



API Spec S01

## Royal Mail Customer Solutions

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# Shipping API Technical User Guide

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The API Spec S01 document details, for customers, the requirements for integrating with the Shipping External Web Services.

It specifically covers how the Shipping API is used by customers to conduct Shipping activity, and provides the technical information to build this integration.

This specification must be used with the relevant accompanying specifications for customers wishing to interface their systems with Royal Mail services.

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# 1 Document Control

## 1.1 Terms and abbreviations

Term	Meaning
Allocated	Shipment with a Service Type / Service / Service Format and shipment number but not printed
Base64	A standard binary-to-text encoding scheme that is used to represent binary data in an ASCII string format. Used to include binary data with an XML structure
BIG	Business Integration Gateway
Cancelled	A Shipment that has been cancelled
COSS	Customer Own System Solution
DMO	Despatch Manager Online
HTTP	Hypertext Transfer Protocol
HTTPS	Hypertext Transfer Protocol Secure
IP	Internet Protocol
Manifested	Customer Collection Receipt has been created and Customer Collection Receipt has been printed
Nonce	User generated random string that is used as part of the password hashing process to ensure that messages cannot be replayed
OBA	Online Business Account
Printed	Shipment with Service Type / Service / Service Format and shipment number and the label(s) printed
RMGTT	Royal Mail Generic Track & Trace
SOAP	Simple Object Access Protocol
TODS	Tracking Operational Data Store
WSDL	Web Service Definition Language
XSD	XSD is XML Schema Definition – this defines a specific template for the XML used by particular systems
XML	eXtensible Markup Language, a flexible standard for data inside a hierarchical structure of named data items

## 1.2 Document author and document location

Name	Tom Whelan
Role and organisation	Deployment Lead – Business IT (Commercial) – Technology Organisation

## 1.3 Version history

Version	Date	Author	Notes
0.1	16/12/13	Tom Whelan	Initial draft
0.2	06/01/14	Tom Whelan	Further updates following review
0.3	13/02/14	Peter Cowen	Further updates following review
0.4	17/03/2014	Tom Whelan	RM content additions
0.5	24/03/2014	Tom Whelan	RM content additions
0.6	01/04/2014	Peter Cowen	Further updates following RM review

Version	Date	Author	Notes
0.7	27/04/2014	Tom Whelan	Updated following Simon Dodd Review
0.8	28/04/2014	Peter Cowen	Updated to reflect V0.8 of WSDL
0.9	05/05/2014	Chris Vaughan	Updated following Chris Vaughan Review
1.0	22/05/2014	Chris Vaughan	Baselined with baselined WSDLs, XSD files and Service Matrix supporting files and feedback from Adrian Tharby

#### 1.4 Document review and distribution

Version	Date issued for review	Recipient name	Role/Position & Department	Reviewer comments	Date review completed
0.6	10/04/2014	Simon Dodd	Customer Solutions	Inspection sheets completed	15/4/2014
0.6	04/4/2014	Jayne Cowan and Caleb Carter	CE Help Desk	Inspection Sheets completed	16/4/2014

#### 1.5 Document approval and sign-off

Version	Approval date	Name	Role/Position/Business unit
1.0	22 May 1014	Adrian Tharby	Product owner, Royal Mail Parcels

## 2 Overview

Royal Mail Shipping API exposes web services that allow account customers to create shipments, produce labels, manage barcodes and produce documentation; all the tasks required for them to ship items with Royal Mail. Built on industry standards, Shipping API provides a simple and low cost method for customers to integrate with Royal Mail, and allows them to get shipping quickly.

There are no costs to customers for using the Shipping API services, however customers' own development costs must be covered by the customer developing the solution. Royal Mail will not accept any responsibility for these development, implementation and testing costs.

Customers should address initial enquiries regarding development of systems for these purposes to their account handler.

