined in terms of the data elements that are contained in the request and response messages. 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 in many or all the data frameworks, and used to convey user identification information and other messaging control data.

NOTE – This standard does not mandate that any specific underlying communication infrastructure be employed for connecting these applications, but does define standard web service implementations for each of the data frameworks, both as an exemplar and to encourage implementation.

Status and future development of this standard

This standard is being published at status "ready for pilot implementation", and as a consequence has the version number "0.9". After successful pilot implementation and confirmation that the standard is going into live use, a version "1.0" will be published.

BIC intends to maintain and develop further this standard, to ensure that it continues to meet the requirements of libraries. Future development will continue to be guided by the requirements of libraries and carried out in collaboration with library system developers and vendors.

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 many implementations these will be used in message headers and trailers.

Elements common to requests

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card²</i>	<i>M/R³</i>	<i>Format</i>	<i>Description</i>
<i>C0001</i>	<i>Client ID</i>	CN	0-1			Composite element.
D0001.1	Encryption algorithm		0-1		Code	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.
D0001.2	String value		1	M	String	The encrypted or unencrypted string. Element D0001.1 may indicate the encryption algorithm employed, if any. Mandatory in each composite.
<i>C0002</i>	<i>Password</i>	CO	0-1			Composite element. It would be unusual for the password not to be encrypted.
D0002.1	Encryption algorithm		0-1		Code	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.
D0002.2	String value		1	M	String	The encrypted or unencrypted string. Element D0002.1 may indicate the encryption algorithm employed, if any. Mandatory in each composite.
<i>C0003</i>	<i>Institution identifier</i>	AO	0-1			
D0003.1	Identifier type		1	M	Code	The identification scheme
D0003.2	Identifier type name		0-1		String	If the identification scheme is proprietary, the name of the scheme.
D0003.3	Identifier value		1	M	String	The identifier string.
D0004	Terminal location	CP	0-1		Code	The location of the device or terminal on which the terminal application is running. Mandatory in check-in requests.
D0005	Request ID		0-1		String	An ID of a request. If included in a request, it must also be included in the LMS response.

² 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’.

³ The column headed ‘M/R’ is intended to highlight those elements that are either mandatory, repeatable or both. ‘M’ indicates that an element is mandatory, while ‘R’ indicates that an element is repeatable. Note that these only apply relative to the context of the element, i.e. within a specific composite or within the message as a whole. The context is indicated by the element id: if this contains a dot, the element is within a composite. Elements that are mandatory within the message as a whole are highlighted in bold.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card²</i>	<i>M/R³</i>	<i>Format</i>	<i>Description</i>
C0006	<i>Request date-time</i>		0-1			Composite element containing the date and time of the request. The date-time at which the terminal application user submitted the request. Normally generated by the application.
D0006.1	Date-time format		0-1		Code	The format in which the date-time is sent. The recommended format is either the compact format or the fully-punctuated format defined by ISO 8601, i.e. YYYYMMDDTHHMMSS or YYYY-MM-DDTHH:MM:SS. Mandatory for systems that recognize multiple formats.
D0006.2	Date-time value		1	M	String	A string whose format conforms to the specified date-time format.

Elements common to responses

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D0101	Response ID		0-1		String	An ID of a response.
D0102	Request reference		0-1		String	The ID of the request to which this is the response. Mandatory if the request included a request ID.
C0103	<i>Response date-time</i>		0-1			Composite element containing the date and time of the response.
D0103.1	Date-time format		0-1		Code	The format in which the date-time is sent. See D0006.1 for recommended formats. Mandatory for systems that recognize multiple formats.
D0103.2	Date-time value		1	M	String	A string whose format conforms to the specified date-time format.
D0104	Exception condition response		0-n	R	Code	Response if there is an exception condition, in which case this and, optionally, the following element terminate the response. Response code will often be specific to the function requested.
D0105	Exception condition description		0-1		String	Free-text description of exception condition, which may include information from the request.
C0106	<i>Response message</i>	AF / AG	0-n	R		Composite element containing text to display or print on terminal.
D0106.1	Message display type		1	M	Code	
D0106.2	Message to display		1-n	MR	String	Repeatable if display type is 'single line'

Core functions:**Retrieve item information****Request**

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D1001	Item identifier	AB	1	M	String	The primary (LMS) identifier for the inventory item.
D1002	Requested item detailed information		0-n	R	<u>Code</u>	Indicates type of item 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. NOTE – element D1120 (circulation status) is mandatory in the response.

Response

NOTE – The elements included in the response will depend upon whether a specific level of detail has been requested, by the inclusion of one or more elements D1002 in the request.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D1101	Item identifier	AB	1⁴	M	String	The primary identifier for the inventory item.
C1102	<i>Additional item identifier</i>		0-n	R		Composite element containing details of an additional identifier for the item.
D1102.1	Identifier type		1	M	<u>Code</u>	The identification scheme
D1102.2	Identifier type name		0-1		String	If the identification scheme is proprietary, the name of the scheme.
D1102.3	Identifier value		1	M	String	The identifier string.
C1103	Item media type / format	CK	0-1		<u>Code</u>	
C1104	<i>Item title</i>	AJ	0-n	R		Composite element containing title of the item. Repeatable for multiple types of title (e.g. full title, abbreviated title)
D1104.1	Title type		1	M	<u>Code</u>	
D1104.2	Title text		1	M	String	
D1104.3	Subtitle		0-1		String	
C1105	<i>Item contributor</i>		0-n	R		Composite element containing item author or other contributor. Repeatable for multiple contributors.

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.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D1105.1	Contributor role		1	M	Code	Contributor role code from ONIX Code List 17.
D1105.2	Contributor name		0-1		String	Either a contributor name or an unnamed contributor code must be included in each item contributor composite.
D1105.3	Unnamed contributor		0-1		<u>Code</u>	
<i>C1106</i>	<i>Item series</i>		0-1			Composite element containing information about a series of which this item is a member.
<i>C1106.1</i>	<i>Series title</i>		0-n	R		Composite element containing the title of the series. Repeatable for multiple types of title.
D1106.1.1	Title type		1	M	Code	
D1106.1.2	Title text		1	M	String	
D1106.1.3	Subtitle		0-1		String	
D1106.2	Item volume or part		0-1		String	Volume or part number within series
D1106.3	Identifier of other item within series		0-n	R	String	The primary identifier of another item in the same series. Repeatable if there is more than one other item in the same series.
D1107	Item edition statement		0-1		String	Edition of the item
D1108	Item publisher name		0-1		String	Name of the publisher of the item
D1109	Item year of publication		0-1		YYYY	Year of publication of the item
D1110	Item properties	CH	0-1		String	Other descriptive information about the item.
<i>C1111</i>	<i>Item cover art</i>		0-n			Link to item cover artwork. The structure of this element is outside the scope of this standard. It is recommended that this be implemented using the HTML element or equivalent.
D1112	Item owner	BG	0-1		String	Library code for owner of the item.
D1113	Permanent item location	AQ	0-1		String	Library code for the item's permanent location.
D1114	Current item location	AP	0-1		String	Library code for the item's current location.
<i>C1115</i>	<i>Loan characteristic</i>		0-n	R		Composite element containing details of a characteristic of the loan of this item, e.g. loan period. Repeatable for multiple characteristic types.
D1115.1	Characteristic type		1	M	<u>Code</u>	The type of loan characteristic
D1115.2	Characteristic code / value		1	M	String	Characteristic value of the specified type.
D1115.3	Characteristic note		0-1		String	Free-text note or description of the characteristic.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
C1116	<i>Check-out restriction</i>		0-n	R		Composite element containing details of a restriction on check-out of this item. Repeatable for multiple restriction types.
D1116.1	Restriction type		1	M	Code	The type of restriction imposed
D1116.2	Restriction code / value		1	M	String	Restriction value of the specified type.
D1116.3	Restriction note		0-1		String	Free-text note or description of the restriction.
C1117	<i>Check-out fee</i>		0-n	R		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.
D1117.1	Fee type	BT	1	M	Code	
D1117.2	Fee amount	BV	1	M	Value	Currency value
D1117.3	Fee currency	BH	0-1		Code	ISO three-letter currency code, e.g. 'GBP'
D1118	Circulation status		1	M	Code	Current circulation status
D1119	Number of patrons in hold queue	CF	0-1		Integer	
C1120	<i>Due date</i>	AH	0-1			Composite element containing the date by which an item on loan should be either checked in or renewed.
D1120.1	Date-time format		0-1		Code	The format in which the date-time is sent. Mandatory for systems that recognize multiple formats.
D1120.2	Date-time value		1	M	String	A string whose format conforms to the specified date-time format.
C1121	<i>Recall note date</i>	CJ	0-1			Composite element containing the date on which a recall notice for the item was issued. Same structure as element C1120.
C1122	<i>Pickup by date</i>	CM	0-1			Composite element containing the date by which a reserved item must be collected by the patron. Same structure as element C1120.

Retrieve patron information / status

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D1201	Patron identifier	AA	1	M	String	
D1202	Requested patron detailed information		1-n	MR	Code	Indicates type of patron information to be included in the response. May be repeated if several types of information are requested, unless the code indicates that all details or no details are to be included.
D1203	Patron language		1	M	Code	ISO three-letter language code, e.g. 'eng'

Response

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D1301	Patron identifier	AA	1 ²	M	String	
C1302	Patron PIN / password	AD	0-1			Composite element containing patron PIN or password. For use by terminal in patron verification. Same structure as element C0001.
D1303	Patron name	AE	0-1		String	
D1304	Patron address	BD	0-n	R	String	Repeatable if address is divided into multiple lines.
C1305	Patron communication details		0-n	R		Composite element containing a single communication number, address or locator for the patron. Repeatable for different communication types.
D1305.1	Communication type		1	M	Code	
D1305.2	Communication locator		1	M	String	The number, address or locator
C1306	Patron status		1	M		Composite element containing a combination of zero or more conditions.
D1306.1	Condition		0-n	R	Code	ANSI/NISO Z39.70 condition code
D1307	Patron language		1	M	Code	ISO three-letter language code, e.g. 'eng'
D1308	Number of items on loan		1	M	Integer	
D1309	Number of overdue items		1	M	Integer	
D1310	Number or recalled items		1	M	Integer	
D1311	Number of items for which fees other than fines are due		1	M	Integer	
D1312	Number of items for which fines are due		1	M	Integer	

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D1313	Number of available hold items		1	M	Integer	
D1314	Number of unavailable hold items		1	M	Integer	
D1315	Loan items limit	CB	0-1		Integer	
D1316	Hold items limit	BZ	0-1		Integer	
D1317	Overdue items limit	CA	0-1		Integer	
<i>C1318</i>	<i>Total fee owed on account</i>	BV	0-1			Composite element containing the total fee amount owed on patron account, including fines on returned and renewed items.
D1318.1	Fee type	BT	0-1		<u>Code</u>	Only included if the fees are all of the same type
D1318.2	Fee amount	BV	1	M	Value	Currency value
D1318.3	Fee currency	BH	0-1		Code	ISO three-letter currency code, e.g. 'GBP'
<i>C1319</i>	<i>Total fine expected to be added to account</i>		0-1			Composite element containing the total fine amount expected to be added to patron account if overdue items are returned or renewed now.
D1319.1	Fine type	BT	0-1		<u>Code</u>	Only included if the fines are all of the same type
D1319.2	Fine amount	BV	1	M	Value	Currency value
D1319.3	Fine currency	BH	0-1		Code	ISO three-letter currency code, e.g. 'GBP'
<i>C1320</i>	<i>Fee limit</i>	CC	0-1			Composite element. The limit on fees and fines that this patron is allowed to owe. Same structure as C1318.
<i>C1321</i>	<i>Item detail</i>	AU	0-n	R		Composite element containing the identifier and loan status of an item on loan to or in hold queue for this patron. Included only if requested (see element D1202).
D1321.1	Item identifier		1	M	String	Primary identifier for the item
D1321.2	Loan status		1-n	MR	<u>Code</u>	Indicates whether the item is on loan or in hold queue. May be repeated to indicate that an item on loan is overdue or has been recalled, that fees are owed or that a fine is payable.
<i>C1322</i>	<i>Fee</i>		0-n	R		A fee owed by this patron and on their account. Repeatable if several fees are owed.
D1322.1	Fee identifier		0-1		String	LMS identifier for specific fee owed. If omitted, the fee type and fee amount must be included.
D1322.2	Fee type	BT	0-1		<u>Code</u>	The type or category of fee.
D1322.3	Fee description		0-1		String	Free-text description of fee.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D1322.4	Fee related item		0-1		String	The primary identifier of the item, if any, to which this fee is related.
C1322.5	<i>Fee date</i>		0-1			Composite element containing the date on which the fee became due for payment.
D1322.5.1	Date-time format		0-1		<u>Code</u>	The format in which the date-time is sent. Mandatory for systems that recognize multiple formats.
D1322.5.2	Date-time value		1	M	String	A string whose format conforms to the specified date-time format.
D1322.6	Fee amount	BV	1	M	Value	Currency value
D1322.7	Fee currency	BH	0-1		Code	ISO three-letter currency code, e.g. 'GBP'

Check-out / renew item(s) to patron

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D1401	Request type	BO / BI	1	M	<u>Code</u>	Indicates type of request.
D1402	Patron identifier	AA	1	M	String	
C1403	<i>Patron PIN / password</i>	AD	0-1			Composite element containing patron PIN or password, if required. Same structure as element C0001.
D1404	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 D0005), and no further elements are required in this request.
C1405	<i>Item detail</i>		0-n	R		Composite element. Mandatory unless renewing all items currently on loan to this patron, or cancelling a previous request and including the identifier of the previous request. Repeatable if checking out multiple items, or if renewing multiple (but not all) items currently on loan. If omitted, all items must have the same due date.
D1405.1	Request item number		0-1		Integer	Serial number
D1405.2	Item identifier	AB	1	M	String	
D1405.3	Item title detail	AJ	0-1		String	Title and author information for the item.
D1405.4	Item properties	CH	0-1		String	Descriptive information about the item.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
C1405.5	<i>Item due date</i>		0-1			Composite element. In confirmation requests, the due date given to the patron for this item. May not be included if element C1405 is included.
D1405.5.1	Date-time format		0-1		<u>Code</u>	The format in which the date-time is sent. Mandatory for systems that recognize multiple formats.
D1405.5.2	Date-time value		1	M	String	A string whose format conforms to the specified date-time format.
C1406	<i>Due date, for all items</i>		0-1			Composite element. In confirmation requests, the due date given to the patron for check-out or renewal of all specified items or, if none are specified, for renewal of all items currently on loan. May not be included if element C1405.5 is included. Same structure as element C1405.5.

