



# *Book Industry Communication*

## **e4books Web Services Standards Post Financial Document**

Version 0.9, 20 November 2007

This document specifies in human-readable form the e4books web services Post Financial Document Request and Response formats.

One format is specified for Request, for use with implementations that use either SOAP or the basic HTTP protocol and HTTP POST method.

The same Response format will apply to both basic HTTP and SOAP exchanges.

The complete specification of the Post Financial Document Request/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 version of the web service
- an XML Schema for Requests and Response payloads in XML format.

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.

### **Business requirements**

Where a suitable trading partner agreement exists, there is a need for a supplier to be able to post invoices and credit notes as digital documents to a buyer or to an aggregation service, both as original and as copy documents. There may in future be a need to post other financial documents, such as debit notes and statements.

Invoices and credit notes may only be posted in real-time in XML format. The XML format is closely based upon the EDItX trade invoice format developed by EDItEUR.

NOTE – This draft does not provide format details for retrieval of credit notes in XML format. An EDItX credit note format is under development.

Invoices and credit notes may be posted in PDF format, in which case the request will include a URI from which the PDF file can be retrieved.

### **Example use case**

A supplier wishes to trickle invoices to a customer or aggregation service in real time as they are raised. As each invoice is raised the supplier generates an XML invoice and posts it onto the customer's system using a Post Financial Document web service implementation.

## POST FINANCIAL DOCUMENT – REQUEST

### Requests using the HTTP protocol and the HTTP GET method

Requests using the HTTP protocol and the HTTP GET method should include a query string containing parameters as specified below. Only a single document in PDF format, for which a URI for retrieval is specified, may be posted by this method.

	Parameter description	M <sup>1</sup>	Name	
1	A unique identifier for the sender of the Request. An alphanumeric string not containing spaces or punctuation. The form of the identifier used must be agreed between the parties to an exchange.	M	ClientID	
2	An encrypted password to further authenticate the sender of the request	M	ClientPassword	
3	Identification number of this request	D	RequestNumber	
4	A code value from a BIC-controlled codelist for the scheme used for the customer account identifier (see ONIX codelist 44). Mandatory in all post financial document requests. Permitted values are: 02 Proprietary 06 EAN-UCC GLN 07 SAN 11 PubEasy PIN	M	AccountIDType	
5	Account identifier for this request, using the specified scheme. Mandatory in all post financial document requests All retrieved financial documents must relate to this account.	M	AccountIDValue	
6	A date/time reference for this request	D	IssueDateTime	
7	Document type. Permitted values are: 01 Invoice 02 Credit note	M	DocumentType	
8	Document number	M	DocumentNumber	
9	Settlement due date – YYYYMMDD	D	SettlementDueDate	
10	Gross value of invoice or credit note. If the document is a credit note, the value must be negative.	D	GrossValue	
11	Net value of invoice or credit note. If the document is a credit note, the value must be negative.	D	NetValue	
12	Currency of value(s) if not the default currency.	D	CurrencyCode	
13	URI of document in PDF format	D	PDFDocumentURI	

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

<http://www.bookbuyer.co.uk/FinancialDocumentReceivingService?ClientID=12345&ClientPassword=x9a44Ysj&AccountIDType=02&AccountIDValue=XYZ&DocumentType=01&DocumentNumber=01234567&PDFDocumentURI=ftp://ftp.supplier.co.uk/invoices/0987654.pdf>

<sup>1</sup> In the column headed "M", "M" means mandatory, and "D" means dependent.

**Requests using SOAP or non-SOAP protocols and using the HTTP POST method**

Requests using the HTTP POST method should include a request document as the body of a request message. Multiple documents may be specified using this method.

**Request document name and version**

	<b>Post Financial Document request Version 0.9</b>		<b>&lt;PostFinancialDocumentRequest version="0.9"&gt;</b>	
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**Header**

	<b>Request header</b>	<b>M</b>	<b>Header.</b>	<b>2</b>
1	A unique identifier for the sender of the request. An alphanumeric string not containing spaces or punctuation	M	ClientID	
2	An encrypted password to further authenticate the sender of the request	M	ClientPassword	
3	Account identifier. Mandatory in all post financial document requests. A code value from a BIC-controlled codelist for the scheme used for the account identifier (see ONIX codelist 44). Permitted schemes are: 02 Proprietary 06 EAN-UCC GLN 07 SAN 11 PubEasy PIN Account identifier for this request, using the specified scheme	M 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, ie letter T	D	IssueDateTime	
6	Document format. Permitted values are: 01 XML 02 PDF	M	DocumentFormat	

<sup>2</sup> An 'R' in the right-most column means that the element is repeatable.