### 3 Purpose

This document is to provide Royal Mail's customers with guidelines and detailed specifications for integrating with Royal Mail via the Shipping API web services. The document details:-

- The specification for the web service interfaces
- Description of errors the API can return
- Non-functional characteristics of the API including response times, service availability and security considerations

This document is primarily intended to be read by developers and other technical roles involved with integrating customer systems' with the Shipping web service API. This document should be read in conjunction with the following artefacts:

- Shipping WSDL
- Shipping XSDs

The WSDL and XSD list is provided in Section 9.3.

The web service operations included in the document are:

- createShipment
- updateShipment
- cancelShipment
- printLabel
- createManifest
- printManifest



## 4 Introduction to Shipping API

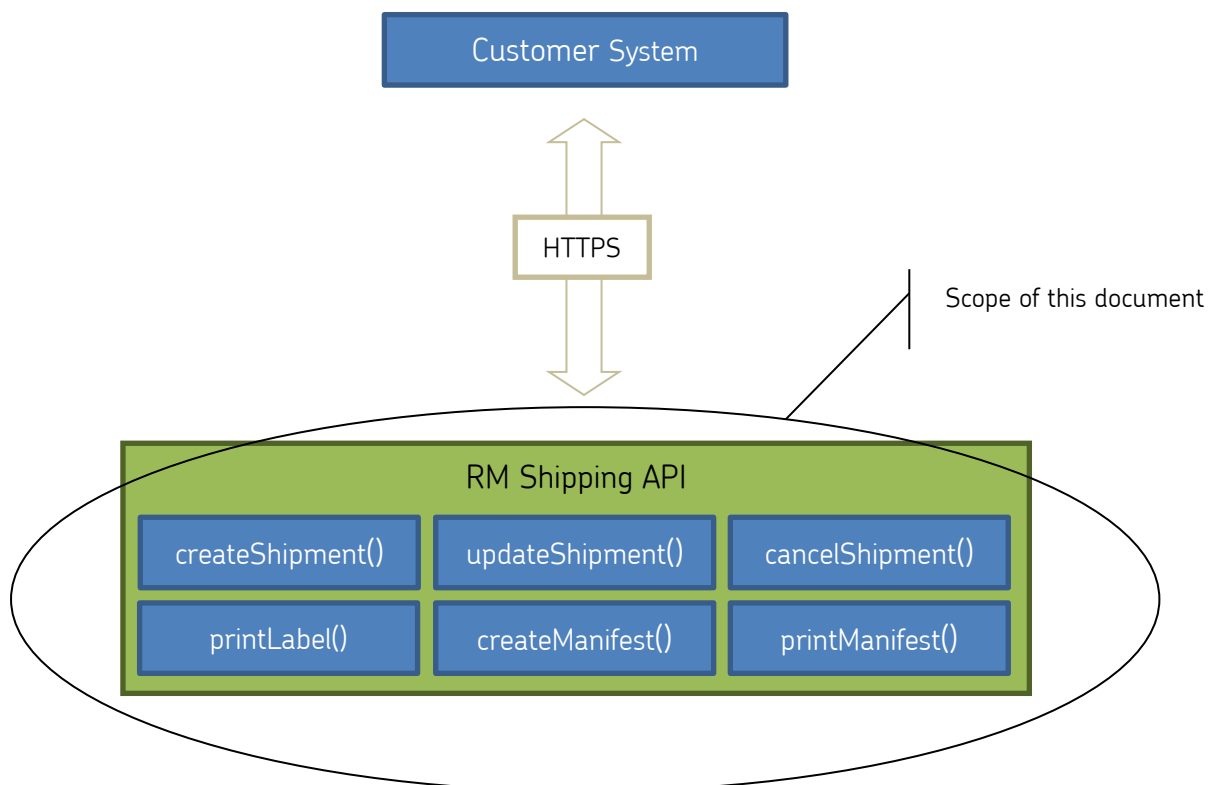
Shipping API provides the functionality for customers to take a shipping transaction from creation to collection.

In simplest terms, the logic flow is as follows:

- **Create Shipment** – the details of an item are provided to Royal Mail, and a shipment is created on the system. The status of the shipment is 'Allocated'.
- **Print Label** – once a shipment has been created, the label for it can be printed. Once printed, the status of the shipment is updated to 'Printed'.
- **Manifest Shipments** – before items are collected, the customer must submit details of all the items to Royal Mail and print off the Customer Collection Receipt for the driver. The createManifest call submits the details for all shipments that are in the 'Printed' state to Royal Mail (those that are in the 'Allocated' state are ignored). The status of these shipments is then set to 'Manifested', and they can no longer be updated or cancelled.