Response

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D1501	Response type		1²	M	<u>Code</u>	
D1502	Patron identifier	AA	1	M	String	
D1503	Number of items approved / confirmed		0-1		Integer	
C1504	<i>Approved / confirmed item</i>		0-n	R		Composite element. Mandatory if check-out or renewal of any items is approved or confirmed.
D1504.1	Request item reference		0-1		Integer	Mandatory if item request number is included in the request.
D1504.2	Item identifier	AB	1	M	String	
D1504.3	Item media type / format	CK	0-1		<u>Code</u>	
D1504.4	Item title detail	AJ	0-1		String	Title and author information for the item.
D1504.5	Item properties	CH	0-1		String	Other descriptive information about the item.
D1504.6	Item sensitive media warning		0-1		<u>Code</u>	Flag indicating that the item contains a media component that is sensitive to some security setting devices.
D1504.7	Desensitize item security		0-1		<u>Code</u>	Flag indicating that the security may or may not be desensitized / removed.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
C1504.8	<i>Item due date</i>	AH	0-1			Composite element containing the date on which the item is due to be returned. Mandatory if responding to a loan or renewal request or confirmation that is approved. Same structure as C1404.4
C1504.9	<i>Item loan / renewal fee</i>	BT / BV	0-1			Composite element containing the fee due for loan / renewal of this item.
D1504.9.1	Fee identifier		0-1		String	LMS identifier for specific fee owed. If omitted, the fee type and fee amount must be included.
D1504.9.2	Fee type	BT	0-1		Code	The type or category of fee.
D1504.9.3	Fee description		0-1		String	Free-text description of fee.
C1504.9.4	<i>Fee date</i>		0-1			Composite element containing the date on which the fee became due for payment.
D1504.9.4.1	Date-time format		0-1		Code	The format in which the date-time is sent. Mandatory for systems that recognize multiple formats.
D1504.9.4.2	Date-time value		1	M	String	A string whose format conforms to the specified date-time format.
D1504.9.5	Fee amount	BV	1	M	Value	Currency value
D1504.9.6	Fee currency	BH	0-1		Code	ISO three-letter currency code, e.g. 'GBP'
D1505	Number of non-approved items		0-1		Integer	
C1506	<i>Non-approved item</i>		0-n	R		Composite element. Mandatory if check-out or renewal of any items is not approved.
D1506.1	Request item reference		0-1		Integer	Mandatory if item request number is included in the request.
D1506.2	Item identifier	AB	1	M	String	
D1506.3	Reason unable to approve		1	M	Code	Further information may be given in a response message. See element C0106.

Check-in item(s) from patron

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D1601	Request type		1	M	Code	
D1602	Patron identifier	AA	0-1		String	
C1603	<i>Patron PIN / password</i>	AD	0-1			Composite element containing patron PIN or password, if required. Same structure as element C0001.
C1604	Check-in request item		1-n	MR		Composite element. Mandatory.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D1604.1	Request item number		0-1		Integer	Serial number
D1604.2	Item identifier	AB	1	M	String	
D1604.3	Item properties	CH	0-1		String	Descriptive information about the item.
<i>C1604.4</i>	<i>Item return date</i>		0-1			Composite element. In confirmation requests, the date the item was returned by the patron.
D1604.4.1	Date-time format		0-1		<u>Code</u>	The format in which the date-time is sent. Mandatory for systems that recognize multiple formats.
D1604.4.2	Date-time value		1	M	String	A string whose format conforms to the specified date-time format.

Response

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D1701	Response type		1²	M	<u>Code</u>	
D1702	Patron identifier	AA	1	M	String	
D1703	Number of items approved / confirmed		0-1		Integer	
<i>C1704</i>	<i>Approved / confirmed item</i>		0-n	R		Composite element. Mandatory if check-in of any items is approved or confirmed.
D1704.1	Request item reference		0-1		Integer	Mandatory if item request number is included in the request.
D1704.2	Item identifier	AB	1	M	String	
D1704.3	Item title detail	AJ	0-1		String	Title and author information for the item.
D1704.4	Item media type / format	CK	0-1		<u>Code</u>	
D1704.5	Item properties	CH	0-1		String	Other descriptive information about the item.
D1704.6	Permanent item location	AQ	0-1		String	Library code for the item's permanent location.
D1704.7	Item return sort bin	CL	0-1		String	LMS code for return sort bin
D1704.8	Item sensitive media warning		1	M	<u>Code</u>	Flag indicating that the item contains a media component that is sensitive to some security setting devices.
D1704.9	Re-sensitize item security		1	M	<u>Code</u>	Flag indicating that the security may or may not be re-sensitized / applied.
D1704.10	Item requires special attention		1	M	<u>Code</u>	Flag indicating that this item requires special attention before it is returned to its shelf location.
<i>C1704.11</i>	<i>Fee owed on this item</i>		0-n	R		Composite element containing a fee owed on this item. Repeatable if more than one fee is due. Same structure as element C1504.9.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D1705	Number of non-approved items		0-1		Integer	
<i>C1706</i>	<i>Non-approved item</i>		0-n	R		Composite element. Mandatory if check-in of any items is not approved.
D1706.1	Request item reference		0-1		Integer	Mandatory if item request number is included in the request.
D1706.2	Item identifier	AB	1	M	String	
D1706.3	Reason unable to approve		1	M	Code	Further information may be given in a response message. See element C0106.
<i>C1706.4</i>	<i>Fee owed on this item</i>		0-n	R		Composite element containing a fee owed on this item. Repeatable if more than one fee is due. Same structure as element C1504.8.

Make / confirm patron payment

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D1801	Patron identifier	AA	1	M	String	
<i>C1802</i>	<i>Patron PIN / password</i>	AD	0-1			Composite element containing patron PIN or password, if required. Same structure as element C0001.
C1803	Fee item detail		1-n	MR		Composite element containing details of a fee payment item. Repeatable if there are multiple fees of different types included in a single payment transaction.
D1803.1	Fee item number		0-1		Integer	Serial number
D1803.2	Fee identifier	CG	0-1		String	LMS identifier for specific fee to be paid off by this payment item. If omitted, the LMS uses its own business rules to allocate the payment. If included, it must be consistent with the fee type.
D1803.3	Fee type	BT	0-1		Code	The type or category of fee being paid
D1803.4	Fee amount	BV	1	M	Value	Currency value
D1803.5	Fee currency	BH	0-1		Code	ISO three-letter currency code, e.g. 'GBP'
D1804	Payment type		1	M	Code	
D1805	Payment type description		0-1		String	Further information on method of payment
D1806	Payment amount		0-1		Value	Currency value. Must be included if the payment currency is different from the fee currency.
D1807	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>M/R</i>	<i>Format</i>	<i>Description</i>
D1901	Response type		1	M	Code	
D1902	Patron identifier	AA	1	M	String	
<i>C1903</i>	<i>Accepted / confirmed fee item</i>		0-n	R		Composite element. Mandatory if payment of any fee item is accepted or confirmed.
D1903.1	Fee payment request item reference		0-1		Integer	Mandatory if a fee item number is included in the request
D1903.2	Fee identifier	CG	0-1		String	
D1903.3	Fee type		0-1		Code	
D1903.4	Fee description		0-1		String	
D1903.5	Fee amount	BV	1	M	Value	Currency value
D1903.6	Fee currency	BH	0-1		Code	ISO three-letter currency code, e.g. 'GBP'
<i>C1904</i>	<i>Non-accepted fee item</i>		0-n	R		Composite element. Mandatory if payment of any fee item is not accepted or confirmed.
D1904.1	Fee payment request item reference		0-1		Integer	Mandatory if a fee item number is included in the request
D1904.2	Fee identifier	CG	0-1		String	
D1904.3	Fee type		0-1		Code	
D1904.4	Fee description		0-1		String	
D1904.5	Reason unable to accept payment		1	M	Code	
D1904.6	Fee amount	BV	1	M	Value	Currency value
D1904.7	Fee currency	BH	0-1		Code	ISO three-letter currency code, e.g. 'GBP'

Block patron account

Used to prevent unauthorised use of a patron account, such as when the patron's library card is stolen or mislaid.

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D2001	Patron identifier	AA	1	M	String	
<i>C2002</i>	<i>Patron PIN / password</i>	AD	0-1			Composite element containing patron PIN or password, if required. Same structure as element C0001.
D2003	Library card retained		1	M	Code	
D2004	Blocked card message	AL	0-1		String	

Response

The response is the same as that for Retrieve patron information / status.

Additional functions:**Reserve item****Request**

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D2201	Request type	BO / BI	1	M	Code	Indicates type of request.
D2202	Patron identifier	AA	1	M	String	
C2203	<i>Patron PIN / password</i>	AD	0-1			Composite element containing patron PIN or password, if required. Same structure as element C0001.
D2204	Previous request ID		0-1		String	Used when modifying or cancelling a previous request, in which case this element contains the identifier of the previous request (see element D0005), and no further elements are required in this request.
C2205	<i>Item detail</i>		1-n	MR		Composite element. Mandatory. Repeatable if reserving multiple items.
D2205.1	Request item number		0-1		Integer	Serial number
D2205.2	Item identifier	AB	1	M	String	
D2205.3	Item title detail	AJ	0-1		String	Title and author information for the item.
D2205.4	Item properties	CH	0-1		String	Descriptive information about the item.
D2205.5	Reservation type	BY	0-1		<u>Code</u>	
C2205.6	<i>Pick-up institution identifier</i>	AO	0-1			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'. NOTE - This does not identify the institution in which the terminal is being used, which is specified by element C0003.
D2205.6.1	Identifier type		1	M	<u>Code</u>	The identification scheme
D2205.6.2	Identifier type name		0-1		String	If the identification scheme is proprietary, the name of the scheme.
D2205.6.3	Identifier value		1	M	String	The identifier string.
D2205.7	Pick-up location		0-1		String	Normally only included if the reservation type is '04'.
C2205.8	<i>Reservation expiry date</i>	AH	0-1			Composite element containing the date by which a reserved item will be picked up by the patron.
D2205.8.1	Date-time format		0-1		<u>Code</u>	The format in which the date-time is sent. Mandatory for systems that recognize multiple formats.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D2205.8.2	Date-time value		1	M	String	A string whose format conforms to the specified date-time format.

Response

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D2301	Response type		1²	M	Code	
D2302	Patron identifier	AA	1	M	String	
D2303	Number of items approved / confirmed		0-1		Integer	
<i>C2304</i>	<i>Approved / confirmed item</i>		0-n	R		Composite element. Mandatory if check-out or renewal of any items is approved or confirmed.
D2304.1	Request item reference		0-1		Integer	Mandatory if item request number is included in the request.
D2304.2	Item identifier	AB	1	M	String	
D2304.3	Item media type / format	CK	0-1		Code	
D2304.4	Item title detail	AJ	0-1		String	Title and author information for the item.
D2304.5	Item properties	CH	0-1		String	Other descriptive information about the item.
<i>C2304.6</i>	<i>Pick-up institution identifier</i>	AO	0-1			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'. NOTE - This does not identify the institution in which the terminal is being used, which is specified by element C0003.
D2304.6.1	Identifier type		1	M	Code	The identification scheme
D2304.6.2	Identifier type name		0-1		String	If the identification scheme is proprietary, the name of the scheme.
D2304.6.3	Identifier value		1	M	String	The identifier string.
D2304.7	Pick-up location		0-1		String	Normally only included if the reservation type is '04'.
<i>C2304.8</i>	<i>Reservation expiry date</i>	AH	0-1			Composite element containing the date on which the item is due to be returned. Mandatory if responding to a loan or renewal request or confirmation that is approved. Same structure as C2205.8.
<i>C2304.9</i>	<i>Item reservation fee</i>	BT / BV	0-1			Composite element containing the fee due for reservation of this item.
D2304.9.1	Fee identifier		0-1		String	LMS identifier for specific fee owed. If omitted, the fee type and fee amount must be included.

