



## **PROGRAMME & DEVELOPMENT SERVICES**

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# **XML Services**

**Ver. 10.0.1**

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Reference Document – Shipment Preparation Guide

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## Revision History

XML Services version	Release Date	Comments
10.0		XMLPI Shipment Preparation Guide
10.0.1	20 <sup>th</sup> May, 2022	Renamed “Labelless” to “Label-Free” in overall document.



## 1 Introduction

This document explains how to prepare the shipment request for specific scenarios that customers may encounter. The ones highlighted in this document are:

Paperless Trade (PLT)  
 Label Utility  
 Break-Bulk Express (BBX)  
 Label-Free (QR code)

## 2 Paperless Trade (PLT) Functionality

### 2.1 Types of Shipment

PLT only applies to customs declarable shipments, so for domestic shipping or intra-EU shipping the PLT concept doesn't apply.

There are two ways to prepare customs declarable shipments:

- i. Non-Paperless Trade (non-PLT) shipments
- ii. Paperless Trade (PLT) shipments

Non-PLT shipments require a physical hardcopy of the commercial invoice and waybill document to accompany the physical shipment. Typically this requirement is to satisfy regulatory compliance at origin or destination.

PLT shipments permit an electronic copy of the commercial invoice and waybill document to accompany the shipment, thus avoiding the need for the shipper to print a commercial invoice and waybill doc and handover with the physical shipment. DHL Express staff or third parties accepting the shipment refer to the PLT indicator on the transport label to determine whether or not to require the printed paperwork from the shipper.

THE BURROUGHS	
NW4 4BT LONDON	
UNITED KINGDOM	
GB-LHR-LNW	
C-PLT	Day Time



Please refer to the following Reference documents in Toolkit\documents\ReferenceDocuments directory for global schema of the XML Services Shipment Validation service:

- XMLServices10.0.6\_ShipmentValidationService.doc (Global schema)

## 2.3 How to prepare a PLT Shipment

To indicate a shipment is PLT, include the WY special service code in the shipment request.

Element located in SpecialService segment at  
/req:ShipmentValidateRequest/SpecialService/SpecialServiceType.

Example:

```
<SpecialService>  
<SpecialServiceType>WY</SpecialServiceType>  
</SpecialService>
```

Shipment Request characteristics for using PLT are:

1. Commercial Invoice image available with the shipment request, either:
  - a. Use the DHL generated commercial invoice image where the data provided in the ExportDeclaration element will be used to render the commercial invoice on a DHL managed template, or  
<UseDHLInvoice>Y</UseDHLInvoice>
  - b. Include a shipper provided commercial invoice image in the shipment request where <DocImages> element contains the commercial invoice or other supporting document images required for Customs clearance. The images must be base64 encoded (not as an embedded image file of some kind). The image file type which has been encoded must also be defined here.

Element located at /req:ShipmentRequest/DocImages.

Example:

```
<DocImages>  
<DocImage>  
<Type>CIN</Type>  
<Image>IG9iago8PC9MZW5ndGggNiAwIFlvRmlsdGVyICF</Image>  
<ImageFormat>PDF</ImageFormat>  
</DocImage>  
</DocImages>
```



2. The shipment is customs declarable, indicated with the Dutiable flag:

Element located at  
/req:ShipmentValidateRequest/ShipmentDetails/IsDutiable

Example:  
<IsDutiable>Y</IsDutiable>

3. <GlobalProductCode> element must contain value of global product code which is dutiable (non-doc) product and supported PLT capability

The customer must include functionality in their application which creates the XML Services Shipment Validation Requests to encode the image files submitted in base64. There is no encoding functionality provided in the XML Services Tool Kit.

The customer submits the Shipment Validation Request to DHL in the same way as for a regular shipment and will receive a response in the same way.

If a success response is received with an element <PLTStatus> populated with A then the response can be used to create the Air Waybill shipment label. The resulting Air Waybill label will include PLT in reverse video on the Services section.