Unless they have been granted an exemption, customer shipments will be subject to a clean sweep process. This is a process that runs at a specific time each night, and automatically manifests any 'Printed' shipments that have not already been manifested.

### 4.1 Interface Components



## 5 Integrating with the API

### What you need

Once your organisation has been sent and accepted the Royal Mail Online Services Terms & Conditions, you will be provided with an Application ID and a certificate that will allow you to connect to the onboarding version of the Shipping web service API. This is a sandboxed environment that allows you to test your integration without data being passed through to the Royal Mail billing system and incurring charges against your account.

The URL for the Onboarding Shipping web service API is:

<https://api.royalmail.com/shipping/onboarding>

The corresponding URL for the Onboarding Shipping API System Management GUI is:

<https://app.rmdmo.onboarding.royalmail.com>

You will be provided with a contact in Royal Mail who will take you through the onboarding process. Once you have successfully demonstrated that your system works with ours, and that you can produce labels to the required level of quality, you will be granted access to the live system and can begin shipping items. The URL for the live Shipping web service API is:

<https://api.royalmail.com/shipping>

The corresponding URL for the live Shipping API System Management GUI is:

<https://app.rmdmo.royalmail.com>

If new products or services are added to your account, you may be asked to demonstrate that you have these working correctly in the onboarding environment before you are allowed to use them on the live system

### Acceptable Use

The Royal Mail Online Services Terms and Conditions cover the ways in which the service may be used, and exist in conjunction with the existing terms and conditions which apply to specific Royal Mail products. Any integration activities must abide by these. Of particular note for developers:

- The onboarding environment may not be used for performance testing. This is a small scale system for functional testing only
- Repeated reprints of labels or Customer Collection Receipts will be flagged to Royal Mail and may result in an investigation
- Where specified, weights should be accurate. Discrepancies between reported and actual weights will be investigated by Royal Mail

- All Royal Mail APIs impose a cap on the number of transactions per second for each customer. Excessive volumes of traffic within a short period will result in transactions being refused.

### **WSDL Versioning**

Royal Mail is continuously working to improve its technology, and as part of this process updates to the services provided may on occasion necessitate a new WSDL version. Royal Mail will look to maintain three versions of the WSDL; as new versions are introduced, previous versions move down the stack until they are ultimately removed completely:

- Latest version
- Previous version
- Deprecated version

Customers will always be encouraged to integrate against the latest version as this will give them the longest stable period without the need to change, but if they have already begun integration activities when a new version is released then they will be able to integrate against the previous version. Customers should not integrate against the deprecated version. Royal Mail's target is to release a new version of the WSDL no more frequently than once per year.

### **Certificate Expiration**

Certificates are issued with a validity period of 1 year, after which time you will need to update your system with the replacement certificate. An email reminder will be sent to you prior to the expiry date. If you do not receive such an email, contact RM Helpdesk on 08456 047267.

## 6 Shipping Services

### 6.1 Services

Business Service	Description	Request Message	Response Message	Conversation Style	Service Type
createShipment	Creates a shipment on the system	createShipmentRequest	createShipmentResponse	Synchronous Request / Response	Webservice
updateShipment	Updates the details of a shipment that has been created but not manifested	updateShipmentRequest	updateShipmentResponse	Synchronous Request / Response	Webservice
cancelShipment	Cancels a shipment that has been created but not manifested	cancelShipmentRequest	cancelShipmentResponse	Synchronous Request / Response	Webservice
printLabel	Prints a label for a shipment that has been created	printLabelRequest	printLabelResponse	Synchronous Request / Response	Webservice
createManifest	Manifests current shipments	createManifestRequest	createManifestResponse	Synchronous Request / Response	Webservice
printManifest	Provides a printable manifest in PDF format	printManifestRequest	printManifestResponse	Synchronous Request / Response	Webservice