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D2304.9.2	Fee type	BT	0-1		<u>Code</u>	The type or category of fee.
D2304.9.3	Fee description		0-1		String	Free-text description of fee.
C2304.9.4	<i>Fee date</i>		0-1			Composite element containing the date on which the fee becomes due for payment.
D2304.9.4.1	Date-time format		0-1		<u>Code</u>	The format in which the date-time is sent. Mandatory for systems that recognize multiple formats.
D2304.9.4.2	Date-time value		1	M	String	A string whose format conforms to the specified date-time format.
D2304.9.5	Fee amount	BV	1	M	Value	Currency value
D2304.9.6	Fee currency	BH	0-1		Code	ISO three-letter currency code, e.g. 'GBP'
D2305	Number of non-approved items		0-1		Integer	
C2306	<i>Non-approved item</i>		0-n	R		Composite element. Mandatory if reservation of any items is not approved.
D2306.1	Request item reference		0-1		Integer	Mandatory if item request number is included in the request.
D2306.2	Item identifier	AB	1	M	String	
D2306.3	Reason unable to approve		1	M	<u>Code</u>	Further information may be given in a response message. See element C0106.

Modify/update item information

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D2401	Modification type		1	M	<u>Code</u>	The type of modification being requested. The elements contained in the request must be consistent with the modification type specified.
D2402	Item identifier	AB	1	M	String	The primary identifier for the inventory item.
C2403	<i>Additional item identifier</i>		0-n	R		Composite element containing details of an additional identifier for the item.
D2403.1	Identifier type		1	M	<u>Code</u>	The identification scheme
D2403.2	Identifier type name		0-1		String	If the identification scheme is proprietary, the name of the scheme.
D2403.3	Identifier value		1	M	String	The identifier string.
C2404	Item media type / format	CK	0-1		<u>Code</u>	
C2405	<i>Item title</i>	AJ	0-n	R		Composite element containing title of the item. Repeatable for multiple types of title (e.g. full title, abbreviated title)

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D2405.1	Title type		1	M	Code	
D2405.2	Title text		1	M	String	
D2405.3	Subtitle		0-1		String	
C2406	<i>Item contributor</i>		0-n	R		Composite element containing item author or other contributor. Repeatable for multiple contributors.
D2406.1	Contributor role		1	M	Code	Contributor role code from ONIX Code List 17.
D2406.2	Contributor name		0-1		String	Either a contributor name or an unnamed contributor code must be included in each item contributor composite.
D2406.3	Unnamed contributor		0-1		Code	
C2407	<i>Item series</i>		0-1			Composite element containing information about a series of which this item is a member.
C2407.1	<i>Series title</i>		0-n	R		Composite element containing the title of the series. Repeatable for multiple types of title.
D2407.1.1	Title type		1	M	Code	
D2407.1.2	Title text		1	M	String	
D2407.1.3	Subtitle		0-1		String	
D2407.2	Item volume or part		0-1		String	Volume or part number within series
D2407.3	Identifier of other item within series		0-n	R	String	The primary identifier of another item in the same series
D2408	Item edition statement		0-1		String	Edition of the item
D2409	Item publisher name		0-1		String	Name of the publisher of the item
D2410	Item year of publication		0-1		YYYY	Year of publication of the item
D2411	Item properties	CH	0-1		String	Other descriptive information about the item.
C2412	<i>Item cover art</i>		0-n			Link to item cover artwork. The structure of this element is outside the scope of this standard. It is recommended that this be implemented using the HTML element or equivalent.
D2413	Item owner	BG	0-1		String	Library code for owner of the item.
D2414	Permanent item location	AQ	0-1		String	Library code for the item's permanent location.
D2415	Current item location	AP	0-1		String	Library code for the item's current location.
C2416	<i>Loan characteristic</i>		0-n	R		Composite element containing details of a characteristic of the loan of this item, e.g. loan period. Repeatable for multiple characteristic types.
D2416.1	Characteristic type		1	M	Code	The type of loan characteristic

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D2416.2	Characteristic code / value		1	M	String	Characteristic value of the specified type.
D2416.3	Characteristic note		0-1		String	Free-text note or description of the characteristic.
<i>C2417</i>	<i>Check-out restriction</i>		0-n	R		Composite element containing details of a restriction on check-out of this item. Repeatable for multiple restriction types.
D2417.1	Restriction type		1	M	Code	The type of restriction imposed
D2417.2	Restriction code / value		1	M	String	Restriction value of the specified type.
D2417.3	Restriction note		0-1		String	Free-text note or description of the restriction.
<i>C2418</i>	<i>Check-out fee</i>		0-n	R		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.
D2418.1	Fee type	BT	1	M	Code	
D2418.2	Fee amount	BV	1	M	Value	Currency value
D2418.3	Fee currency	BH	0-1		Code	ISO three-letter currency code, e.g. 'GBP'
D2419	Circulation status		1	M	Code	Current circulation status
D2420	Number of patrons in hold queue	CF	0-1		Integer	
<i>C2421</i>	<i>Due date</i>	AH	0-1			Composite element containing the date by which an item on loan should be either checked in or renewed.
D2421.1	Date-time format		0-1		Code	The format in which the date-time is sent. Mandatory for systems that recognize multiple formats.
D2421.2	Date-time value		1	M	String	A string whose format conforms to the specified date-time format.
<i>C2422</i>	<i>Recall note date</i>	CJ	0-1			Composite element containing the date on which a recall notice for the item was issued. Same structure as element C1122.
<i>C2423</i>	<i>Pickup by date</i>	CM	0-1			Composite element containing the date by which a reserved item must be collected by the patron. Same structure as element C1122.

Response

The response is the same as that for Retrieve item information. Details included in the response must include the modified/updated elements. If the request is denied by the LMS, an exception code value '07' should be used in the response (see element D0104).

Modify/update patron information

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D2601	Modification type		1	M	Code	The type of modification being requested. The elements contained in the request must be consistent with the modification type specified.
D2602	Patron identifier	AA	1	M	String	
<i>C2603</i>	<i>Patron PIN / password</i>	AD	0-1			Composite element containing patron PIN or password. For use by terminal in patron verification. Same structure as element C0001.
D2604	Patron name	AE	0-1		String	
D2605	Patron address	BD	0-n	R	String	Repeatable if address is divided into multiple lines.
<i>C2606</i>	<i>Patron communication details</i>		0-n	R		Composite element containing a single communication number, address or locator for the patron. Repeatable for different communication types.
D2606.1	Communication type		1	M	Code	
D2606.2	Communication locator		1	M	String	The number, address or locator
<i>C2607</i>	<i>Patron status</i>		0-1			Composite element containing a combination of zero or more conditions.
D2607.1	Condition		0-n	R	Code	ANSI/NISO Z39.70 condition code
D2608	Patron language		0-1		Code	ISO three-letter language code, e.g. 'eng'
D2609	Loan items limit	CB	0-1		Integer	
D2610	Hold items limit	BZ	0-1		Integer	
D2611	Overdue items limit	CA	0-1		Integer	

Response

The response is the same as that for Retrieve patron information / status. Details included in the response must include the modified/updated elements. If the request is denied by the LMS, an exception code value '08' should be used in the response (see element D0104).

Un-block patron

Request

<i>Id</i>	<i>Element</i>	<i>SIP2 ID</i>	<i>Card.</i>	<i>M/R</i>	<i>Format</i>	<i>Description</i>
D2801	Patron identifier	AA	1	M	String	
<i>C2802</i>	<i>Patron PIN / password</i>	AD	0-1			Composite element containing patron PIN or password, if required. Same structure as element C0001.

Response

The response is the same as that for Retrieve patron information / status.

Code lists

NOTE – Code lists may be revised independently and more frequently than the overall data framework. A number of code lists that are either empty or contain legacy code values are expected to be revised as a matter of priority.

Encryption algorithm

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
		Code list to be defined

Institution identifier type

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
		Code list to be defined

Terminal location

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
		Code list to be defined

Date or Date-time format

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
00	YYYYMMDDTHHMMSS	The 'T' is a fixed character separating the date and time components, as defined by ISO 8601.
01	YYYY-MM-DDTHH:MM:SS	
10	YYYYMMDD	
11	YYYY-MM-DD	

Exception condition response

NOTE - In a web service implementation some of these responses may be carried by an HTTP response code rather than in the response payload. If several exception conditions apply, the HTTP response code 207 (multi-status) may be appropriate.

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
01	Service unavailable	Equivalent to HTTP response code 503
02	invalid user ID or password	Equivalent to HTTP response code 401
03	Service unable to process request	
04	Invalid item ID	For use in all Item-specific responses
05	Invalid patron ID or password	For use in responses to check-in, renewal and payment requests and confirmations
06	Invalid payment type	
07	Request to modify item information denied	
08	Request to modify patron information denied	

Item identification scheme (based upon ONIX Code List 5)

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
01	Proprietary	
02	ISBN-10	10-digit ISBN
03	GTIN-13	normally used for 13-digit ISBN
05	ISMN	
14	GTIN-14	
17	Legal deposit number	

Item detailed information type

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
00	All item detailed information	A short-hand for requesting all detailed information that is available for the item.
01	Item media type / format	Element D1103
02	Title on item	Element C1104, title type '01'
03	Other item titles	Element C1104, all other title types, plus element C1106, if any, all title types
04	Contributor details	Element C1105
05	Other item descriptive information	Elements D1107 – D1113
10	Item owner information	Element D1114
11	Item location information	Elements D1115 and D1116
12	Item loan characteristics	Element C1117
13	Item check-out restrictions and fees	Elements C1118 and C1119
14	Item circulation information	Elements D1121 – C1123. NOTE – element D1120 is mandatory in all responses.

Item media type / format

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
000	Other / unknown	
001	Book	
002	Magazine	
003	Bound journal	
004	Audio tape	
005	Video tape (VHS or Betamax)	
006	Data or software CD / CD-ROM	
007	Magnetic diskette	
008	Book with magnetic diskette	
009	Book with CD / CD-ROM	
010	Book with audio tape	

NOTE – This code list is to be revised in consultation with libraries. The existing codes are retained for reasons of backwards-compatibility.

Title type (based upon ONIX Code List 15)

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
00	Undefined	
01	Title on item	
03	Title in original language	
05	Abbreviated title	
11	Alternative title on cover	
13	Expanded title	

Unnamed contributor type (based upon ONIX Code List 11)

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
01	Unknown	
02	Anonymous	
03	et al.	

Message display type

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
01	Whole message (e.g. for screen display)	
02	Single line of message (e.g. for printing)	

Loan characteristic type

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
01	Loan period	Suggested code values: '01' Standard (default value) '02' Short

Check-out restriction type

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
01	Lower age limit	Value is the lower age limit in years. Default value is 'unspecified'.

Fee or fine type

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
00	Aggregate	Default value in fee total elements
01	Other / unknown	
02	Administrative	
03	Damage	
04	Overdue	
05	Processing	
06	Rental	
07	Replacement	
08	Computer access charge	
09	Hold fee	

Circulation status (based upon SIP2 code list)

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
01	Other / unknown	
02	On order	
03	Available	
04	On loan (charged)	
05	On loan (charged) – not to be recalled until earliest recall date	
06	In process	
07	Recalled	
08	Waiting on hold shelf	
09	Waiting to be re-shelved	
10	In transit between library locations	
11	Claimed returned	
12	Lost	
13	Missing	

Patron detailed information type

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
00	All details	
01	No details – i.e. status only	
10	Items on loan	
11	Hold items	
12	Overdue items	
13	Recalled items	
14	Unavailable hold items	
21	Fees, other than fines, owed	
22	Fines owed	

Communication type

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
01	Phone number – unspecified type	
02	Home phone number	
03	Business phone number	
04	Mobile phone number	
11	Email address	

Patron status condition type (based upon ANSI/NISO Z39.70)

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
00	Loan (charge) privileges denied	
01	Renewal privileges denied	
02	Recall privileges denied	

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
03	Hold privileges denied	
04	Card reported lost	
05	Too many items loaned	
06	Too many items overdue	
07	Too many renewals	
08	Too many claims of items returned	
09	Too many items lost	
10	Excessive outstanding fines	
11	Excessive outstanding fees other than fines	
12	Recall overdue	
13	Too many items billed	

Loan status

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
01	On loan to this patron	
02	Overdue from this patron	
03	Recalled	
08	Fees, other than fine, owed	
09	Fine owed	
10	In transit between library locations	
11	Claimed returned by this patron	
12	Lost	
13	Missing	
14	In hold queue for this patron	
15	Unavailable hold item	

Check-out / renewal request type

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
01	New loan request	
02	New loan confirmation	LMS may not block a confirmation, as the item has already been loaned.
11	Patron renewal request, for all items currently on loan to patron	
12	Patron renewal confirmation, for all items currently on loan to patron	LMS may not block a confirmation, as the item has already been loaned.
13	Third party renewal request, for all items currently on loan to patron	
14	Third party renewal confirmation, for all items currently on loan to patron	LMS may not block a confirmation, as the item has already been loaned.
15	Patron renewal request, for specified items	
16	Patron renewal confirmation, for specified items	LMS may not block a confirmation, as the item has already been loaned.

