Book Industry Communication

BIC Realtime for Libraries Web Services API Standards
Retrieve MARC Product Information

Version 2.0, 29 October 2018
Minor editorial corrections 11 March 2019

This document: https://www.bic.org.uk/files/pdfs/API/BIC Realtime for Libraries - Retrieve MARC Product Information - Version 2.0.pdf
XML schema: https://www.bic.org.uk/files/pdfs/API/BICLWSMARCProductInformation_V2.0.xsd
WSDL file: https://www.bic.org.uk/files/pdfs/API/BICLWSMARCProductInformationSOAP_V2.0.wsdl
XML namespace: http://www.bic.org.uk/librarywebservices/marcProductInformation
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This document specifies in human-readable form the Request and Response formats for the *BIC Realtime for Libraries* Retrieve MARC Product Information API.

A MARC Product Information Request may be implemented using either SOAP or the basic HTTPS protocol[1] and POST method. The payload of a Request may be formatted either as an XML document or as an equivalent JSON document.

The same Response format options (payload in XML or JSON) will apply to both basic HTTPS and SOAP exchanges.

The complete specification of the MARC Product Information Request and Response web service includes two machine-readable resources that are to be used by implementers in conjunction with this document:

- a WSDL Definition for the SOAP protocol versions of the web services
- an XML Schema for Request and Response payloads in XML format.

A Request or Response payload expressed in JSON must be entirely translatable into an equivalent XML representation that conforms to the XML schema.

It is strongly recommended that SOAP client implementations of this web service be constructed using the BIC WSDL Definitions as a starting point, as this will promote interoperability between SOAP client and server implementations. In some development environments it may be easier to implement a SOAP server without using the BIC WSDL Definitions, but in this case care must be taken to ensure that the WSDL Definitions that describe the actual implementation is functionally equivalent to the BIC WSDL Definitions.

[1] Throughout the term 'HTTPS protocol' is to be interpreted as a secure internet protocol that is implemented either at the application layer (i.e. HTTPS) or at the transport layer (e.g. SSL/TLS).

Business requirements

The formats have been designed to support the implementation of web services that accept product information requests and respond by supplying product information in MARC format. Given the widespread use of MARC in the UK for the supply of book product information to libraries, a business case can be made for such a web service at a number of points in the supply chain. Service providers are likely to include wholesalers, distributors and others involved in library supply.

Scope of the proposed formats

The requirements for sending and responding to a MARC Product Information Request can be defined relatively simply. There are only a few options that a service provider would need to decide whether or not to offer.

For the MARC Product Information Request application, the request format is fully specified in this document, in separate versions for HTTP GET and HTTP POST methods.

As well as including a header identifying the source and date-stamping the response, the response format allows error conditions to be reported, and provides an XML "wrapper" within which a MARC product information record for each successful product request can be sent. Implementations may determine the extent of the information they supply about each product, but MARC product information records returned must be valid according to either the MARC 21 or the UK MARC specification and they should, if possible, meet BIC product data accreditation standards.UK MARC is no longer supported and BIC recommends that MARC 21 be used where possible.

Changes for Version 2.0, October 2018

General	This version updates and replaces the *BIC Realtime* MARC Product Information Request and Response API Version 1.0.
	The namespace for this version has changed to reflect that this API is now part of the BIC Library Web Services family of web service APIs.
	In this version the HTTP GET method is no longer supported.
	This version supports use of the JSON format for Request and Response payloads.
	The inclusion of Request client ID and password is no longer mandatory, as using HTTPS header-based or other secure authentication is preferred. The corresponding elements in the example have been removed.
	Version number updated from "1.0" to "2.0" throughout.
	Examples have been modified to reflect the updates made in this version.
Page 3	Request header line 6: New element <MARCRecordQuality> added, to enable a specific minimum quality of MARC record to be requested when appropriate.
Page 3	Request header line 7: Code value '10' is now deprecated. Code values '11' and '12' have been added.
Page 5	A Request payload example in JSON format has been added.
Page 7	Response header line 9: Element <RecordType> removed, as no longer considered relevant to this API.
Page 7	Response header line 9: Code value '10' is now deprecated. Code values '11' and '12' have been added.
Page 7	Response header line 11: Description of element <MARCRecordCharEncodingDescription> expanded.
Page 8	Response detail line 4: New element <RecordEncodingLevel> added, to enable the MARC 21 or UNIMARC encoding level of the MARC record to be specified.
Page 10	A Response payload example in JSON format has been added.