**Request detail**

	<b>Item detail</b>	<b>D</b>	<b>ItemDetail.</b>	<b>R</b>
1	Post financial document line number	M	LineNumber	
2	Party to whom the document is to be sent Party identifier Party ID Type 02 Proprietary 06 EAN-UCC GLN 07 SAN Identifier string Party name	M M M  M D	DocumentToParty. PartyID PartyIDType  IDValue PartyName	
3	Document type. Permitted values are: 01 Invoice 02 Credit note	M	DocumentType	
4	Document number	M	DocumentNumber	
5	Settlement due date – YYYYMMDD	D	SettlementDueDate	
6	Gross value of invoice or credit note. If the document is a credit note, the value must be negative.	D	GrossValue	
7	Net value of invoice or credit note. If the document is a credit note, the value must be negative.	D	NetValue	
8	Currency of value(s) if not the default currency.	D	CurrencyCode	
9	Document in XML format. Each item detail must contain either an XML document or the URI from which the document may be retrieved in PDF format. This element must contain either an <Invoice> element or a <CreditNote> element, as specified in this document.	D	XMLDocument	
10	URI of document in PDF format	D	PDFDocumentURI	

*Example of a Post Financial Document Request XML payload using either the SOAP or the HTTP protocol and the HTTP POST method, including a URI for an invoice in PDF format:*

```
<PostFinancialDocumentRequest version="0.9"
xmlns="http://www.bic.org.uk/webservices">
  <Header>
    <ClientID>12345</ClientID>
    <ClientPassword>x9a44Ysj</ClientPassword>
    <AccountIdentifier>
      <AccountIDType>01</AccountIDType>
      <IDValue>12345</IDValue>
    </AccountIdentifier>
    <RequestNumber>001</RequestNumber>
    <IssueDateTime>20070725T1525</IssueDateTime>
    <DocumentFormat>02</DocumentFormat>
  </Header>
  <ItemDetail>
    <LineNumber>1</LineNumber>
    <DocumentToParty>
      <PartyID>
        <PartyIDType>07</PartyIDType>
        <IDValue>99999</IDValue>
      </PartyID>
    </DocumentToParty>
    <DocumentType>01</DocumentType>
    <DocumentNumber>0987654</DocumentNumber>
    <SettlementDueDate>20070725</SettlementDueDate>
    <GrossValue>999.99</GrossValue>
    <NetValue>999.99</NetValue>
    <PDFDocumentURI>ftp://ftp.supplier.co.uk/invoices/0987654.pdf</PDFDocumentURI>
  </ItemDetail>
</PostFinancialDocumentRequest>
```

## INVOICE DETAIL

Version 1.0 of the EDItX Trade Invoice format is intended to be used by a publisher or publisher's distributor to send invoices to a wholesaler or retailer, or by a wholesaler to send invoices to a retailer, where delivery is made in bulk to a trade warehouse or retail store, or direct to a consumer on the retailer's behalf ("CDF" or consumer direct fulfilment). For invoices from library book suppliers to libraries, see the EDItX Library Invoice format. Each of these Invoice formats is based on a set of common elements and a consistent overall structure, but each has additional functionality specific to its application.

This draft only covers invoices by shipment. For this type of invoice, the assumptions are that (a) one invoice will always correspond to one shipment, while one shipment may correspond to one order, or may include items from several different orders, and (b) there may be additional charges or allowances related to a line item, or to an order, or to the whole shipment covered by the invoice.

The format supports two alternative broad structures:

### 1. *Shipment consisting of line items from any number of orders*

The structure for this form of invoice is as follows:

<Header>	
<ItemDetail>	(repeatable)
<AdditionalCharge>	(repeatable)
<AdditionalAllowance>	(repeatable)
<InvoiceAdditionalCharge>	(repeatable)
<InvoiceAdditionalAllowance>	(repeatable)
<Summary>	

In this case, each line item carries its own order reference, and it is not possible to show whole-order-related charges or allowances.

### 1. *Shipment consisting of one or more whole orders*

The structure for this second form of invoice is as follows:

<Header>	
<OrderDetail>	(repeatable)
<OrderAdditionalCharge>	(repeatable)
<OrderAdditionalAllowance>	(repeatable)
<ItemDetail>	(repeatable)
<AdditionalCharge>	(repeatable)
<AdditionalAllowance>	(repeatable)
<InvoiceAdditionalCharge>	(repeatable)
<InvoiceAdditionalAllowance>	(repeatable)
<Summary>	

In this case, the order reference is given at OrderDetail level, and whole-order-related charges and allowances can be carried, as well as item-related and whole-invoice-related.