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
17	Third party renewal request, for specified items	
18	Third party renewal confirmation, for specified items	LMS may not block a confirmation, as the item has already been loaned.
20	Loan / renewal fee quotation request only	Not a loan request or confirmation, but simply a request for a loan or renewal fee quotation
30	Cancel previous request	Cancels the previous new loan or renewal request for the same item. If there was no previous request or too long a pause since the previous request, the response should contain exception condition '03'.

Allow fees flag

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
01	Allow fees on items for which loan or renewal fees are applicable	
02	Do not allow fees	The item may not be checked out if fees apply.

Check-out / renewal / check-in / reservation response type

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
01	Request approved	
02	Confirmation acknowledged	
03	Unable to approve some/all items in request	
20	Response to quotation request	
30	Previous request cancelation accepted	

Media warning flag

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
00	Unspecified / not applicable	
01	Item contains magnetic media	
02	Item does not contain magnetic media	

Security desensitization flag

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
00	Unspecified / not applicable	
01	Item security may be desensitized / removed	
02	Item security may not be desensitized / removed	

Reason for inability to approve request

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
01	Item status exception	The LMS is unable to check out, renew or check in an item due to its current status.
02	Patron status exception	The LMS is unable to check out or renew an item due to the patron's current status.

Check-in request type

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
01	Check-in request	
02	Check-in confirmation	LMS may not block request, as the item has already been returned.
30	Cancel previous check-in request	Cancels the previous request to check in the same item. If there was no previous request or too long a pause since the previous request, the response should contain exception condition '03'.

Security re-sensitization flag

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
00	Unspecified / not applicable	
01	Item security may be re-sensitized	
02	Item security may not be re-sensitized	

Special attention required flag

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
00	Item does not require special attention	
01	Item requires special attention (unspecified)	

Payment type

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
00	Cash	
01	VISA	Probably DEPRECATED, since the card could be a debit or credit card.
02	Credit card – unspecified type	
03	Debit card – unspecified type	
04	E-payment – unspecified type	Probably using some form of online banking

Payment response type

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
01	Payment accepted / acknowledged	
02	Unable to accept payment – see message	Further information, if any, should be conveyed in response message.
03	Unable to accept some/all payment items in request – see detail	

Reason for inability to accept payment

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
01	Invalid fee type	
02	Fee identifier and fee type are inconsistent	

Patron's library card retained indicator

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
00	Card retained by patron	
01	Card retained by library staff	

Reservation request type

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
01	Reservation request	
03	Modify previous reservation request	
20	Reservation fee quotation request only	Not a reservation request, but simply a request for a reservation fee quotation
30	Cancel previous reservation request	Cancels the previous request to reserve the same item. If there was no previous request or too long a pause since the previous request, the response should contain exception condition '03'.

Reservation type

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
01	Other	
02	Any copy of the item	
03	A specific copy of the item	The item identifier must specify the specific copy to be reserved
04	Any copy of the item at a specified branch library or sub-location	The institution identifier and/or location must specify the branch library and/or sub-location

Item information modification type

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
		Code values below '50' are for modification by replacement of all current information in the specified category.
00	Replace all modifiable information	Replace all current information (in those categories that are allowed to be modified) with the information contained in this request.
01	Change item media type / format	
02	Change title on item	
03	Replace other item titles	
04	Replace contributor details	
05	Replace additional item identifiers	
06	Replace item series titles	
07	Change item volume or part	
08	Replace identifiers of other items within series	
09	Change edition statement	
10	Change publisher name	
11	Change year of publication	
12	Change item properties	

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
13	Replace item cover art	
14	Change item owner	
15	Change permanent item location	
16	Change current item location	
17	Replace item loan characteristics	
18	Replace item check-out restrictions	
19	Replace check-out fees	
20	Change circulation status	
		Code values above '50' are for modification by addition to the current information in the specified category.
53	Add other item titles	
54	Add contributor details	
55	Add additional item identifier	
56	Add item series titles	
58	Add identifiers of other items within series	
59	Add item cover art	
67	Add item loan characteristics	
68	Add item check-out restrictions	
69	Add check-out fees	

NOTE – A Library Management System may not allow a terminal application to make specific types of modification to item information, in which case exception condition response code value '07' should be included in the response.

Patron information modification type

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
		Code values below '50' are for modification by replacement of all current information in the specified category.
00	Replace all modifiable information	Replace all current information (in those categories that are allowed to be modified) with the information contained in this request.
01	Change patron name	
02	Replace patron addresses	
03	Replace patron communication details	
04	Replace patron status conditions	
05	Change patron language	
06	Change loan items limit	
07	Change hold items limit	
08	Change overdue items limit	
		Code values above '50' are for modification by addition to the current information in the specified category.
52	Add patron addresses	

<i>Code value</i>	<i>Definition</i>	<i>Notes</i>
53	Add patron communication details	
54	Add patron status conditions	

NOTE – A Library Management System may not allow a terminal application to make specific types of modification to patron information, in which case exception condition response code value '08' should be included in the response.

Web service implementations

[NOTE - This section is new in this draft, but is not coloured red for reasons of readability]

Retrieve item information

Format for request message using the HTTP GET method with the basic HTTP protocol

Requests using the basic HTTP protocol and the HTTP GET method should include in the URL a query string containing parameters as specified below.

	Element ID	Parameter name	Card.	M/R	Notes
1		RequestVersion	1	M	Each request must identify the version of the message format that is being used. The current version is '0.9'
2	D0001.1	ClientIDEncryptionType	0-1		It is recommended that client authentication should be carried out using normal HTTP authorization, in which case elements C0001 and C0002 should not be included in the request parameters.
3	D0001.2	ClientIDValue	0-1		
4	D0002.1	PasswordEncryptionType	0-1		
5	D0002.2	PasswordValue	0-1		
6	C0003	InstitutionID	0-1		
7	D0003.1	InstitutionIDType	1	M	
8	D0003.2	IDTypeName	0-1		
9	D0003.3	IDValue	1	M	
10	D0004	TerminalLocation	0-1		
11	D0005	RequestID	0-1		
12	D0006.1	RequestDateTimeFormat	0-1		
13	D0006.2	RequestDateTime	0-1		
14	D1001	ItemID	1	M	
15	D1002	ItemDetailedInformation	0-1		Contains one or more code values separated by the '+' character

Example of a Request using the HTTP protocol and HTTP GET method

<http://192.168.0.99/ItemInformation?RequestVersion=0.9&ItemID=1234567890&ItemDetailedInformation=01+02+04>

XML payload format for request message using the HTTP POST method with either SOAP or the basic HTTP protocol

Requests using the SOAP protocol should use the HTTP POST method and include a request document as the body of a SOAP request message.

	Element ID	XML structure	Card.	M/R	Notes
1		BICLISItemInformationRequest version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
2	C0001	ClientID	0-1		It is recommended that client

	<i>Element ID</i>	<i>XML structure</i>	<i>Card.</i>	<i>M/R</i>	<i>Notes</i>
					authentication should be carried out using normal HTTP authorization, in which case elements C0001 and C0002 should not be included in the request document.
3	D0001.1	EncryptionType	0-1		
4	D0001.2	Value	1	M	
5	C0002	Password	0-1		
6	D0002.1	EncryptionType	0-1		
7	D0002.2	Value	1	M	
8	C0003	InstitutionID	0-1		
9	D0003.1	InstitutionIDType	1	M	
10	D0003.2	IDTypeName	0-1		
11	D0003.3	IDValue	1	M	
12	D0004	TerminalLocation	0-1		
13	D0005	RequestID	0-1		
14	C0006	RequestDateTime	0-1		
15	D0006.1	DateTimeFormat	0-1		
16	D0006.2	DateTime	1	M	
17	C1001	ItemID	1	M	
18	D1002	ItemDetailedInformation	0-1		Contains a space-separated list of code values

Example of a Request XML payload using either the SOAP or the HTTP protocol and the HTTP POST method:

```
<BICLISItemInformationRequest version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/iteminformation">
  <ItemID>1234567890</ItemID>
  <ItemDetailedInformation>01 02 04</ItemDetailedInformation>
</BICLISItemInformationRequest>
```

XML payload format for response message

The Response will use the protocol corresponding to the Request. If the Request uses the basic HTTP protocol, the Response will be an XML document as specified below attached to a normal HTTP header. If the Request uses the SOAP protocol, the Response will contain a SOAP response message whose body will contain the XML document specified below.

	<i>Element ID</i>	<i>XML structure</i>	<i>Card.</i>	<i>M/R</i>	<i>Notes</i>
1		BICLISItemInformationResponse version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
2	D0101	ResponseID	0-1		
3	D0102	RequestReference	0-1		
4	C0103	ResponseDateTime	0-1		
5	D0103.1	DateTimeFormat	0-1		
6	D0103.2	DateTime	1	M	
7	D0104	ExceptionCode	0-n	R	

	<i>Element ID</i>	<i>XML structure</i>	<i>Card.</i>	<i>M/R</i>	<i>Notes</i>
8	D0105	ExceptionDescription	0-1		
9	C0106	ResponseMessage	0-n	R	
10	D0106.1	MessageDisplayType	1	M	
11	D0106.2	MessageLine	1-n	MR	
12	D1101	ItemID	1	M	
13	C1102	AdditionalItemID	0-n	R	
14	D1102.1	ItemIDType	1	M	
15	D1102.2	IDTypeName	0-1		
16	D1102.3	IDValue	1	M	
17	D1103	FormatCode	0-1		
18		ItemDescription	0-1		
19	C1104	Title	0-n	R	
20	D1104.1	TitleType	1	M	
21	D1104.2	TitleText	1	M	
22	D1104.3	Subtitle	0-1		
23	C1105	Contributor	0-n	R	
24	D1105.1	ContributorRole	1	M	
25	D1105.2	ContributorName	0-1		
26	D1105.3	UnnamedContributor	0-1		
27	C1106	Series	0-1		
28	C1106.1	SeriesTitle	0-n	R	
29	D1106.1.1	TitleType	1	M	
30	D1106.1.2	TitleText	1	M	
31	D1106.1.3	Subtitle	0-1		
32	D1106.2	VolumeOrPart	0-1		
33	D1106.3	OtherSeriesItemID	0-n	R	
34	D1107	EditionStatement	0-1		
35	D1108	PublisherName	0-1		
36	D1109	YearOfPublication	0-1		
37	D1110	OtherDescription	0-1		
38	C1111	CoverArt	0-n	R	
39	D1112	Owner	0-1		
40	D1113	PermanentLocation	0-1		
41	D1114	CurrentLocation	0-1		
42	C1115	LoanCharacteristic	0-n	R	
43	D1115.1	CharacteristicType	1	M	
44	D1115.2	CharacteristicValue	1	M	
45	D1115.3	CharacteristicNote	0-1		
46	C1116	LoanRestriction	0-n	R	
47	D1116.1	RestrictionType	1	M	

	Element ID	XML structure	Card.	M/R	Notes
48	D1116.2	RestrictionValue	1	M	
49	D1116.3	RestrictionNote	0-1		
50	C1117	LoanFee	0-n	R	
51	D1117.1	FeeType	1	M	
52	D1117.2	FeeAmount	1	M	
53	D1117.3	FeeCurrency	0-1		
54	D1118	CirculationStatus	1	M	
55	D1119	PatronsInHoldQueue	0-1		
56	C1120	DueDate	0-1		
57	D1120.1	DateTimeFormat	0-1		
58	D1120.2	DateTime	1	M	
59	C1121	RecallNoticeDate	0-1		
60	D1121.1	DateTimeFormat	0-1		
61	D1121.2	DateTime	1	M	
62	C1122	PickupByDate	0-1		
63	D1122.1	DateTimeFormat	0-1		
64	D1122.2	DateTime	1		

Example of a Response XML payload:

```
<BICLISItemInformationResponse version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/iteminformation">
  <ItemID>1234567890</ItemID>
  <FormatCode>001</FormatCode>
  <ItemDescription>
    <Title>
      <TitleType>01</TitleType>
      <TitleText>Title on book</TitleText>
    </Title>
    <Contributor>
      <ContributorRole>A01</ContributorRole>
      <ContributorName>Smith, J.</ContributorName>
    </Contributor>
  </ItemDescription>
  <CirculationStatus>03</CirculationStatus>
</BICLISItemInformationResponse>
```

Retrieve patron information / status

Format for request message using the HTTP GET method with the basic HTTP protocol

Requests using the basic HTTP protocol and the HTTP GET method should include in the URL a query string containing parameters as specified below.