MARC PRODUCT INFORMATION REQUEST

Requests should include an XML or JSON document as specified below as the body of a request message.

Request document name and version

	MARC Product information request Version 2.0		**<MARCProductInformationRequest version="2.0">** **{ "MARCProductInformationRequest":** **{ "version: "2.0",...**	

Header

	Request header	M[2]	Header.	[3]
1	A unique identifier for the sender of the request. An alphanumeric string not containing spaces or punctuation.	D	ClientID	
2	A password to further authenticate the sender of the request[4].	D	ClientPassword	
3	Account identifier for this request A code value from a BIC-controlled codelist for the scheme used for the account identifier (see ONIX codelist 44). Mandatory if including an account identifier. Permitted values are: *01* Proprietary *06* EAN-UCC GLN *07* SAN *09* ISIL *11* PubEasy PIN Account identifier for this request, using the specified scheme	D M M	AccountIdentifier. AccountIDType IDValue	
4	Identification number / string of this request	D	RequestNumber	
5	Document date/time: the date/time when the request was generated. Permitted formats are: YYYYMMDD YYYYMMDDTHHMM YYYYMMDDTHHMMZ (universal time) YYYYMMDDTHHMM±HHMM (time zone) where "T" represents itself, i.e. letter T	D	IssueDateTime	
6	Minimum acceptable MARC record quality, if not established by trading partner agreement. Permitted record qualities are: *01* Full MARC record *02* CIP record *03* Unspecified (lower than CIP accepted)	D	MARCRecordQuality	
7	Format in which the requestor would prefer product information records to be expressed in the response. Mandatory in every request. *05* MARC 21 (only link included in response) *06* UKMARC (only link included in response) *07* MARCXML (MARC 21 in XML) *08* MARC 21, Base64-encoded *09* UKMARC, Base64-encoded *10* UNIMARC *(DEPRECATED)* *11* UNIMARC (only link included in response) *12* UNIMARC, Base64-encoded	M	MARCRecordFormat	

[2] In the column headed “M”, “M” means mandatory, and “D” means dependent.
[3] An ‘R’ in the right-most column means that the element is repeatable.
[4] It is recommended that HTTPS header-based authentication be used where possible.

Header *(continued)*

	Request header	**M**	**Header.**	
8	Character encoding which the requester would prefer the MARC record to be encoded. If omitted, the requester has no preference. Permitted values: *01* Proprietary / other – description mandatory *02* ISO 646 / ASCII *03* ISO 8859-2 *04* Unicode / UTF-8 *05* MARC-8 *06* ISO 5426	D	MARCRecordCharEncoding	
9	MARC record character encoding description. Mandatory if the requested character encoding is proprietary or not otherwise listed in line 8.	D	MARCRecordCharEncodingDescription	

Request detail

	Product	**M**	**Product.**	**R**
1	EAN-13 product number (mandatory unless trading partners have agreed to use an alternative product identifier)	D	EAN13	
2	Alternative product identifier	D	ProductIdentifier.	R
	Product ID type - see ONIX codelist 5	M	ProductIDType	
	ID type name, only if ID type = proprietary	D	IDTypeName	
	Product number	M	Identifier	

Example of a Request XML payload using either the SOAP or the HTTPS protocol:

```
<MARCProductInformationRequest version="2.0"
      xmlns="http://www.bic.org.uk/librarywebservices/marcProductInformation">
  <Header>
    <AccountIdentifier>
      <AccountIDType>01</AccountIDType>
      <IDValue>12345</IDValue>
    </AccountIdentifier>
    <RequestNumber>001</RequestNumber>
    <IssueDateTime>20180418T1525</IssueDateTime>
    <MARCRecordQuality>02</MARCRecordQuality>
    <MARCRecordFormat>07</MARCRecordFormat>
  </Header>
  <Product>
    <ProductIdentifier>
      <ProductIDType>03</ProductIDType>
      <IDValue>9781234567890</IDValue>
    </ProductIdentifier>
  </Product>
</MARCProductInformationRequest>
```