## 3 Label Utility Functionality

### 3.1 Using the Label Utility

An XML Services Shipment Validation Response can be returned, both for Regular and PLT shipments, with an element containing an image of the labels in either PDF format or EPL2, ZPL2 or LP2 printer code encoded in base64.

To receive such a response <LabelImageFormat> element must be included in the Shipment Validation Request and state the Output format required. This may contain either in PDF, EPL2, ZPL2 or LP2.

The Shipment Validation Response returned includes:  
<OutputFormat> which states the image type returned, corresponding to the content of <LabelImageFormat> in the corresponding Shipment Validation Request



<OutputImage> containing the image in base64.

The customer can then use the Label utility in the XML Services Toolkit to generate labels from the Shipment Validation Response.

Refer to ToolKit\_v10.0.7pdf section 3.2.1., Settings to execute generateLabel script (Label Utility) functionality for details.

In summary, the following steps are followed after double clicking on 'generateLabel.cmd' or run it via the command prompt to open the Label Utility:

- i. Against Shipment Response XML File select the Shipment Validation Response from which the labels are to be created
- ii. Against "Label Type" select "Both", to create both an Air Waybill shipment label and Archive Air Waybill label
- iii. Against "Output Format" select the same as given in <OutputFormat> in the Shipment Validation Response
- iv. If Output Format is PDF select the location where the resulting image files are to be placed against "Output PDF Location" using Browse
- v. If Output Format is any other value select the printer to be used against Printer using Browse
- vi. Select Submit

The Label utility will decode the <OutputImage> image value in Shipment Validation Response. If PDF was selected against "Label Type" the resulting file will be stored in the stated location. If EPL2, ZPL2 or LP were selected the Air Waybill label and Archive Air Waybill label will be printed on the stated printer.

### **3.2 Generating Waybill Label and Archive Document without the Label Utility**

If the customer requires to write their own application to create the label images they can decode the contents of the <OutputImage>. Sample decode source code is available in the toolkit source code directory.

Alternatively, they can use the data in the individual elements in the XML Services Shipment Validation Response in conjunction with label specifications available from DHL. In this case there is no need to include <LabelImageFormat> in the initial Shipment Validation Request.

## 4 BBX Functionality

### 4.1 Definition

BBX consists of a 'Mother' shipment which is cleared as one single shipment on entry to the nominated country/region of import. The mother will contain multiple 'Baby' shipments consigned to different receivers belonging to the same customs zone.

BBX can be either a physical consolidation (palletized BBX) or logical consolidation only (loose BBX). Both styles have the same consolidation of the mother level for export/import clearance and use the same products but different service codes.

The same logical process should be followed for Loose BBX and Palletized BBX however there are few minor differences, namely:

- Transport label templates
- Special services codes
- Mother pieces (only used for palletized)

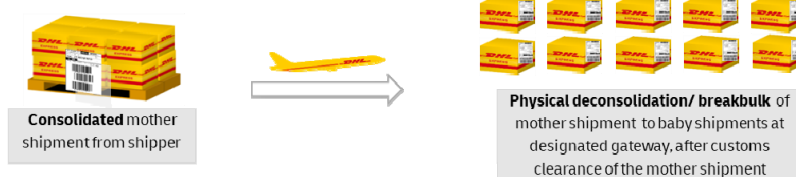
**Loose Bulk Express (LBX)** is a new service offering which enables both consolidated Export & Import clearance in a customs union or country, without any physical consolidation by the shipper. Therefore individual pieces are transported as loose pieces from the origin to the destination final mile.



Notes:

\*\* Piece ID on the Transport Label is referred as PID.

**Break Bulk Express (BBX)** is the traditional service offering to customers which enables multiple (baby) shipments to be consolidated into a single (mother) shipment for single customs clearance in a customs union or country. Physical shipment consolidation by the shipper is required.







Both BBX and LBX service require approval from relevant DHL teams before they can be deployed. Ask your DHL representative to confirm that approvals have been obtained before commencing development.

