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## **PROGRAMME & DEVELOPMENT SERVICES**

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# **XML Services**

**Ver. 10.0**

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Reference Document – Shipment Preparation Guide

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## 1 Introduction

This summarises the:

BBX functionality, PLT functionality and Label Utility functionality in XML Services Shipment Validation service in v10.0.

## 2 PLT Functionality

### 2.1 Types of Shipment

There are two types of shipments supported in XML Services Shipment Validation service:

- i. Regular shipments
- ii. Paperless Trade (PLT) shipments

Regular is that type supported exclusively in all versions of XML Services previous to v6.1.

PLT shipments are now also supported in XML Services v6.0. This provides the ability for customers to send a Commercial Invoice and other Customs documentation for a shipment as images to DHL Express electronically. This is used instead of printing such paperwork to each physical package, as used with Regular shipments.

XML Services will only allow use of PLT for dutiable shipments. Also a number of countries' Customs authorities do not allow either or both exporting or importing without printed Customs paperwork affixed to shipments. In such cases Regular shipments must be sent and XML Services will not permit use of PLT.

Loose BBX and Labelless shipment are now supported in XML Services v10.0 schema. Loose BBX provides the ability to customers to manage the Parent and Baby relationship shipment. Parent or Mother shipment will be created after Baby Shipment creation.

Labelless shipment will address customers who lacks printer facilities to print shipment's Transport Label. Shipper will be provided a QR code which can be scanned directly from their mobile devices as replacement of hardcopy of shipment's 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.



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

- XMLServices10.0\_ShipmentValidationService.doc (Global schema)

## 2.2 Registration

Customers who wish to subscribe PLT shipment (even if they are current users of XML Services for Regular shipments) must register to use PLT, and must contact their local DHL ESS team for assistance to do so.

## 2.3 How to prepare a PLT Shipment

After a customer has registered for PLT (i.e. their XML Services credentials are enabled for submission of PLT submission) they can submit PLT enabled XML Services Shipment Validation Request messages.

The following elements with the contents described below must be included in a PLT Shipment Validation Request:

- `<IsDutiable>` element must contain value of 'Y'  
Element located at `/req:ShipmentValidateRequest/ShipmentDetails/IsDutiable`  
Example:  
`<IsDutiable>Y</IsDutiable>`
- `<Dutiable>` element must be included  
Element located at `/req:ShipmentRequest/Dutiable`  
Example:  
`<Dutiable>`  
`<DeclaredValue>200.00</DeclaredValue>`  
`<DeclaredCurrency>USD</DeclaredCurrency>`  
`<ScheduleB>3002905110</ScheduleB>`  
`<ExportLicense>D123456</ExportLicense>`  
`<ShipperEIN>112233445566</ShipperEIN>`  
`<ShipperIDType>S</ShipperIDType>`  
`<ImportLicense>ImportLic</ImportLicense>`  
`<ConsigneeEIN>ConEIN2123</ConsigneeEIN>`  
`<TermsOfTrade>DTP</TermsOfTrade>`  
`</Dutiable>`

- iii. <GlobalProductCode> element must contain value of global product code which is dutiable (non-doc) product and supported PLT capability
- iv. <SpecialServiceType> element must contain value of 'WY'  
Element located in SpecialService segment at  
/req:ShipmentValidateRequest/SpecialService/SpecialServiceType.  
Example:  
<SpecialService>  
<SpecialServiceType>WY</SpecialServiceType>  
</SpecialService>
- v. <DocImages> element must contain the commercial invoice or other supporting document images required for Customs clearance, encoded in base64 (not as an embedded image file of some kind), and 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>
- vi. Request for custom invoice rendering using <UseDHLInvoice> option and provide the sufficient <ExportDeclaration> element details.  
Note: This does not require providing <DocImages> element with custom invoice images.  
Elements located at /req:ShipmentRequest/UseDHLInvoice and  
/req:ShipmentRequest/ExportDeclaration.  
Example:  
<UseDHLInvoice>Y</UseDHLInvoice>  
.....  
<ExportDeclaration>  
    <SignatureName>SignatureName</SignatureName>  
    <SignatureTitle>SignatureTitle</SignatureTitle>  
    <ExportReason>ExportReason</ExportReason>  
    <ExportReasonCode>P</ExportReasonCode>  
    <InvoiceNumber>12345</InvoiceNumber>  
    <InvoiceDate>2017-06-26</InvoiceDate>  
    <Remarks>Successfully processed</Remarks>  
    <TermsOfPayment>30 days</TermsOfPayment>  
    <OtherRemarks2>OtherRemarks2</OtherRemarks2>



```

<OtherRemarks3>OtherRemarks3</OtherRemarks3>-->
.....
<ExportLineItem>
.....
</ExportLineItem>
</ExportDeclaration>