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

```
{
    "MARCProductInformationRequest": {
        "version": "2.0",
        "xmlns": "http://www.bic.org.uk/librarywebservices/marcProductInformation",
        "Header": {
            "AccountIdentifier": {
                "AccountIDType": "01",
                "IDValue": "12345"
            },
            "RequestNumber": "001",
            "IssueDateTime": "20180418T1525",
            "MARCRecordQuality": "02"
            "MARCRecordFormat": "07"
        },
        "Product": {
            "ProductIdentifier": {
                "ProductIDType": "03",
                "IDValue": "9781234567890"
            }
        }
    }
}
```

MARC PRODUCT INFORMATION RESPONSE

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

Response document name and version

	MARC Product information response Version 2.0		**<MARCProductInformationResponse version="2.0">** **{ "MARCProductInformationResponse":** **{ "version: "2.0",...**	

Header

	Payload header	**M**	**Header.**	
1	Document date/time: the date/time when the response was generated. Permitted formats are: YYYYMMDD YYYYMMDDTHHMM YYYYMMDDTHHMMZ (universal time) YYYYMMDDTHHMM±HHMM (time zone) where "T" represents itself, i.e. letter T	M	IssueDateTime	
2	Sender (web service host) Sender ID type - see ONIX codelist 92 ID type name, only if ID type = proprietary Identifier	M M D M	SenderIdentifier. SenderIDType IDTypeName IDValue	
3	Identification number / string of this response	D	ResponseNumber	
4	Account identifier, required if included in the request A code value from a BIC-controlled codelist for the scheme used for the account identifier (see ONIX codelist 44). Must be specified if an account identifier is specified. Permitted schemes are: *01* Proprietary *06* EAN-UCC GLN *07* SAN *09* ISIL *11* PubEasy PIN Account identifier for this request, using the specified scheme	D M M	AccountIdentifier. AccountIDType IDValue	
5	References: request number of request must be quoted if included in the request; request date or date and time must be quoted in this composite if both number and date/time are included in the request. Reference type *02* Number or date/time of associated product information request or search Reference number / string Reference date or date and time	D M M D	ReferenceCoded ReferenceTypeCode ReferenceNumber ReferenceDateTime	R
6	Reference date or date and time: must be quoted separately if and only if included in the request *without* a request number. See header line 5 for permitted formats.	D	ReferenceDateTime	
7	Default currency of prices given in the response	D	CurrencyCode	

Response Header *(continued)*

	Payload header	**M**	**Header.**	
8	Response code, if there are exception conditions that affect the response as a whole Response type code. Suggested code values: *01* Service unavailable *02* Invalid ClientID or ClientPassword *03* Server unable to process request– a reason should normally be given as a free text description – see below *08* MARC record format or character encoding not as requested Free text description / reason for response	D M D	ResponseCoded. ResponseType ResponseTypeDescription	R
9	Format in which product information records are expressed in the response detail. Mandatory in every request that contains response detail elements. *05* MARC 21 (only link included in response) *06* UK MARC (only link included in response) *07* MARCXML (MARC 21 in XML) *08* MARC 21, Base64-encoded *09* UK MARC, Base64-encoded *10* UNIMARC *(DEPRECATED)* *11* UNIMARC (only link included in response) *12* UNIMARC, Base64-encoded	D	MARCRecordFormat	
10	Character encoding of the original MARC record prior to Base64 encoding *01* Proprietary / other – description mandatory *02* ISO 646 / ASCII *03* ISO 8859-2 *04* Unicode / UTF-8 *05* MARC-8 *06* ISO 5426	D	MARCRecordCharEncoding	
11	Name of the character set of the original MARC record prior to Base64 encoding. Mandatory if the character encoding specified in line 11 is '01'.	D	MARCRecordCharEncodingDescription	