## Document name and version

Invoice Version 1.0	<Invoice version="1.0">
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## Invoice Header

	Element	M <sup>3</sup>	Invoice.Header.	
1	Invoice number	M	InvoiceNumber	
2	Document date/time: the date/time when the report was generated. Permitted formats are: YYYYMMDD YYYYMMDDTHHMM YYYYMMDDTHHMMZ (universal time) YYYYMMDDTHHMM±HHMM (time zone) where "T" represents itself, ie letter T	M	IssueDateTime	
3	Document type Invoice (recognised as original for accounting and tax purposes) Copy invoice (for electronic processing only); the original (paper) invoice remains authoritative	D	DocumentType <i>Invoice</i>  <i>CopyInvoice</i>	
3	Document references (repeatable) Reference type Bill of Lading reference Buyer's order reference (when the whole invoice refers to a single order) Carrier's proprietary tracking reference Ship notice / despatch advice reference SSCC-18 standard package number Reference Reference date YYYYMMDD	D M     D D	ReferenceCoded. ReferenceTypeCode <sup>4</sup> <i>BOLReference</i> <i>BuyersOrderReference</i>  <i>CarrierTrackingReference</i> <i>ASNReference</i> <i>SSCC-18</i> ReferenceNumber ReferenceDate	R
4	Document function New document sent for the first time Copy of a document previously sent Document sent for test purposes only	M	PurposeCode <i>Original</i> <i>Duplicate</i> <i>Test</i>	
5	Invoice currency Values: ISO 4217 currency codes	D	CurrencyCode	
6	Country code: ISO 3166-1 country code. If the currency is legal tender in more than one country, used to indicate the price details are specific to that country	D	CountryCode	
7	Invoice dates (repeatable) Date YYYYMMDD Date qualifier code Meter date (the date when a CDF shipment was weighed and metered) Tax point date (required in VAT invoices even when the same as the Invoice Date)	D M M	DateCoded. Date DateQualifierCode <i>MeterDate</i>  <i>TaxPointDate</i>	R

<sup>3</sup> In the column headed "M", "M" means mandatory and "D" means dependent.

<sup>4</sup> Purchase order references do not appear in the header. They may be carried either at the start of the Detail element, or within each line item.

## Invoice Header (continued)

	Element	M	Invoice.Header.	
8	Buyer Party (bill and ship to, unless otherwise stated) Party identifier Party ID Type 02 Proprietary 06 EAN-UCC GLN 07 SAN Identifier string Party name Address Communication details (phone, fax etc) Contacts Country where located. Must be specified when needed for tax purposes.	M M M  M D D D D D	BuyerParty. PartyID PartyIDType  IDValue PartyName PostalAddress CommunicationDetails ContactPerson CountryCode	
9	Vendor / Supplier <sup>5</sup>	M	SellerParty.	
10	Ship to / Deliver to <sup>2</sup> (if different from buyer)	D	ShipToParty.	
11	Bill to / Invoice to <sup>2</sup> (if different from buyer)	D	BillToParty.	
12	Shipping detail (the warehouse location from which the items have been or are being shipped) Location must contain at least one location identifier or one location name or both. Location identifier Location name	D M D D	ShippedFrom. Location LocationIdentifier LocationName	R
13	Means of delivery Requested delivery time (controlled list of standard values) Use specified vendor delivery service (values defined by vendor) Send by specified carrier. Must include either a coded carrier name or a free-text carrier name or both. Coded carrier name Coding scheme type (EDItEUR, Seller, Buyer, DE, GB, SE or US) Carrier name code Free text carrier name Use specified carrier delivery service (values defined by carrier) Free text delivery instruction	D D D D D M M D D	Delivery. DeliveryTimeCode VendorDeliveryService Carrier. CarrierNameCoded CarrierNameCodeType CarrierNameCode CarrierName CarrierService DeliveryNotes	
14	Terms: credit period Number of days from date of invoice; or Due date YYYYMMDD, or Extension to default credit period	D D D D	PaymentTerms. NetDaysDue NetDueDate ExtendedDays	
15	Payment terms specified using a code Coding scheme (Seller, Buyer, AU, DE, GB, NO, SE or US) Code value	D M M	PaymentTermsCoded PaymentTermsCodeType PaymentTermsCode	
16	Settlement discount terms Number of days from date of invoice Discount percentage	D M M	SettlementDiscount NumberOfDays DiscountPercentage	R

<sup>5</sup> All of elements 9, 10 and 11 have the same structure as 8.