```

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.pdf 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**

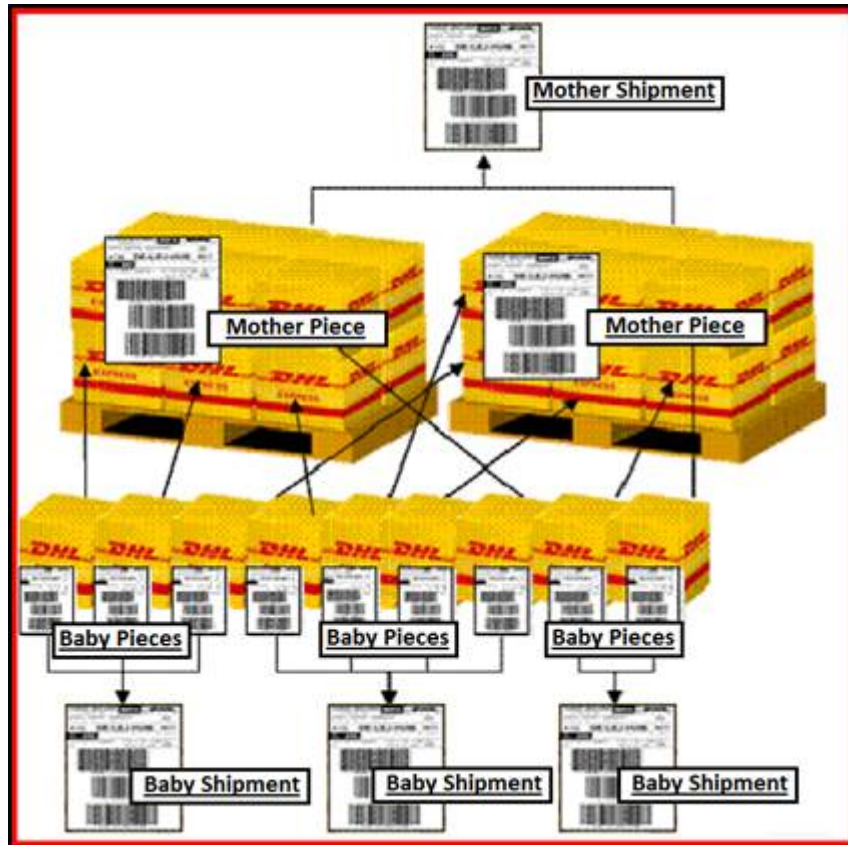
If the customer requires to write their own application to create the label images they can decode the contents of the <OutputImage>. Sample decode source code is available in the toolkit source code directory.

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.



### 4.2 How to prepare a BBX shipment

XMLPI supports BBX shipment process where the customer knows the count of mother pieces upfront.

1. Customer sends shipment validation request message for Mother Shipment with relevant shipment information and the below information :
  - a. The <Pieces> element should declare the relevant piece details

Note:

Each individual <Piece> segment will indicate one single piece of the Total Mother Piece.





- b. <SpecialServiceType> element must contain value of 'YW'
  - c. <GlobalProductCode> element must contain value of 'P' or 'H'
2. Customer receives shipment validation response message for Mother Shipment with the Pieces IDs. The successful response is used to create the Mother shipment label.
3. Customer sends shipment validation request message for Baby Shipment with relevant shipment information and the below information:
- a. At the baby shipment level,
    - i. <ParentShipmentIdentificationNumber> element must contain the Mother Shipment ID
    - ii. <GlobalProductCode> element must contain value of 'B'
  - b. For each baby piece id
    - i. <ParentPieceIdentificationNumber> element must contain the corresponding Mother Shipment's piece ID

***NOTE: The above steps are recommended to prepare a BBX Shipment.***

**OR,**

Customer sends shipment validation request message for Baby Shipment with relevant shipment information and the below information:

- c. At the baby shipment level,
  - i. <ReferenceType> element must contain value of 'ACL'
  - ii. <ReferenceID> element must contain the Mother Shipment ID
  - iii. <GlobalProductCode> element must contain value of 'B'
- d. For each baby piece id
  - i. <ReferenceType> element must contain value of 'ACL'
  - ii. <ReferenceID> element must contain the corresponding Mother Shipment's piece ID

***NOTE: The above steps are legacy way of preparing a BBX Shipment.***

4. Customer receives shipment validation response message for Baby Shipment. The successful response can be used to create the Baby shipment label.