	Element ID	Parameter name	Card.	M/R	Notes
1		RequestVersion	1	M	Each request must identify the version of the message format that is being used. The current version is '0.9'
2	D0001.1	ClientIDEncryptionType	0-1		It is recommended that client authentication should be carried out using normal HTTP authorization, in which case elements C0001

	Element ID	Parameter name	Card.	M/R	Notes
					and C0002 should not be included in the request parameters.
3	D0001.2	ClientIDValue	0-1		
4	D0002.1	PasswordEncryptionType	0-1		
5	D0002.2	PasswordValue	0-1		
6	C0003	InstitutionID	0-1		
7	D0003.1	InstitutionIDType	1	M	
8	D0003.2	IDTypeName	0-1		
9	D0003.3	IDValue	1	M	
10	D0004	TerminalLocation	0-1		
11	D0005	RequestID	0-1		
12	D0006.1	RequestDateTimeFormat	0-1		
13	D0006.2	RequestDateTime	0-1		
14	D1201	PatronID	1	M	
15	D1202	PatronDetailedInformation	1	M	Contains one or more code values separated by the '+' character
16	D1203	PatronLanguage	1	M	

Example of a Request using the HTTP protocol and HTTP GET method

http://192.168.0.99/PatronInfoStatus?RequestVersion=0.9&PatronID=X12345
&PatronDetailedInformation=10+12+13&PatronLanguage=eng

XML payload format for request message using the HTTP POST method with either SOAP or the basic HTTP protocol

Requests using the SOAP protocol should use the HTTP POST method and include a request document as the body of a SOAP request message.

	Element ID	XML structure	Card.	M/R	Notes
1		BICLISPatronInfoStatusRequest version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
2	C0001	ClientID	0-1		It is recommended that client authentication should be carried out using normal HTTP authorization, in which case elements C0001 and C0002 should not be included in the request document.
3	D0001.1	EncryptionType	0-1		
4	D0001.2	Value	1	M	
5	C0002	Password	0-1		
6	D0002.1	EncryptionType	0-1		
7	D0002.2	Value	1	M	
8	C0003	InstitutionID	0-1		
9	D0003.1	InstitutionIDType	1	M	
10	D0003.2	IDTypeName	0-1		
11	D0003.3	IDValue	1	M	
12	D0004	TerminalLocation	0-1		

	<i>Element ID</i>	<i>XML structure</i>	<i>Card.</i>	<i>M/R</i>	<i>Notes</i>
13	D0005	RequestID	0-1		
14	C0006	RequestDateTime	0-1		
15	D0006.1	DateTimeFormat	0-1		
16	D0006.2	DateTime	1	M	
17	D1201	PatronID	1	M	
18	D1202	RequestedPatronInformation	1	M	Contains a space-separated list of code values
19	D1203	PatronLanguage	1	M	

Example of a Request XML payload using either the SOAP or the HTTP protocol and the HTTP POST method:

```
<BICLISPatronInfoStatusRequest version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/patroninfostatus">
  <PatronID>X12345</PatronID>
  <RequestedPatronInformation>10 12 13</RequestedPatronInformation>
  <PatronLanguage>eng</PatronLanguage>
</BICLISPatronInfoStatusRequest>
```

XML payload format for response message

The Response will use the protocol corresponding to the Request. If the Request uses the basic HTTP protocol, the Response will be an XML document as specified below attached to a normal HTTP header. If the Request uses the SOAP protocol, the Response will contain a SOAP response message whose body will contain the XML document specified below.

	<i>Element ID</i>	<i>XML structure</i>	<i>Card.</i>	<i>M/R</i>	<i>Notes</i>
1		BICLISPatronInfoStatusResponse version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
2	D0101	ResponseID	0-1		
3	D0102	RequestReference	0-1		
4	C0103	ResponseDateTime	0-1		
5	D0103.1	DateTimeFormat	0-1		
6	D0103.2	DateTime	1	M	
7	D0104	ExceptionCode	0-n	R	
8	D0105	ExceptionDescription	0-1		
9	C0106	ResponseMessage	0-n	R	
10	D0106.1	MessageDisplayType	1	M	
11	D0106.2	MessageLine	1-n	MR	
12	D1301	PatronID	1	M	
13	C1302	PatronPassword	0-1		
14	D1302.1	EncryptionType	0-1		
15	D1302.2	Value	1	M	
16	D1303	PatronName	0-1		
17	D1304	PatronAddressLine	0-n	R	
18	C1305	PatronCommunicationDetail	0-n	R	
19	D1305.1	CommunicationType	1	M	

	<i>Element ID</i>	<i>XML structure</i>	<i>Card.</i>	<i>M/R</i>	<i>Notes</i>
20	D1305.2	CommunicationLocator	1	M	
21	D1306	PatronStatus	1	M	Contains a space-separated list of zero or more condition codes.
22	D1307	PatronLanguage	1	M	
23	D1308	TotalOnLoanItems	1	M	
24	D1309	TotalOverdueItems	1	M	
25	D1310	TotalRecalledItems	1	M	
26	D1311	TotalFeesDueItems	1	M	
27	D1312	TotalFinesDueItem	1	M	
28	D1313	TotalAvailableHoldItems	1	M	
29	D1314	TotalUnavailableHoldItems	1	M	
30	D1315	LoanItemsLimit	0-1		
31	D1316	HoldItemsLimit	0-1		
32	D1317	OverdueItemsLimit	0-1		
33	C1318	TotalFeesOwed	0-1		
34	D1318.1	FeeType	0-1		
35	D1318.2	FeeAmount	1	M	
36	D1318.3	Currency	0-1		
37	C1319	TotalAnticipatedFines	0-1		
38	D1319.1	FineType	0-1		
39	D1319.2	FineAmount	1	M	
40	D1319.3	Currency	0-1		
41	C1320	FeeLimit	0-1		
42	D1320.1	FeeType	0-1		
43	D1320.2	FeeAmount	1	M	
44	D1320.3	Currency	0-1		
45	C1321	ItemDetail	0-n	R	
46	D1321.1	ItemID	1	M	
47	D1321.2	LoanStatus	1	M	Contains a space-separated list of loan status codes applying to this item.
48	C1322	FeeOwed	0-n	R	
49	D1322.1	FeeID	0-1		
50	D1322.2	FeeType	0-1		
51	D1322.3	FeeDescription	0-1		
52	D1322.4	FeeRelatedItem	0-1		
53	C1322.5	FeeDateTime	0-1		
54	D1322.5.1	DateTimeFormat	0-1		
55	D1322.5.2	DateTime	1	M	
56	D1322.6	FeeAmount	1	M	
57	D1322.7	Currency	0-1		

Example of a Response XML payload:

```
<BICLISPatronInfoResponseStatusResponse version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/patroninfostatus">
  <PatronID>X12345</PatronID>
  <PatronStatus>04</PatronStatus>
  <PatronLanguage>eng</PatronLanguage>
  <TotalOnLoanItems>2</TotalOnLoanItems>
  <TotalOverdueItems>2</TotalOverdueItems>
  <TotalRecalledItems>0</TotalRecalledItems>
  <TotalFeesDueItems>0</TotalFeesDueItems>
  <TotalFinesDueItems>0</TotalFinesDueItems>
  <TotalAvailableHoldItems>0</TotalAvailableHoldItems>
  <TotalUnavailableHoldItems>0</TotalUnavailableHoldItems>
  <ItemDetail>
    <ItemID>1234567890</ItemID>
    <LoanStatus>02</LoanStatus>
  </ItemDetail>
  <ItemDetail>
    <ItemID>1987654320</ItemID>
    <LoanStatus>02</LoanStatus>
  </ItemDetail>
</BICLISPatronInfoResponseStatusResponse>
```

Check-out / renew item(s) to patron**Format for request message using the HTTP GET method with the basic HTTP protocol**

Requests using the basic HTTP protocol and the HTTP GET method should include in the URL a query string containing parameters as specified below.

	Element ID	Parameter name	Card.	M/R	Notes
1		RequestVersion	1	M	Each request must identify the version of the message format that is being used. The current version is '0.9'
2	D0001.1	ClientIDEncryptionType	0-1		It is recommended that client authentication should be carried out using normal HTTP authorization, in which case elements C0001 and C0002 should not be included in the request parameters.
3	D0001.2	ClientIDValue	0-1		
4	D0002.1	PasswordEncryptionType	0-1		
5	D0002.2	PasswordValue	0-1		
6	C0003	InstitutionID	0-1		
7	D0003.1	InstitutionIDType	1	M	
8	D0003.2	IDTypeName	0-1		
9	D0003.3	IDValue	1	M	
10	D0004	TerminalLocation	0-1		
11	D0005	RequestID	0-1		
12	D0006.1	RequestDateTimeFormat	0-1		
13	D0006.2	RequestDateTime	0-1		
14	D1401	RequestType	1	M	
15	D1402	PatronID	1	M	
16	D1403.1	PatronPasswordEncryptionType	0-1		
17	D1403.2	PatronPasswordValue	0-1		

	Element ID	Parameter name	Card.	M/R	Notes
18	D1404	PreviousRequestReference	0-1		
19	D1405.2	ItemID	0-1		Mandatory when checking out an item. May be omitted when renewing all items currently on loan to the specified patron.
20	D1405.3	ItemTitleDetail	0-1		
21	D1405.4	ItemProperties	0-1		
22	D1405.5.1	ItemDueDateTimeFormat	0-1		
23	D1405.5.2	ItemDueDateTime	0-1		

Examples of Requests using the HTTP protocol and HTTP GET method

<http://192.168.0.99/CheckOutRenew?RequestVersion=0.9&RequestType=01&PatronID=X12345&ItemID=1234567890>

<http://192.168.0.99/CheckOutRenew?RequestVersion=0.9&RequestType=11&PatronID=X12345>

XML payload format for request message using the HTTP POST method with either SOAP or the basic HTTP protocol

Requests using the SOAP protocol should use the HTTP POST method and include a request document as the body of a SOAP request message.

	Element ID	XML structure	Card.	M/R	Notes
1		BICLISCheckOutRenewRequest version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
2	C0001	ClientID	0-1		It is recommended that client authentication should be carried out using normal HTTP authorization, in which case elements C0001 and C0002 should not be included in the request document.
3	D0001.1	EncryptionType	0-1		
4	D0001.2	Value	1	M	
5	C0002	Password	0-1		
6	D0002.1	EncryptionType	0-1		
7	D0002.2	Value	1	M	
8	D0004	TerminalLocation	0-1		
9	D0005	RequestID	0-1		
10	C0006	RequestDateTime	0-1		
11	D0006.1	DateTimeFormat	0-1		
12	D0006.2	DateTime	1	M	
13	D1401	RequestType	1	M	
14	D1402	PatronID	1	M	
15	C1403	PatronPassword	0-1		
16	D1403.1	EncryptionType	0-1		
17	D1403.2	Value	1	M	
18	D1404	PreviousRequestReference	0-1		
19	C1405	ItemDetail	0-n	R	

	<i>Element ID</i>	<i>XML structure</i>	<i>Card.</i>	<i>M/R</i>	<i>Notes</i>
20	D1405.1	ItemNumber	0-1		
21	D1405.2	ItemID	1	M	
22	D1405.3	ItemTitleDetail	0-1		
23	D1405.4	ItemDescription	0-1		
24	C1405.5	ItemDueDateTime	0-1		
25	D1405.5.1	DateTimeFormat	0-1		
26	D1405.5.2	DateTime	1	M	
27	C1406	DueDateTime	0-1		
28	D1406.1	DateTimeFormat	0-1		
29	D1406.2	DateTime	1	M	

Example of a Request XML payload using either the SOAP or the HTTP protocol and the HTTP POST method:

```
<BICLISCheckOutRenewRequest version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/checkoutrenew">
  <RequestType>01</RequestType>
  <PatronID>X12345</PatronID>
  <ItemDetail>
    <ItemID>1234567890</ItemID>
  </ItemDetail>
  <ItemDetail>
    <ItemID>9876543210</ItemID>
  </ItemDetail>
  <DueDateTime>
    <DateTime>20110301</DateTime>
  </DueDateTime>
</BICLISCheckOutRenewRequest>
```

XML payload format for response message

The Response will use the protocol corresponding to the Request. If the Request uses the basic HTTP protocol, the Response will be an XML document as specified below attached to a normal HTTP header. If the Request uses the SOAP protocol, the Response will contain a SOAP response message whose body will contain the XML document specified below.