**Invoice Order detail** (continued)

	Element	M	Invoice. OrderDetail.	R
4	Message included at order level (absence of this element means "no message included") (repeatable). The specified message is in all documents relating to the order. Message type: values 01 to 99 defined by trading partner agreement Message content (repeatable)	D M M	Message.  MessageType  MessageLine	R   R
5	Line items (repeatable)	D	ItemDetail (see next page)	R

**Invoice Line item detail**

If an invoice contains items from different orders and there are no order-related charges, allowances or messages, the element OrderDetail layer may be omitted.

	Element	D	Invoice.ItemDetail. Invoice.OrderDetail.ItemDetail.	R
1	Line item number: a sequence number starting at 1 in each document.	M	LineNumber	
2	Product identifier (repeatable) Product ID type – values <i>ISBN (10-digit), EAN13 (use also for ISBN-13), UPC, ISMN, GTIN14, SKU, Seller</i> (use for a supplier-defined product ID), <i>Buyer</i> (use for a customer-defined product ID), <i>Proprietary</i> (use for a third-party proprietary scheme, which must be named in the element IDTypeName). Name of proprietary product ID scheme. Mandatory if the scheme is 'Proprietary'. Product number	M M D M	ProductID ProductIDType  IDTypeName  Identifier	R
3	Item description (not usually sent in trade orders) Author/title etc as a single element	D M	ItemDescription. TitleDetail	
4	Item Related Party; used where the ordered item can only be fully identified with reference to some third party, e.g. an importer or bankrupt stock owner Related party role (code list to be defined) Party identifier Party ID Type 02 Proprietary 06 EAN-UCC GLN 07 SAN Identifier string Party name Address Communication details (phone, fax etc) Contacts	M D M M M D D D D	ItemRelatedParty.  PartyRole PartyID PartyIDType  IDValue PartyName PostalAddress CommunicationDetails ContactPerson	R       R R
5	Quantity invoiced	M	InvoicedQuantity	



## Invoice Line item detail (continued)

	Element	D	Invoice.ItemDetail.	R
			Invoice.OrderDetail.ItemDetail.	
9	Additional charge (at line item level)	D	AdditionalCharge.	R
	Charge type	M	ChargeTypeCode	
	Charge type description	D	ChargeTypeDescription	
	Charge reference (repeatable composite)	D	ReferenceCoded	R
	Charge calculation	D	ChargeCalculation	
	Number of units	M	ChargeQuantity	
	Rate per unit	M	AmountPerUnit	
	Charge amount excluding tax (required only if tax must be accounted for)	D	ChargeAmountExcludingTax	
	Tax on additional charge (in countries where tax must be accounted for) (non-repeating)	D	Tax.	
	Tax type	M	TaxTypeCode	
	Tax rate code	D	TaxRateCode	
	Tax rate percent	D	Percent	
	Tax amount	D	TaxAmount	
	Charge amount	M	ChargeAmount	
	Currency: ISO 4217 currency codes	D	CurrencyCode	
	Country code: ISO 3166-1 country code. If the currency is legal tender in more than one country, used to indicate the charge details are specific to that country	D	CountryCode	

**Invoice Trailer**

	Element	M	Invoice.Summary.	
1	Number of line items	M	NumberOfLines	
2	Sum of invoiced quantities – all lines	D	UnitsInvoiced	
3	Invoice total excluding tax (in countries where tax must be accounted for)	D	TotalExcludingTax	
4	Invoice total tax (in countries where tax must be accounted for)	D	TotalTax	
5	Invoice total payable	M	TotalPayable	
4	Invoice tax summary (repeatable for each tax type and rate occurring in the invoice, in countries where tax must be accounted for)	D	Tax.	R
	Tax type	M	TaxTypeCode	
	Tax rate code	D	TaxRateCode	
	Tax rate percent	D	Percent	
	Total amount taxable at this rate	M	AmountTaxable	
	Total amount of tax at this rate	M	TaxAmount	