## 4.2 How to prepare a Traditional/Palletized BBX shipment

The overall process for Palletized BBX is as follows:

1. Start Consolidation- you'll need a mother AWB assigned at this point and store it locally so it can be applied to all baby shipments
  - a. Obtain a Parent ShipmentID/Mother AWB (SID) by calling MyDHL API requestIdentifier service
  - b. Fetch a Parent Piece Identifier(s) (PID) by calling MyDHL API requestIdentifier service
  - c. Note both SID and PID can be fetched in the same message request/response
  - d. Each destination customs zone represents a single consolidation
    - i. To prepare multiple consolidations (i.e. destination EU, destination UK), each consolidation will have its own mother AWB.
2. Create baby shipments
  - a. <Shipper> and <Consignee> section must contain the Baby Shipment's details
  - b. <GlobalProductCode> must contain value of 'B'
  - c. <ParentShipmentGlobalProductCode> must contain the Parent Shipment's Global product code (typically 'P')
  - d. If <ParentShipmentGlobalProductCode> is H for ESI, then <SpecialServiceType> element must contain value of 'YX'
  - e. References to the mother shipment
    - i. <ReferenceType> must contain value of 'ACL'
    - ii. <ReferenceID> must contain the Parent Shipment ID/ mother AWB (this is required for the Parent AWB number to print on the baby shipment transport label and waybill doc)
    - iii. <ParentShipmentIdentificationNumber> must contain the Parent Shipment ID/ mother AWB obtained from Step 1
  - f. References to the mother piece
    - i. <ReferenceType> element must contain value of 'ACL'
    - ii. <ReferenceID> element must contain the corresponding Parent Piece ID/ mother PieceID



- iii. <ParentPieceIdentificationNumber> element must contain the corresponding Parent Piece ID/ mother PieceID
- 3. Calculate totals of all baby shipments in the consolidation
- 4. Create Mother Shipment (Close Consolidation)
  - a. <GlobalProductCode>P</GlobalProductCode>
  - b. <SpecialServiceType> must contain value of 'YW'
  - c. Consignee Address is DHL's deconsolidation address. It will be the DHL Destination Gateway facility and required details can be obtained from DHL Representative.
  - d. <ShipmentIdentificationNumber> populated with mother AWB number/ShipmentID
  - e. <UseOwnShipmentIdentificationNumber>Y</UseOwnShipmentIdentificationNumber>
  - f. <PieceIdentificationNumber> populated with mother PieceID (this is required for the Parent PieceID number to print on the baby shipment transport label and waybill doc)
  - g. <UseOwnPieceIdentificationNumber>Y</UseOwnPieceIdentificationNumber>

### 4.3 How to prepare a Loose BBX shipment

The overall process for Loose BBX (LBX) is as follows:

- 1. Start Consolidation- you'll need a mother AWB assigned at this point and store it locally so it can be applied to all baby shipments
  - a. Obtain a Parent ShipmentID/Mother AWB (SID) by calling MyDHL API requestIdentifier service
  - b. Fetch a Parent Piece Identifier(s) (PID) by calling MyDHL API requestIdentifier service
  - c. Note both SID and PID can be fetched in the same message request/response
  - d. Each destination customs zone represents a single consolidation
    - i. To prepare multiple consolidations (i.e. destination EU, destination UK), each consolidation will have its own mother AWB.
- 2. Create baby shipments
  - a. <Shipper> and <Consignee> section must contain the Baby Shipment's details
  - b. <GlobalProductCode> must contain value of 'B'
  - c. <ParentShipmentGlobalProductCode> must contain the Parent Shipment's Global product code (typically 'P')