	<i>Element ID</i>	<i>XML structure</i>	<i>Card.</i>	<i>M/R</i>	<i>Notes</i>
1		BICLISCheckOutRenewResponse version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
2	D0101	ResponseID	0-1		
3	D0102	RequestReference	0-1		
4	C0103	ResponseDateTime	0-1		
5	D0103.1	DateTimeFormat	0-1		
6	D0103.2	DateTime	1	M	
7	D0104	ExceptionCode	0-n	R	
8	D0105	ExceptionDescription	0-1		
9	C0106	ResponseMessage	0-n	R	
10	D0106.1	MessageDisplayType	1	M	
11	D0106.2	MessageLine	1-n	MR	

	<i>Element ID</i>	<i>XML structure</i>	<i>Card.</i>	<i>M/R</i>	<i>Notes</i>
12	D1501	ResponseType	1	M	
13	D1502	PatronID	1	M	
14	D1503	TotalApprovedConfirmedItems	0-1		
15	C1504	ApprovedItemDetail	0-n	R	
16	D1504.1	RequestItemReference	0-1		
17	D1504.2	ItemID	1	M	
18	D1504.3	FormatCode	0-1		
19	D1504.4	ItemTitleDetail	0-1		
20	D1504.5	ItemDescription	0-1		
21	D1504.6	SensitiveMediaCode	0-1		
22	D1504.7	ItemSecurityCode	0-1		
23	C1504.8	ItemDueDateTime	0-1		
24	D1504.8.1	DateTimeFormat	0-1		
25	D1504.8.2	DateTime	1	M	
26	C1504.9	LoanRenewalFee	0-1		
27	D1504.9.1	FeeID	0-1		
28	D1504.9.2	FeeType	0-1		
29	D1504.9.3	FeeDescription	0-1		
30	C1504.9.4	FeeDateTime	0-1		
31	D1504.9.4.1	DateTimeFormat	0-1		
32	D1504.9.4.2	DateTime	1	M	
33	D1504.9.5	FeeAmount	1	M	
34	D1504.9.6	Currency	0-1		
35	D1505	TotalNonApprovedItems	0-1		
36	C1506	NonApprovedItemDetail	0-n	R	
37	D1506.1	RequestItemReference	0-1		
38	D1506.2	ItemID	1	M	
39	D1506.3	ReasonCode	1	M	

Example of a Response XML payload:

```
<BICLISCheckOutRenewResponse version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/checkoutrenew">
  <ResponseType>01</ResponseType>
  <PatronID>X12345</PatronID>
  <TotalApprovedConfirmedItems>2</TotalApprovedConfirmedItems>
  <ApprovedItemDetail>
    <ItemID>1234567890</ItemID>
    <ItemDueDateTime>
      <DateTime>2011-04-28</DateTime>
    </ItemDueDateTime>
  </ApprovedItemDetail>
  <ApprovedItemDetail>
    <ItemID>9876543210</ItemID>
    <ItemDueDateTime>
      <DateTime>2011-04-28</DateTime>
    </ItemDueDateTime>
  </ApprovedItemDetail>
</BICLISCheckOutRenewResponse>
```

Check-in item(s) from patron**Format for request message using the HTTP GET method with the basic HTTP protocol**

Requests using the basic HTTP protocol and the HTTP GET method should include in the URL a query string containing parameters as specified below.

	Element ID	Parameter name	Card.	M/R	Notes
1		RequestVersion	1	M	Each request must identify the version of the message format that is being used. The current version is '0.9'
2	D0001.1	ClientIDEncryptionType	0-1		It is recommended that client authentication should be carried out using normal HTTP authorization, in which case elements C0001 and C0002 should not be included in the request parameters.
3	D0001.2	ClientIDValue	0-1		
4	D0002.1	PasswordEncryptionType	0-1		
5	D0002.2	PasswordValue	0-1		
6	C0003	InstitutionID	0-1		
7	D0003.1	InstitutionIDType	1	M	
8	D0003.2	IDTypeName	0-1		
9	D0003.3	IDValue	1	M	
10	D0004	TerminalLocation	0-1		
11	D0005	RequestID	0-1		
12	D0006.1	RequestDateTimeFormat	0-1		
13	D0006.2	RequestDateTime	0-1		
14	D1601	RequestType	1	M	
15	D1602	PatronID	0-1		
16	D1603.1	PatronPasswordEncryptionType	0-1		
17	D1603.2	PatronPasswordValue	0-1		
18	D1604.2	ItemID	1	M	

	Element ID	Parameter name	Card.	M/R	Notes
19	D1604.3	ItemProperties	0-1		
20	D1604.4.1	ItemReturnDateTimeFormat	0-1		
21	D1604.4.2	ItemReturnDateTime	0-1		

Example of a Request using the HTTP protocol and HTTP GET method

<http://192.168.0.99/CheckIn?RequestVersion=0.9&RequestType=01&ItemID=1234567890>

XML payload format for request message using the HTTP POST method with either SOAP or the basic HTTP protocol

Requests using the SOAP protocol should use the HTTP POST method and include a request document as the body of a SOAP request message.

	Element ID	XML structure	Card.	M/R	Notes
1		BICLISCheckInRequest version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
2	C0001	ClientID	0-1		It is recommended that client authentication should be carried out using normal HTTP authorization, in which case elements C0001 and C0002 should not be included in the request document.
3	D0001.1	EncryptionType	0-1		
4	D0001.2	Value	1	M	
5	C0002	Password	0-1		
6	D0002.1	EncryptionType	0-1		
7	D0002.2	Value	1	M	
8	D0004	TerminalLocation	0-1		
9	D0005	RequestID	0-1		
10	C0006	RequestDateTime	0-1		
11	D0006.1	DateTimeFormat	0-1		
12	D0006.2	DateTime	1	M	
13	D1601	RequestType	1	M	
14	D1602	PatronID	0-1		
15	D1603	PatronPassword	0-1		
16	D1603.1	EncryptionType	0-1		
17	D1603.2	Value	1	M	
18	C1604	ItemDetail	1-n	M	
19	D1604.1	ItemNumber	0-1		
20	D1604.2	ItemID	1	M	
21	D1603	ItemProperties	0-1		
22	C1604.4	ReturnDateTime	0-1		
23	D1604.4.1	DateTimeFormat	0-1		
24	D1604.4.2	DateTime	1	M	

Example of a Request XML payload using either the SOAP or the HTTP protocol and the HTTP POST method:

```
<BICLISCheckInRequest version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/checkin">
  <RequestType>01</RequestType>
  <ItemDetail>
    <ItemID>1234567890</ItemID>
  </ItemDetail>
  <ItemDetail>
    <ItemID>9876543210</ItemID>
  </ItemDetail>
</BICLISCheckInRequest>
```

XML payload format for response message

The Response will use the protocol corresponding to the Request. If the Request uses the basic HTTP protocol, the Response will be an XML document as specified below attached to a normal HTTP header. If the Request uses the SOAP protocol, the Response will contain a SOAP response message whose body will contain the XML document specified below.

	Element ID	XML structure	Card.	M/R	Notes
1		BICLISCheckInResponse version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
2	D0101	ResponseID	0-1		
3	D0102	RequestReference	0-1		
4	C0103	ResponseDateTime	0-1		
5	D0103.1	DateTimeFormat	0-1		
6	D0103.2	DateTime	1	M	
7	D0104	ExceptionCode	0-n	R	
8	D0105	ExceptionDescription	0-1		
9	C0106	ResponseMessage	0-n	R	
10	D0106.1	MessageDisplayType	1	M	
11	D0106.2	MessageLine	1-n	MR	
12	D1701	ResponseType	1	M	
13	D1702	PatronID	1	M	
14	D1703	TotalApprovedConfirmedItems	0-1		
15	C1704	ApprovedItemDetail	0-n	R	
16	D1704.1	RequestItemReference	0-1		
17	D1704.2	ItemID	1	M	
18	D1704.3	FormatCode	0-1		
19	D1704.4	ItemTitleDetail	0-1		
20	D1704.5	ItemDescription	0-1		
21	D1704.6	PermanentLocationID	0-1		
22	D1704.7	ReturnSortBin	0-1		
23	D1704.8	SensitiveMediaCode	1	M	
24	D1704.9	ItemSecurityCode	1	M	
25	D1704.10	SpecialAttentionCode	1	M	
26	C1704.11	FeeDue	0-n	R	

	Element ID	XML structure	Card.	M/R	Notes
27	D1704.11.1	FeeID	0-1		
28	D1704.11.2	FeeType	0-1		
29	D1704.11.3	FeeDescription	0-1		
30	D1704.11.4	FeeDateTime	0-1		
31	D1704.11.4.1	DateTimeFormat	0-1		
32	D1704.11.4.2	DateTime	1	M	
33	D1704.11.5	FeeAmount	1	M	
34	D1704.11.6	Currency	0-1		
35	D1705	TotalNonApprovedItems	0-1		
36	C1706	NonApprovedItemDetail	0-n	R	
37	D1706.1	RequestItemReference	0-1		
38	D1706.2	ItemID	1	M	
39	D1706.3	ReasonCode	1	M	
40	C1706.4	FeeDue	0-n	R	
41	C1706.4.1	FeeID	0-1		
42	C1706.4.2	FeeType	0-1		
43	C1706.4.3	FeeDescription	0-1		
44	C1706.4.4	FeeDateTime	0-1		
45	C1706.4.4.1	DateTimeFormat	0-1		
46	C1706.4.4.2	DateTime	1	M	
47	C1706.4.5	FeeAmount	1	M	
48	C1706.4.6	Currency	0-1		

Example of a Response XML payload:

```
<BICLISCheckInResponse version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/checkin">
  <ResponseType>01</ResponseType>
  <PatronID>X12345</PatronID>
  <TotalApprovedConfirmedItems>2</TotalApprovedConfirmedItems>
  <ApprovedItemDetail>
    <ItemID>1234567890</ItemID>
    <SensitiveMediaCode>02</SensitiveMediaCode>
    <ItemSecurityCode>01</ItemSecurityCode>
    <SpecialAttentionCode>00</SpecialAttentionCode>
  </ApprovedItemDetail>
  <ApprovedItemDetail>
    <ItemID>9876543210</ItemID>
    <SensitiveMediaCode>02</SensitiveMediaCode>
    <ItemSecurityCode>01</ItemSecurityCode>
    <SpecialAttentionCode>00</SpecialAttentionCode>
  </ApprovedItemDetail>
</BICLISCheckInResponse>
```

Make / confirm patron payment

Format for request message using the HTTP GET method with the basic HTTP protocol

Requests using the basic HTTP protocol and the HTTP GET method should include in the URL a query string containing parameters as specified below.

	<i>Element ID</i>	<i>Parameter name</i>	<i>Card.</i>	<i>M/R</i>	<i>Notes</i>
1		RequestVersion	1	M	Each request must identify the version of the message format that is being used. The current version is '0.9'
2	D0001.1	ClientIDEncryptionType	0-1		It is recommended that client authentication should be carried out using normal HTTP authorization, in which case elements C0001 and C0002 should not be included in the request parameters.
3	D0001.2	ClientIDValue	0-1		
4	D0002.1	PasswordEncryptionType	0-1		
5	D0002.2	PasswordValue	0-1		
6	C0003	InstitutionID	0-1		
7	D0003.1	InstitutionIDType	1	M	
8	D0003.2	IDTypeName	0-1		
9	D0003.3	IDValue	1	M	
10	D0004	TerminalLocation	0-1		
11	D0005	RequestID	0-1		
12	D0006.1	RequestDateTimeFormat	0-1		
13	D0006.2	RequestDateTime	0-1		
14	D1801	PatronID	1	M	
15	D1802.1	PatronPasswordEncryptionType	0-1		
16	D1802.2	PatronPasswordValue	0-1		
17	D1803.2	FeeID	0-1		
18	D1803.3	FeeType	0-1		
19	D1803.4	FeeAmount	1	M	
20	D1803.5	FeeCurrency	0-1		
21	D1804	PaymentType	1	M	
22	D1805	PaymentTypeDescription	0-1		
23	D1806	PaymentAmount	0-1		
24	D1807	PaymentCurrency	0-1		

Example of a Request using the HTTP protocol and HTTP GET method

http://192.168.0.99/PatronPayment?RequestVersion=0.9&PatronID=X12345&FeeAmount=1.00
&PaymentType=00

XML payload format for request message using the HTTP POST method with either SOAP or the basic HTTP protocol

Requests using the SOAP protocol should use the HTTP POST method and include a request document as the body of a SOAP request message.

	<i>Element ID</i>	<i>XML structure</i>	<i>Card.</i>	<i>M/R</i>	<i>Notes</i>
1		BICLISPatronPaymentRequest version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
2	C0001	ClientID	0-1		It is recommended that client authentication should be carried out using normal HTTP authorization, in which case elements C0001 and C0002 should not be included in the request document.
3	D0001.1	EncryptionType	0-1		
4	D0001.2	Value	1	M	
5	C0002	Password	0-1		
6	D0002.1	EncryptionType	0-1		
7	D0002.2	Value	1	M	
8	D0004	TerminalLocation	0-1		
9	D0005	RequestID	0-1		
10	C0006	RequestDateTime	0-1		
11	D0006.1	DateTimeFormat	0-1		
12	D0006.2	DateTime	1	M	
13	D1801	PatronID	1	M	
14	C1802	PatronPassword	0-1		
15	D1802.1	EncryptionType	0-1		
16	D1802.2	Value	1	M	
17	C1803	FeeItemDetail	1-n	MR	
18	D1803.1	ItemNumber	0-1		
19	D1803.2	FeeID	0-1		
20	D1803.3	FeeType	0-1		
21	D1803.4	FeeAmount	1	M	
22	D1803.5	Currency	0-1		
23	D1804	PaymentType	1	M	
24	D1805	PaymentTypeDescription	0-1		
25	D1806	PaymentAmount	0-1		
26	D1806	PaymentCurrency	0-1		

Example of a Request XML payload using either the SOAP or the HTTP protocol and the HTTP POST method:

```
<BICLISPatronPaymentRequest version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/patronpayment">
  <PatronID>X12345</PatronID>
  <FeeItemDetail>
    <FeeAmount>1.00</FeeAmount>
  </FeeItemDetail>
  <PaymentType>00</PaymentType>
</BICLISPatronPaymentRequest>
```

XML payload format for response message

The Response will use the protocol corresponding to the Request. If the Request uses the basic HTTP protocol, the Response will be an XML document as specified below attached to a normal HTTP header. If the Request uses the SOAP protocol, the Response will contain a SOAP response message whose body will contain the XML document specified below.