### 6.2 API Structure

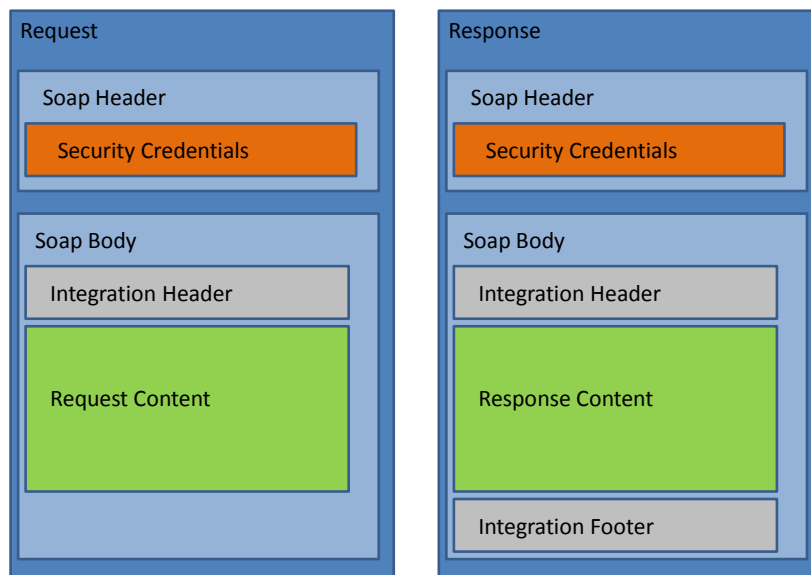


Figure 1 - API Structure

Each of the Shipping API operations (in section 6.1) is defined as a SOAP operation, with separate request / response message parts. Technical details are documented in the WSDL and XSD schemas which accompany this document.

Within the SOAP body tags, each request or response message from customer systems is supplemented with an integrationHeader element and is described in Section 7.1. Response messages may contain an integrationFooter element that contains details of any errors or warnings as described in Section 7.2.

The definition of the data types used within the elements section of each service call is defined within the schemas in section 9.4.

## 7 Common API Elements

Note the API elements described in this section are constructed using standard elements in Royal Mail's Enterprise canonical data model. These standard elements contain optional fields not used by the Shipping API Web Service – for example the standard Address element contains optional elements such as addressUsageType, buildingName, buildingNumber. If an element is not listed below, it is not used by Shipping API Web Service and data should not be placed in those elements. Any data placed in unlisted elements will be ignored by the Shipping API Web Service.

### 7.1 integrationHeader element

#### 7.1.1 Description

The integrationHeader element is present in all request and response messages, and is used to support security and logging functionally within Royal Mail systems.

#### 7.1.2 Request Message

All elements are relative to the integrationHeader element in the request message.

#### integrationHeader element

Element	occurs	Type	Description
dateTime	0-1	DateTime	This should be populated with the date timestamp when the message was generated.
version	0-1	Decimal	The version of the API currently being used (initially 1.0).
<i>identification</i>	1-1	Element	Identification element used to identify customer and transaction details supplied by customer. See identification table below for structure.
testFlag	0-1	Boolean	Not Used by Shipping API.
debugFlag	0-1	Boolean	Not used by Shipping API.

#### identification element

Element	Occurs	Type	Description
enduserID	0-1	String	Not used by Shipping API.
applicationId	1-1	String	This is the ten digit Customer Account Number allocated by Royal Mail
intermediaryId	0-1	String	Not used by Shipping API.
transactionId	1-1	String	This is a unique number to identify the transaction number as provided by customer systems.

#### 7.1.3 Response Message

All elements are relative to the integrationHeader element in the response message.

#### integrationHeader element

Element	occurs	Type	Description
dateTime	0-1	DateTime	This is always returned and contains the same value provided in the request.
version	0-1	Decimal	This is always returned and contains the same value provided in the request.
<i>identification</i>	1-1	Element	This is always returned and contains the same values provided in the request.