*Example of a Post Financial Document Request XML payload using either the SOAP or the HTTP protocol and the HTTP POST method, including a URI for an invoice in XML format:*

```
<PostFinancialDocumentRequest version="0.9"
xmlns="http://www.bic.org.uk/webservices">
  <Header>
    <ClientID>12345</ClientID>
    <ClientPassword>x9a44Ysj</ClientPassword>
    <AccountIdentifier>
      <AccountIDType>01</AccountIDType>
      <IDValue>12345</IDValue>
    </AccountIdentifier>
    <RequestNumber>001</RequestNumber>
    <IssueDateTime>20070725T0001</IssueDateTime>
    <DocumentFormat>01</DocumentFormat>
  </Header>
  <ItemDetail>
    <LineNumber>1</LineNumber>
    <DocumentToParty>
      <PartyID>
        <PartyIDType>07</PartyIDType>
        <IDValue>99999</IDValue>
      </PartyID>
    </DocumentToParty>
    <DocumentType>01</DocumentType>
    <DocumentNumber>0987654</DocumentNumber>
    <SettlementDueDate>20070725</SettlementDueDate>
    <GrossValue>999.99</GrossValue>
    <NetValue>999.99</NetValue>
    <XMLDocument>
      <!-- XML INVOICE HERE -->
    </XMLDocument>
  </ItemDetail>
</PostFinancialDocumentRequest>
```

## **CREDIT NOTE DETAIL**

--- AWAITING DEFINITION OF EDItX CREDIT NOTE FORMAT ---

## POST FINANCIAL DOCUMENT – RESPONSE

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.

### Response document name and version

	<b>Post Financial Document response Version 0.9</b>		<b>&lt;PostFinancialDocumentResponse version="0.9"&gt;</b>	
1	Document date/time: the date/time when the report was generated. Permitted formats are: YYYYMMDD YYYYMMDDTHHMM YYYYMMDDTHHMMZ (universal time) YYYYMMDDTHHMM±HHMM (time zone) where "T" represents itself, ie 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. Mandatory in all responses. 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: 02 Proprietary 06 EAN-UCC GLN 07 SAN 11 PubEasy PIN Account identifier for this request, using the specified scheme	M M M	AccountIdentifier. AccountIDType  IDValue	
5	References: request number and/or date/time of request must be quoted if included in the request.  Reference type 01 Number of associated post invoice request  Reference number / string  Reference date or date and time. Mandatory if an IssueDateTime is included in the request.	D M M D	ReferenceCoded  ReferenceTypeCode  ReferenceNumber ReferenceDateTime	
6	Response code, if there are exception conditions.  Response type code. Suggested code values: 01 Service unavailable 02 Invalid ClientID or ClientPassword 03 Server unable to process request 16 Invalid or unknown account identifier  Free text description	D M D	ResponseCoded. ResponseType  ResponseTypeDescription	R

## Response detail

	<b>Details of each financial document that has been received. Mandatory unless the header reports a condition that prevents any response</b>	<b>D</b>	<b>ItemDetail.</b>	<b>R</b>
1	Post Invoice response item line number	D	LineNumber	
2	Request reference - request line number and reference date/time must be quoted if included in the request at the item detail level. Reference type code 02 Post financial document request line number Reference number / string Reference date or date and time	D M M D	ReferenceCoded  ReferenceTypeCode  ReferenceNumber ReferenceDateTime	
2	Document type. Permitted values are: 01 Invoice 02 Credit note	M	DocumentType	
3	Document number. A document number must be included in each response line, matching the corresponding post request line.	M	DocumentNumber	
4	Response code, if there are exception conditions. Response type code. Suggested code values: 03 Unable to process this item Free text description. Mandatory, as it will always be necessary to describe the exception condition in more detail.	D M D	ResponseCoded. ResponseType  ResponseTypeDescription	R

*Example of a Post Financial Document Request XML payload using either the SOAP or the HTTP protocol and the HTTP POST method, including a URI for an invoice in XML format:*

```
<PostFinancialDocumentResponse version="0.9"
xmlns="http://www.bic.org.uk/webservices">
  <IssueDateTime>20070725T153000</IssueDateTime>
  <SenderIdentifier>
    <SenderIDType>02</SenderIDType>
    <IDValue>XYZ</IDValue>
  </SenderIdentifier>
  <AccountIdentifier>
    <AccountIDType>01</AccountIDType>
    <IDValue>12345</IDValue>
  </AccountIdentifier>
  <ReferenceCoded>
    <ReferenceTypeCode>01</ReferenceTypeCode>
    <ReferenceNumber>001</ReferenceNumber>
    <ReferenceDateTime>20070725T152500</ReferenceDateTime>
  </ReferenceCoded>
  <ItemDetail>
    <ReferenceCoded>
      <ReferenceTypeCode>02</ReferenceTypeCode>
      <ReferenceNumber>1</ReferenceNumber>
    </ReferenceCoded>
    <DocumentType>01</DocumentType>
    <DocumentNumber>0987654</DocumentNumber>
  </ItemDetail>
</PostFinancialDocumentResponse>
```