	Element ID	XML structure	Card.	M/R	Notes
1		BICLISPatronPaymentResponse version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
2	D0101	ResponseID	0-1		
3	D0102	RequestReference	0-1		
4	C0103	ResponseDateTime	0-1		
5	D0103.1	DateTimeFormat	0-1		
6	D0103.2	DateTime	1	M	
7	D0104	ExceptionCode	0-n	R	
8	D0105	ExceptionDescription	0-1		
9	C0106	ResponseMessage	0-n	R	
10	D0106.1	MessageDisplayType	1	M	
11	D0106.2	MessageLine	1-n	MR	
12	D1901	ResponseType	1	M	
13	D1902	PatronID	1	M	
14	C1903	AcceptedFeeItemDetail	0-n	R	
15	D1903.1	RequestItemReference	0-1		
16	D1903.2	FeeID	0-1		
17	D1903.3	FeeType	0-1		
18	D1903.4	FeeDescription	0-1		
19	D1903.5	FeeAmount	1	M	
20	D1903.6	Currency	0-1		
21	C1904	NonAcceptedFeeItemDetail	0-n	R	
22	D1904.1	RequestItemReference	0-1		
23	D1904.2	FeeID	0-1		
24	D1904.3	FeeType	0-1		
25	D1904.4	FeeDescription	0-1		
26	D1904.5	ReasonCode	1	M	

	Element ID	XML structure	Card.	M/R	Notes
27	D1904.6	FeeAmount	1	M	
28	D1904.7	Currency	0-1		

Example of a Response XML payload:

```
<BICLISPatronPaymentResponse version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/patronpayment">
  <ResponseType>01</ResponseType>
  <PatronID>X12345</PatronID>
  <AcceptedFeeItemDetail>
    <FeeAmount>1.00</FeeAmount>
  </AcceptedFeeItemDetail>
</BICLISPatronPaymentResponse>
```

Block patron account

Format for request message using the HTTP GET method with the basic HTTP protocol

Requests using the basic HTTP protocol and the HTTP GET method should include in the URL a query string containing parameters as specified below.

	Element ID	Parameter name	Card.	M/R	Notes
1		RequestVersion	1	M	Each request must identify the version of the message format that is being used. The current version is '0.9'
2	D0001.1	ClientIDEncryptionType	0-1		It is recommended that client authentication should be carried out using normal HTTP authorization, in which case elements C0001 and C0002 should not be included in the request parameters.
3	D0001.2	ClientIDValue	0-1		
4	D0002.1	PasswordEncryptionType	0-1		
5	D0002.2	PasswordValue	0-1		
6	C0003	InstitutionID	0-1		
7	D0003.1	InstitutionIDType	1	M	
8	D0003.2	IDTypeName	0-1		
9	D0003.3	IDValue	1	M	
10	D0004	TerminalLocation	0-1		
11	D0005	RequestID	0-1		
12	D0006.1	RequestDateTimeFormat	0-1		
13	D0006.2	RequestDateTime	0-1		
14	D2001	PatronID	1	M	
15	D2002.1	PatronPasswordEncryptionType	0-1		
16	D2002.2	PatronPasswordValue	0-1		
17	D2003	CardRetentionCode	1	M	
18	D2004	BlockedCardMessage	0-1		

Example of a Request using the HTTP protocol and HTTP GET method

http://192.168.0.99/BlockPatron?RequestVersion=0.9&PatronID=X12345&CardRetentionCode=01

XML payload format for request message using the HTTP POST method with either SOAP or the basic HTTP protocol

Requests using the SOAP protocol should use the HTTP POST method and include a request document as the body of a SOAP request message.

	Element ID	XML structure	Card.	M/R	Notes
1		BICLISBlockPatronRequest version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
2	C0001	ClientID	0-1		It is recommended that client authentication should be carried out using normal HTTP authorization, in which case elements C0001 and C0002 should not be included in the request document.
3	D0001.1	EncryptionType	0-1		
4	D0001.2	Value	1	M	
5	C0002	Password	0-1		
6	D0002.1	EncryptionType	0-1		
7	D0002.2	Value	1	M	
8	D0004	TerminalLocation	0-1		
9	D0005	RequestID	0-1		
10	C0006	RequestDateTime	0-1		
11	D0006.1	DateTimeFormat	0-1		
12	D0006.2	DateTime	1	M	
13	D2001	PatronID	1	M	
14	C2002	PatronPassword	0-1		
15	D2002.1	EncryptionType	0-1		
16	D2002.2	Value	1	M	
17	D2003	CardRetentionCode	1	M	
18	D2004	BlockedCardMessage	0-1		

Example of a Request XML payload using either the SOAP or the HTTP protocol and the HTTP POST method:

```
<BICLISBlockPatronRequest version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/blockpatron">
  <PatronID>X12345</PatronID>
  <CardRetentionCode>01</CardRetentionCode>
</BICLISBlockPatronRequest>
```

XML payload format for response message

The Response will use the protocol corresponding to the Request. If the Request uses the basic HTTP protocol, the Response will be an XML document as specified below attached to a normal HTTP header. If the Request uses the SOAP protocol, the Response will contain a SOAP response message whose body will contain the XML document specified below.

	Element ID	XML structure	Card.	M/R	Notes
1		BICLISBlockPatronResponse version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
2					For detail of the response see Retrieve patron information / status response .

Example of a Response XML payload:

```
<BICLISBlockPatronResponse version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/blockpatron">
  <PatronID>X12345</PatronID>
  <PatronStatus>04</PatronStatus>
  <PatronLanguage>eng</PatronLanguage>
  <TotalOnLoanItems>2</TotalOnLoanItems>
  <TotalOverdueItems>2</TotalOverdueItems>
  <TotalRecalledItems>0</TotalRecalledItems>
  <TotalFeesDueItems>0</TotalFeesDueItems>
  <TotalFinesDueItems>0</TotalFinesDueItems>
  <TotalAvailableHoldItems>0</TotalAvailableHoldItems>
  <TotalUnavailableHoldItems>0</TotalUnavailableHoldItems>
</BICLISBlockPatronResponse>
```

Reserve item

Format for request message using the HTTP GET method with the basic HTTP protocol

Requests using the basic HTTP protocol and the HTTP GET method should include in the URL a query string containing parameters as specified below.

	Element ID	Parameter name	Card.	M/R	Notes
1		RequestVersion	1	M	Each request must identify the version of the message format that is being used. The current version is '0.9'
2	D0001.1	ClientIDEncryptionType	0-1		It is recommended that client authentication should be carried out using normal HTTP authorization, in which case elements C0001 and C0002 should not be included in the request parameters.
3	D0001.2	ClientIDValue	0-1		
4	D0002.1	PasswordEncryptionType	0-1		
5	D0002.2	PasswordValue	0-1		
6	C0003	InstitutionID	0-1		
7	D0003.1	InstitutionIDType	1	M	
8	D0003.2	IDTypeName	0-1		
9	D0003.3	IDValue	1	M	
10	D0004	TerminalLocation	0-1		

	<i>Element ID</i>	<i>Parameter name</i>	<i>Card.</i>	<i>M/R</i>	<i>Notes</i>
11	D0005	RequestID	0-1		
12	D0006.1	RequestDateTimeFormat	0-1		
13	D0006.2	RequestDateTime	0-1		
14	D2201	RequestType	1	M	
15	D2202	PatronID	1	M	
16	D2203.1	PatronPasswordEncryptionType	0-1		
17	D2203.2	PatronPasswordValue	0-1		
18	D2204	PreviousRequestReference	0-1		
19	D2205.2	ItemID	1	M	
20	D2205.3	ItemTitleDetail	0-1		
21	D2205.4	ItemProperties	0-1		
22	D2205.5	ReservationType	0-1		
23	D2205.6.1	PickupInstitutionIDType	0-1		
24	D2205.6.2	PickupInstitutionIDTypeName	0-1		
25	D2205.6.3	PickupInstitutionIDValue	0-1		
26	D2205.7	PickupLocation	0-1		
27	D2205.8.1	ReservationExpiryDateTimeFormat	0-1		
28	D2205.8.2	ReservationExpiryDateTime	0-1		

Example of a Request using the HTTP protocol and HTTP GET method

<http://192.168.0.99/Reserveltem?RequestVersion=0.9&RequestType=01&PatronID=X12345&ItemID=1234567890>

XML payload format for request message using the HTTP POST method with either SOAP or the basic HTTP protocol

Requests using the SOAP protocol should use the HTTP POST method and include a request document as the body of a SOAP request message.

	<i>Element ID</i>	<i>XML structure</i>	<i>Card.</i>	<i>M/R</i>	<i>Notes</i>
1		BICLISReserveltemRequest version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
2	C0001	ClientID	0-1		It is recommended that client authentication should be carried out using normal HTTP authorization, in which case elements C0001 and C0002 should not be included in the request document.
3	D0001.1	EncryptionType	0-1		
4	D0001.2	Value	1	M	
5	C0002	Password	0-1		
6	D0002.1	EncryptionType	0-1		
7	D0002.2	Value	1	M	
8	D0004	TerminalLocation	0-1		
9	D0005	RequestID	0-1		

	<i>Element ID</i>	<i>XML structure</i>	<i>Card.</i>	<i>M/R</i>	<i>Notes</i>
10	C0006	RequestDateTime	0-1		
11	D0006.1	DateTimeFormat	0-1		
12	D0006.2	DateTime	1	M	
13	D2201	RequestType	1	M	
14	D2202	PatronID	1	M	
15	C2203	PatronPassword	0-1		
16	D2203.1	EncryptionType	0-1		
17	D2203.2	Value	1	M	
18	D2204	PreviousRequestReference	0-1		
19	C2205	ItemDetail	1-n	MR	
20	D2205.1	ItemNumber	0-1		
21	D2205.2	ItemID	1	M	
22	D2205.3	TitleDetail	0-1		
22	D2205.4	ItemProperties	0-1		
23	D2205.5	ReservationType	0-1		
24	C2205.6	PickUpInstitutionID	0-1		
25	D2205.6.1	InstitutionIDType	1	M	
26	D2205.6.2	IDTypeName	0-1		
27	D2205.6.3	IDValue	1	M	
28	D2205.7	PickupLocation	0-1		
29	D2205.8	ReservationExpiryDate	0-1		
30	D2205.8.1	DateTimeFormat	0-1		
31	D2205.8.2	DateTime	1	M	

Example of a Request XML payload using either the SOAP or the HTTP protocol and the HTTP POST method:

```
<BICLISReserveItemRequest version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/reserveitem">
  <RequestType>01</RequestType>
  <PatronID>X12345</PatronID>
  <ItemDetail>
    <ItemID>1234567890</ItemID>
  </ItemDetail>
</BICLISReserveItemRequest>
```

XML payload format for response message

The Response will use the protocol corresponding to the Request. If the Request uses the basic HTTP protocol, the Response will be an XML document as specified below attached to a normal HTTP header. If the Request uses the SOAP protocol, the Response will contain a SOAP response message whose body will contain the XML document specified below.