Element	occurs	Type	Description
testFlag	0-1	String	Not used by Shipping API.
debugFlag	0-1	String	Not used by Shipping API.

### identification element

Element	Occurs	Type	Description
enduserID	0-1	String	Not used by Shipping API.
applicationId	1-1	String	This is always returned with the same ten digit Customer Account Number provided in the request.
intermediaryId	0-1	String	Not used by Shipping API.
transactionId	1-1	String	This is always returned with the same unique transaction number provided in the request

### 7.1.4 Example Data

Full XML examples of SOAP requests and responses are provided in Section 13 at the end of this document. This section provides a simplified example shown focused on the integrationHeader only.

#### Example Request Data for the Integration Header

Element	Value
date	2013-12-25T17:26:10Z
version	1.0
identification	
applicationId	0002321134
transactionId	9876543210

#### Example Response Data for the Integration Header

Element	Value
date	2013-12-25T17:26:10Z
version	1.0
identification	
applicationId	0002321134
transactionId	9876543210

## 7.2 integrationFooter element

### 7.2.1 Description

The purpose of this element is to provide warning and error messages back to the customer. The integrationFooter element will be present in all response messages. If there are no errors or warnings this element will be empty.

#### IntegrationFooter

Element	Occurs	Type	Description
<i>errors</i>	0-1	Object	This will contain details on any errors encountered in Shipping API. See the sections 12.9 and 12.11 for a full list.
<i>warnings</i>	0-1	Object	This will contain details on any warnings encountered in Shipping API. See the section 12.10 for a full list.

#### Error

Element	Occurs	Type	Description
errorCode	1-1	String	This is the RM specified code for the error message.

Element	Occurs	Type	Description
errorDescription	1-1	String	This is the description associated with the error code.
errorCause	0-1	String	This is the cause of the error if known.
errorResolution	0-1	String	This is the description of the resolution and action required to correct the error if known.
errorContext	0-1	String	This is the context of the error, e.g. client or server.

## Warning

Element	Occurs	Type	Description
warningCode	1-1	String	This is the RM specified code for the warning message.
warningDescription	1-1	String	This is the description associated with the warning code
warningCause	0-1	String	This is the cause of the warning if known.
warningResolution	0-1	String	This is the description of the resolution and action required to correct the warning if known.
warningContext	0-1	String	This is the context of the warning, e.g. client or server.

## 7.2.2 Example Data

Full XML examples of SOAP requests and responses are provided in Section 13 at the end of this document. This section provides a simplified example shown focused on the integrationFooter only.

Example Response Data for the Integration Footer

Element	Value
errorCode	E1084
errorDescription	shipmentType is a required field
warningCode	W0023
warningDescription	The senderReference specified is longer than 20 characters and has been truncated

## 7.3 Security Credentials

### 7.3.1 Description

Each request message to the Shipping API web services must include valid security credentials in order to be accepted by the Royal Mail system. These comply with the OASIS WS security standards.

The credentials are encoded as defined in the OASIS standard *Web Services Security Username Token Profile version 1.1* and comprise:

- the username of the API user account,
- the SHA-1 hash of the password of the API user account.
- the Created timestamp for the request,
- and a Nonce.

The credentials are carried in a wsse:Security element included in the SOAP Header element of the request.



## Nonce

1. A Nonce is a random number that the sender generates to include in each usernameToken.
2. The Shipping API web services maintain a cache of Nonce values for a period of 5 minutes. Upon receipt of the message, a check will be made to ensure the Nonce has not already been used (i.e. it is not in the cache); messages containing nonces that have already been used will be rejected.

## Created Timestamp

1. Created Timestamp is the date and time the request message was created by the customer. The string format of the timestamp should be constructed as defined in the WS-Security standards: that is YYYY-MM-DDThh:mm:ssZ.
2. Messages that contain a Created timestamp older than five minutes will be rejected

## Password Digest

The OASIS Usertoken profile defines and describes the formula that computes the unique Password\_Digest string submitted in the XML

For Shipping API the password information used in this formula is the base 64 encoding of the SHA-1 hash of the plain text password.