Response detail

	MARC Product information record: mandatory unless the header reports an exception condition that prevents any response	**D**	**MARCProductInformationRecord.**	**R**
1	EAN-13 product number as specified in the request detail, if any (mandatory unless trading partners have agreed to use an alternative product identifier). Mandatory if included in the request detail and a response code is included in this response detail.	D	EAN13	
2	Alternative product identifier as specified in the request detail. Mandatory if included in the request detail and a response code is included in this response detail.	D	ProductIdentifier.	R
	Product ID type - see ONIX codelist 5	M	ProductIDType	
	ID type name, only if ID type = proprietary	D	IDTypeName	
	Product number	M	Identifier	
3	Response code, if no information can be sent for this product. If present, no further elements may be included in this product information record.	D	ResponseCoded.	
	Response type code: *06* Invalid product ID *07* No information for this product *08* Product record format not as requested	M	ResponseType	
	Free text description	D	ResponseTypeDescription	
4	MARC record encoding level (derived from MARC 21): # Full level *1* Full level, material not examined *2* Less-than-full level, material not examined *3* Abbreviated level *4* Core level *5* Partial (preliminary) level *7* Minimal level *8* Pre-publication level	D	RecordEncodingLevel	
5	URI for MARC record. May only be included for a record that is requested in un-encoded MARC 21 or UK MARC format.	D	RecordURI	
6	The content of a record must comprise the content of a MARC product information record that conforms to the record format specified in the header. Each record must also be consistent with the specified record type. May only be included for a record that is requested in MARCXML format or Base64-encoded MARC 21 or UK MARC format.	D	Record	

Example of a Response XML payload:

```
<MARCProductInformationResponse version="2.0"
      xmlns="http://www.bic.org.uk/librarywebservices/marcProductInformation">
  <Header>
    <IssueDateTime>20150418T1527</IssueDateTime>
    <SenderIdentifier>
      <SenderIDType>01</SenderIDType>
      <IDValue>XYZ</IDValue>
    </SenderIdentifier>
    <AccountIdentifier>
      <AccountIDType>01</AccountIDType>
      <IDValue>12345</IDValue>
    </AccountIdentifier>
    <ReferenceCoded>
      <ReferenceCodeType>01</ReferenceCodeType>
      <ReferenceNumber>001</ReferenceNumber>
      <ReferenceDateTime>20150418T152500</ReferenceDateTime>
    </ReferenceCoded>
    <RecordType>
      <RecordTypeCode>03</RecordTypeCode>
    </RecordType>
    <MARCRecordFormat>07</MARCRecordFormat>
  </Header>
  <MARCProductInformationRecord>
    <ProductIdentifier>
      <ProductIDType>03</ProductIDType>
      <IDValue>9781234567890</IDValue>
    </ProductIdentifier>
    <RecordEncodingLevel>1</RecordEncodingLevel>
    <Record>
      -- MARCXML RECORD HERE --
    </Record>
  </MARCProductInformationRecord>
</MARCProductInformationResponse>
```

Example of a Response JSON payload:


```
{
    "MARCProductInformationResponse": {
        "version": "2.0",
        "xmlns": "http://www.bic.org.uk/librarywebservices/marcProductInformation",
        "Header": {
            "IssueDateTime": "20150418T1527",
            "SenderIdentifier": {
                "SenderIDType": "01",
                "IDValue": "XYZ"
            },
            "AccountIdentifier": {
                "AccountIDType": "01",
                "IDValue": "12345"
            },
            "ReferenceCoded": {
                "ReferenceCodeType": "01",
                "ReferenceNumber": "001",
                "ReferenceDateTime": "20150418T152500"
            },
            "MARCRecordFormat": "05"
        },
        "MARCProductInformationRecord": {
            "ProductIdentifier": {
                "ProductIDType": "03",
                "IDValue": "9781234567890"
            },
            "RecordEncodingLevel”: "1",
            "Record": "-- LINK TO MARC 21 RECORD HERE --"
        }
    }
}
```