- d. <Importer Element> must contain the importer of the shipment. This information is the same as the consignee element of the mother shipment.
- e. <SpecialServiceType> element must contain value of 'YZ'
- f. <LabelTemplate> element must contain the value of 'ECOM26\_84\_LBBX\_001'
- g. References to the mother shipment
  - i. <ReferenceType> must contain value of 'ACL'
  - ii. <ReferenceID> must contain the Parent Shipment ID/ mother AWB (this is required for the Parent AWB number to print on the baby shipment transport label and waybill doc)
  - iii. <ParentShipmentIdentificationNumber> must contain the Parent Shipment ID/ mother AWB obtained from Step 1
- 3. Calculate totals of all baby shipments in the consolidation
- 4. Create Mother Shipment (Close Consolidation)
  - a. <GlobalProductCode>P</GlobalProductCode>
  - b. <Piece> element of the mother shipment will be the same as the piece ids against LBX (baby) shipments
  - c. <SpecialServiceType> must contain value of 'YM' and 'WY'
  - d. <Shipper> element section must contain the Baby Shipment's details
  - e. <Consignee> element for the mother shipment is also known as the DHL Import Point of Entry. It will be the DHL Destination Gateway facility and required details can be obtained from DHL Representative.
  - f. <ShipmentIdentificationNumber> populated with mother AWB number/ShipmentID
  - g. <UseOwnShipmentIdentificationNumber>Y</UseOwnShipmentIdentificationNumber>
  - h. <ParentShipmentPackagesCount> element must contain the Parent Shipment's total number of pieces
  - i. Request for DHL Customs Invoice by indicating <RequestDHLCustomsInvoice> with value 'Y' and setting <CustomsInvoiceTemplate> with new template name 'COMMERCIAL\_INVOICE\_04'.

## 5 Label-Free Functionality

### 5.1 Definition

Label-Free functionality is to allow pick-up of shipments without a multi-ply or a printed transport label and waybill being available.



A QR Code will be provided to the shipper which can be scanned directly from their mobile devices as a replacement of hardcopy shipment transport label.

The QR Code will be used as a digital representative of shipment details, with information to facilitate customer contact points for drop-off or courier pick-up of shipment.

There are two ways to utilize the Label-Free functionality – 1) to receive a QR Code in response.

## 5.2 How to prepare a Label-Free shipment to receive QR Code

Customer may prepare a Label-Free shipment and receive a QR Code for scanning upon pick-up or dropoff.

1. Customer sends the ShipmentRequest message with mandatory fields
  - a. The <RequestQRCode> element must contain value 'Y'
  - b. <SpecialService/SpecialServiceType> element must contain value of 'PZ'
  - c. <SpecialService/SpecialServiceType> element must contain any one advance shipment special service type PT / PU / PV / PW. Providing more than one advance shipment special service code will result to error in response.
  - d. <ShipmentRequest/SpecialService/**SpecialServiceType**> element must contain the Paperless Trade service value of 'WY'.

Note: Paperless Trade service may not be available everywhere).

**Refer to section 2.3 for PLT shipment preparation guide.**

2. There will be no Transport Label image returned in response by default. <RequestTransportLabel> element value must be 'Y' if requiring a Transport Label image returned in response, together with the QR code image.
3. <QRCodeImageFormat> element must contain value 'PNG'.
4. <QRCodeTemplate> element must contain value 'QR\_1\_00\_LL\_PNG\_001'.
5. Customer receives ShipmentResponse message containing QR Code image in ShipmentResponse/Pieces/Piece/QRCode/Image element.



Customer may use the QR Code to be scanned upon courier pick-up or dropoff at a Service Center.



## 5 Appendix A: Glossary of Terms

Term	Definition
PLT	Paperless Trade: functionality to allow submission of paperwork for Customs clearance to be submitted to DHL electronically rather than printing and affixing it to the corresponding shipment. Only available where both shipment origin and destination Customs authorities do not mandate use of printed documentation PLT is not required if a shipment is not dutiable (i.e. does not need to be declared to Customs)
Non-Paperless Trade	Shipment where PLT is not used, either where it is dutiable and printed Customs documentation is attached to the shipment or where the shipment is not dutiable
BBX	BreakBulk Shipment
LBBX	Loose BreakBulk Shipment