### 4.3 How to prepare a Loose BBX shipment

XMLPI supports Loose BBX shipment process where the customer can request for several Baby shipments and close the process by requesting for the Mother shipment.

Data is setup such that single or multiple Piece IDs are linked to a Baby Shipment. Multiple Baby Waybills are then linked to only one (1) Parent Shipment.

1. Obtain a Parent Shipment ID by sending a MyDHLAPI Request Identifier request message.

Alternatively, customer can send a ShippingNumbersExternalRequest request message to obtain Parent Shipment ID range.

2. Customer sends shipment validation request message for Baby Shipment with relevant shipment information and the below information :
  - a. At the baby shipment level,
    - i. <ParentShipmentIdentificationNumber> element must contain Parent Shipment ID obtained from Step 1.
    - ii. <GlobalProductCode> element must contain value of 'B'
    - iii. <ParentShipmentGlobalProductCode> element must contain the Parent Shipment's Global product code
    - iv. <ParentShipmentPackagesCount> element must contain the Parent Shipment's total number of pieces
    - v. <SpecialServiceType> element must contain value of 'YZ'
    - vi. <Importer> element section must contain Importer of Record details
    - vii. <Shipper> and <Consignee> element section must contain the Baby Shipment's details
    - viii. <LabelTemplate> element must contain the value of 'ECOM26\_84\_LBBX\_001'
3. Customer receives shipment validation response message for Baby Shipment with the Pieces IDs. The successful response is used to create the Baby shipment label and waybill document.
4. Customer to repeat Steps 2 and 3 for additional Baby Shipments.
5. Customer to complete the Loose BBX process by sending shipment validation request message for Parent Shipment.



- a. At the parent shipment level,
  - i. < ShipmentIdentificationNumber> element must contain Parent Shipment ID obtained from Step 1.
  - ii. < UseOwnShipmentIdentificationNumber> element must contain value 'Y'
  - iii. <SpecialServiceType> element must contain value of 'YM'
  - iv. <GlobalProductCode> element must contain the Parent Shipment's Global product code
- b. For each baby piece,
  - i. < UseOwnPieceIdentificationNumber> element must contain value 'Y'
  - ii. < PieceIdentificationNumber> element must contain the Baby Shipment's Piece ID obtained from Step 2 and 3 shipment validation response message. Note that ALL Baby Shipment Piece IDs must be included in the Parent Shipment piece section

Note that on each baby piece, it is customer's responsibility to declare the total shipment's weight of the Parent Shipment, same with the DeclaredValue for Customs Declaration and Customs Invoice printing.

- c. For Parent Shipment, customer may request for DHL Customs Invoice by indicating <RequestDHLCustomsInvoice> with value 'Y' and setting <CustomsInvoiceTemplate> with new template name 'COMMERCIAL\_INVOICE\_04'.
6. Customer receives shipment validation response message for Parent Shipment. The successful response is used to create the Parent Shipment's Customs Invoice.

## 5 Labelless Functionality

### 5.1 Definition

Labelless 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 labelless functionality – 1) to receive a QR Code in response; and 2) to acquire a pre-defined set of stickers with Labelless ID.

## 5.2 How to prepare a Labelless shipment to receive QR Code

Customer may prepare a Labelless 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.





### 5.3 How to prepare a Labelless shipment using Labelless ID

This option is catered for Service Points to include a Labelless ID and affix a sticker in the shipment. Full transport labels will then be printed at service centre before continue to outbound processing. Note that Service Point onboarding is required by contacting the DHL Express IT Representative.

1. Customer sends the ShipmentRequest message with mandatory field
  - a. <SpecialService/SpecialServiceType> element must contain value of 'PZ'
  - b. ShipmentRequest/ShipmentDetails/Pieces/Piece/PieceReference/**ReferenceType** element with value 'LID' must be provided together with ShipmentRequest/ShipmentDetails/Pieces/Piece/PieceReference/**ReferenceID** element. <ReferenceID> element must contain the 18-character Labelless ID.
  - c. <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. Providing advance shipment special service type is optional. Providing more than one advance shipment special service code will result to error in response.
3. Providing <RequestQRCode> element and <RequestTransportLabel> element is optional.
4. Customer receives successful ShipmentResponse message.
5. Depending on values provided in step 3, customer receives ShipmentResponse message containing any of below image(s):
  - a QR Code image
  - a Transport Label image
  - both QR Code image and Transport Label images



## 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)
Regular Shipment	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