	<i>Element ID</i>	<i>XML structure</i>	<i>Card.</i>	<i>M/R</i>	<i>Notes</i>
1		BICLISReserveItemResponse version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
2	D0101	ResponseID	0-1		

	<i>Element ID</i>	<i>XML structure</i>	<i>Card.</i>	<i>M/R</i>	<i>Notes</i>
3	D0102	RequestReference	0-1		
4	C0103	ResponseDateTime	0-1		
5	D0103.1	DateTimeFormat	0-1		
6	D0103.2	DateTime	1	M	
7	D0104	ExceptionCode	0-n	R	
8	D0105	ExceptionDescription	0-1		
9	C0106	ResponseMessage	0-n	R	
10	D0106.1	MessageDisplayType	1	M	
11	D0106.2	MessageLine	1-n	MR	
12	D2301	ResponseType	1	M	
13	D2302	PatronID	1	M	
14	D2303	TotalApprovedItems	0-1		
15	C2304	ApprovedItemDetail	0-n	R	
16	D2304.1	RequestItemReference	0-1		
17	D2304.2	ItemID	1	M	
18	D2304.3	FormatCode	0-1		
19	D2304.4	TitleDetail	0-1		
20	D2304.5	ItemProperties	0-1		
21	C2304.6	PickupInstitutionID	0-1		
22	D2304.6.1	InstitutionIDType	1	M	
23	D2304.6.2	IDTypeName	0-1		
24	D2304.6.3	IDValue	1	M	
25	D2304.7	PickupLocation	0-1		
26	C2304.8	ReservationExpiryDateTime	0-1		
27	D2304.8.1	DateTimeFormat	0-1		
28	D2304.8.2	DateTime	1	M	
29	C2304.9	ReservationFee	0-1		
30	D2304.9.1	FeeID	0-1		
31	D2304.9.2	FeeType	0-1		
32	D2304.9.3	FeeDescription	0-1		
33	C2304.9.4	FeeDateTime	0-1		
34	D2304.9.4.1	DateTimeFormat	0-1		
35	D2304.9.4.2	DateTime	1	M	
36	D2304.9.5	FeeAmount	1	M	
37	D2304.9.6	Currency	0-1		
38	D2305	TotalNonApprovedItems	0-1		
39	C2306	NonApprovedItemDetail	0-n	R	
40	D2306.1	RequestItemReference	0-1		
41	D2306.2	ItemID	1	M	
42	D2306.3	ReasonCode	1	M	

Example of a Response XML payload:

```
<BICLISReserveItemResponse version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/reserveitem">
  <ResponseType>01</ResponseType>
  <PatronID>X12345</PatronID>
  <TotalApprovedItems>2</TotalApprovedItems>
  <ApprovedItemDetail>
    <ItemID>1234567890</ItemID>
    <SensitiveMediaCode>02</SensitiveMediaCode>
    <ItemSecurityCode>01</ItemSecurityCode>
    <SpecialAttentionCode>00</SpecialAttentionCode>
  </ApprovedItemDetail>
</BICLISReserveItemResponse>
```

Modify/update item information**XML payload format for request message using the HTTP POST method with either SOAP or the basic HTTP protocol**

Requests using the SOAP protocol should use the HTTP POST method and include a request document as the body of a SOAP request message.

	Element ID	XML structure	Card.	M/R	Notes
1		BICLISModifyItemInfoRequest version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
2	C0001	ClientID	0-1		It is recommended that client authentication should be carried out using normal HTTP authorization, in which case elements C0001 and C0002 should not be included in the request document.
3	D0001.1	EncryptionType	0-1		
4	D0001.2	Value	1	M	
5	C0002	Password	0-1		
6	D0002.1	EncryptionType	0-1		
7	D0002.2	Value	1	M	
8	D0004	TerminalLocation	0-1		
9	D0005	RequestID	0-1		
10	C0006	RequestDateTime	0-1		
11	D0006.1	DateTimeFormat	0-1		
12	D0006.2	DateTime	1	M	
13	D2401	ModificationType	1	M	
14	D2402	ItemID	1	M	
15	C2402	AdditionalItemID	0-n	R	
16	D2402.1	ItemIDType	1	M	
17	D2402.2	IDTypeName	0-1		
18	D2402.3	IDValue	1	M	
19	D2403	FormatCode	0-1		
20		ItemDescription	0-1		
21	C2404	Title	0-n	R	
22	D2404.1	TitleType	1	M	

	Element ID	XML structure	Card.	M/R	Notes
23	D2404.2	TitleText	1	M	
24	D2404.3	Subtitle	0-1		
25	C2405	Contributor	0-n	R	
26	D2405.1	ContributorRole	1	M	
27	D2405.2	ContributorName	0-1		
28	D2405.3	UnnamedContributor	0-1		
29	C2406	Series	0-1		
30	C2406.1	SeriesTitle	0-n	R	
31	D2406.1.1	TitleType	1	M	
32	D2406.1.2	TitleText	1	M	
33	D2406.1.3	Subtitle	0-1		
34	D2406.2	VolumeOrPart	0-1		
35	D2406.3	OtherSeriesItemID	0-n	R	
36	D2407	EditionStatement	0-1		
37	D2408	PublisherName	0-1		
38	D2409	YearOfPublication	0-1		
39	D2410	OtherDescription	0-1		
40	C2411	CoverArt	0-n	R	
41	D2412	Owner	0-1		
42	D2413	PermanentLocation	0-1		
43	D2414	CurrentLocation	0-1		
44	C2415	LoanCharacteristic	0-n	R	
45	D2415.1	CharacteristicType	1	M	
46	D2415.2	CharacteristicValue	1	M	
47	D2415.3	CharacteristicNote	0-1		
48	C2416	LoanRestriction	0-n	R	
49	D2416.1	RestrictionType	1	M	
50	D2416.2	RestrictionValue	1	M	
51	D2416.3	RestrictionNote	0-1		
52	C2417	LoanFee	0-n	R	
53	D2417.1	FeeType	1	M	
54	D2417.2	FeeAmount	1	M	
55	D2417.3	FeeCurrency	0-1		

Example of a Request XML payload using either the SOAP or the HTTP protocol and the HTTP POST method:

```
<BICLISModifyItemInfoRequest version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/modifyiteminfo">
  <ModificationType>14</ModificationType>
  <ItemID>1234567890</ItemID>
  <Owner>Name of new owner</Owner>
</BICLISModifyItemInfoRequest>
```

XML payload format for response message

The Response will use the protocol corresponding to the Request. If the Request uses the basic HTTP protocol, the Response will be an XML document as specified below attached to a normal HTTP header. If the Request uses the SOAP protocol, the Response will contain a SOAP response message whose body will contain the XML document specified below.

	Element ID	XML structure	Card.	M/R	Notes
1		BICLISModifyItemInfoResponse version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
					For detail of the response see Retrieve item information response .

Example of a Response XML payload:

```
<BICLISModifyItemInfoResponse version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/modifyiteminfo">
  <ItemID>1234567890</ItemID>
  <Owner>Name of new owner</Owner>
  <CirculationStatus>03</CirculationStatus>
</BICLISModifyItemInfoResponse>
```

Modify/update patron information

XML payload format for request message using the HTTP POST method with either SOAP or the basic HTTP protocol

Requests using the SOAP protocol should use the HTTP POST method and include a request document as the body of a SOAP request message.

	Element ID	XML structure	Card.	M/R	Notes
1		BICLISModifyPatronInfoRequest version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
2	C0001	ClientID	0-1		It is recommended that client authentication should be carried out using normal HTTP authorization, in which case elements C0001 and C0002 should not be included in the request document.
3	D0001.1	EncryptionType	0-1		
4	D0001.2	Value	1	M	
5	C0002	Password	0-1		
6	D0002.1	EncryptionType	0-1		
7	D0002.2	Value	1	M	
8	D0004	TerminalLocation	0-1		
9	D0005	RequestID	0-1		
10	C0006	RequestDateTime	0-1		
11	D0006.1	DateTimeFormat	0-1		
12	D0006.2	DateTime	1	M	
13	D2601	ModificationType	1	M	
14	D2602	PatronID	1	M	

	Element ID	XML structure	Card.	M/R	Notes
15	D2603	PatronPassword	0-1		
16	D2603.1	EncryptionType	0-1		
17	D2603.2	Value	1	M	
18	D2604	PatronName	0-1		
19	D2605	PatronAddressLine	0-n	R	
20	C2606	PatronCommunicationDetail	0-n	R	
21	D2606.1	CommunicationType	1	M	
22	D2606.2	CommunicationLocator	1	M	
23	D2607	PatronStatus	0-1		
24	D2608	PatronLanguage	0-1		
25	D2609	LoanItemsLimit	0-1		
26	D2610	HoldItemsLimit	0-1		
27	D2611	OverdueItemsLimit	0-1		

Example of a Request XML payload using either the SOAP or the HTTP protocol and the HTTP POST method:

```
<BICLISModifyPatronInfoRequest version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/modifypatroninfo">
  <ModificationType>l4</ModificationType>
  <PatronID>1234567890</PatronID>
  <PatronName>New name of patron</PatronName>
</BICLISModifyPatronInfoRequest>
```

XML payload format for response message

The Response will use the protocol corresponding to the Request. If the Request uses the basic HTTP protocol, the Response will be an XML document as specified below attached to a normal HTTP header. If the Request uses the SOAP protocol, the Response will contain a SOAP response message whose body will contain the XML document specified below.

	Element ID	XML structure	Card.	M/R	Notes
1		BICLISModifyPatronInfoResponse version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
					<i>For detail of the response see Retrieve patron information / status response.</i>

Example of a Response XML payload:

```
<BICLISModifyPatronInfoResponse version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/modifypatroninfo">
  <PatronID>X12345</PatronID>
  <PatronStatus>04</PatronStatus>
  <PatronName>New name of patron</PatronName>
  <PatronLanguage>eng</PatronLanguage>
  <TotalOnLoanItems>2</TotalOnLoanItems>
  <TotalOverdueItems>2</TotalOverdueItems>
  <TotalRecalledItems>0</TotalRecalledItems>
  <TotalFeesDueItems>0</TotalFeesDueItems>
  <TotalFinesDueItems>0</TotalFinesDueItems>
  <TotalAvailableHoldItems>0</TotalAvailableHoldItems>
  <TotalUnavailableHoldItems>0</TotalUnavailableHoldItems>
</BICLISModifyPatronInfoResponse>
```

Un-block patron

Format for request message using the HTTP GET method with the basic HTTP protocol

Requests using the basic HTTP protocol and the HTTP GET method should include in the URL a query string containing parameters as specified below.

	Element ID	Parameter name	Card.	M/R	Notes
1		RequestVersion	1	M	Each request must identify the version of the message format that is being used. The current version is '0.9'
2	D0001.1	ClientIDEncryptionType	0-1		It is recommended that client authentication should be carried out using normal HTTP authorization, in which case elements C0001 and C0002 should not be included in the request parameters.
3	D0001.2	ClientIDValue	0-1		
4	D0002.1	PasswordEncryptionType	0-1		
5	D0002.2	PasswordValue	0-1		
6	C0003	InstitutionID	0-1		
7	D0003.1	InstitutionIDType	1	M	
8	D0003.2	IDTypeName	0-1		
9	D0003.3	IDValue	1	M	
10	D0004	TerminalLocation	0-1		
11	D0005	RequestID	0-1		
12	D0006.1	RequestDateTimeFormat	0-1		
13	D0006.2	RequestDateTime	0-1		
14	D2801	PatronID	1	M	
15	D2802.1	PatronPasswordEncryptionType	0-1		
16	D2802.2	PatronPasswordValue	0-1		

Example of a Request using the HTTP protocol and HTTP GET method

<http://192.168.0.99/UnblockPatron?RequestVersion=0.9&PatronID=X12345>

XML payload format for request message using the HTTP POST method with either SOAP or the basic HTTP protocol

Requests using the SOAP protocol should use the HTTP POST method and include a request document as the body of a SOAP request message.

	Element ID	XML structure	Card.	M/R	Notes
1		BICLISUnblockPatronRequest version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
2	C0001	ClientID	0-1		It is recommended that client authentication should be carried out using normal HTTP authorization, in which case elements C0001 and C0002 should not be included in the request document.
3	D0001.1	EncryptionType	0-1		

	Element ID	XML structure	Card.	M/R	Notes
4	D0001.2	Value	1	M	
5	C0002	Password	0-1		
6	D0002.1	EncryptionType	0-1		
7	D0002.2	Value	1	M	
8	D0004	TerminalLocation	0-1		
9	D0005	RequestID	0-1		
10	C0006	RequestDateTime	0-1		
11	D0006.1	DateTimeFormat	0-1		
12	D0006.2	DateTime	1	M	
13	D2801	PatronID	1	M	
14	D2802	PatronPassword	0-1		
15	D2802.1	EncryptionType	0-1		
16	D2802.2	Value	1	M	

Example of a Request XML payload using either the SOAP or the HTTP protocol and the HTTP POST method:

```
<BICLISUnblockPatronRequest version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/unblockpatron">
  <PatronID>X12345</PatronID>
</BICLISUnblockPatronRequest>
```

XML payload format for response message

The Response will use the protocol corresponding to the Request. If the Request uses the basic HTTP protocol, the Response will be an XML document as specified below attached to a normal HTTP header. If the Request uses the SOAP protocol, the Response will contain a SOAP response message whose body will contain the XML document specified below.

	Element ID	XML structure	Card.	M/R	Notes
1		BICLISUnblockPatronResponse version="0.9"	1	M	Top-level message element with mandatory 'version' attribute
2					<i>For detail of the response see Retrieve patron information / status response.</i>

Example of a Response XML payload:

```
<BICLISUnblockPatronResponse version="0.9"
xmlns="http://www.bic.org.uk/lis/webservices/unblockpatron">
  <PatronID>X12345</PatronID>
  <PatronStatus>04</PatronStatus>
  <PatronLanguage>eng</PatronLanguage>
  <TotalOnLoanItems>2</TotalOnLoanItems>
  <TotalOverdueItems>2</TotalOverdueItems>
  <TotalRecalledItems>0</TotalRecalledItems>
  <TotalFeesDueItems>0</TotalFeesDueItems>
  <TotalFinesDueItems>0</TotalFinesDueItems>
  <TotalAvailableHoldItems>0</TotalAvailableHoldItems>
  <TotalUnavailableHoldItems>0</TotalUnavailableHoldItems>
</BICLISUnblockPatronResponse>
```