The formula to use to construct the Password\_Digest value is

**Password\_Digest = Base64(SHA-1(Nonce + Created + Base64(SHA-1(Password))))**

Note the + symbol in the above algorithm represents a string concatenation of the three strings: Nonce from xml request, Created from xml request and Base64 encoding of the SHA-1 digest of the Password.

When processing a request, Shipping API will

- Check the Created timestamp is within five minutes of current time
- Check the Nonce has not been seen within the last five minutes
- Construct a Password\_Digest using the Nonce and Created timestamp from the request message and the SHA-1 hash of API user account's password from its internal database.
- Compare the Password\_Digest created with the one in the request message. If they match, authorisation will pass, otherwise it will fail.

### 7.3.1.1 wsse:Security Element

All elements are relative to the wsse:Security element in the SOAP Header of the request message.

Element	Occurs	Description
Username	1..1	API username
Password	1..1	Password Digest constructed as defined in ws-security Username Token Profile with the SHA-1 hash of the plain text password used as the password information
Nonce	0..1	Random number. Although optional in the ws-security schema, this element must be provided for Shipping API web services
Created	0..1	Date and time. Although optional in the ws-security schema, this element must be provided for Shipping API web services.

### 7.3.1.2 Example Security data

Full XML examples of SOAP requests and responses are provided in Section 13 at the end of this document. This section provides a simplified example shown focused on the wsse:Security element only.

Element	Example
Username	ARCF5693CUSAPI
Password	weYl3nXd8LjMNVksCKFV8t3rgHh3Rw==
Nonce	WScqanjCEAC4mQoBE07sAQ==
Created	2014-01-06T01:24:32Z

## 7.4 createShipment operation

### 7.4.1 Description

The behaviour of the createShipment operation is to validate the data supplied by the customer and either create a shipment based on the information provided or respond with an appropriate error message.

### 7.4.2 createShipment Request Message

To invoke the createShipment operation, the customer shipping system constructs a SOAP message described in Section 6.2.

The createShipmentRequest element is contained in the SOAP Body element.

The createShipmentRequest element contains

- An integrationHeader element described in Section 7.1
- And a requestedShipment element described in the table below.

#### requestedShipment element

Element	Maximum length	Occurs	Description
shipmentType	8	0..1	Specifies whether the shipment being created is a standard delivery service or a returns service. Accepted values are <b>'Delivery'</b> and <b>'Return'</b> .
serviceOccurence	2	0..1	Part of the customer's contract identifier. In conjunction with the Service Offering it identifies an agreement line on the customer's account. If only one Service Reference exists then this is not required. No leading zero required
serviceType	4	0..1	The system Service Type of the shipment. See the section 12.1 for a list of allowable values
serviceOffering	3	0..1	The Service Offering code for the mail item ordered. See the section 12.2 for a list of allowable values
serviceFormat	4	0..1	The Service Format code for the shipment. See section 12.3 for a list of allowable values

Element	Maximum length	Occurs	Description
bfpoFormat	4	0..1	For HM Forces (BFPO) Service Type only when the Service Format is not International Flat, International Letter or International Packet. See section 12.4 for a list of allowable values
serviceEnhancements	N/A	0..1	This is a complex type and is detailed below
signature	1	0..1	For RM Tracked items only, this Boolean specifies whether a signature is required on delivery. If this element is not included then it defaults to false
shippingDate	10	0..1	This is the date that the item will be physically sent (in the format YYYY-MM-DD). This may be up to 30 days in the future. [Tracked Returns service does not require a Shipping date]
recipientContact	N/A	0..1	This is a complex type and is detailed below
recipientAddress	N/A	0..1	This is a complex type and is detailed below
items	N/A	0..1	This is a complex type and is detailed below
departmentReference	10	0..1	This is the department reference code that customers can define in OBA. This is visible in the system departmental references GUI
customerReference	12	0..1	This field allows customers to supply a reference that applies to multiple shipments and is included to mirror the functionality offered by the Customer Reference field in OBA, whereby a reference can be associated to a group of items. For references that apply to a single shipment, the senderReference field should be used
senderReference	20	0..1	senderReference allows the user to supply their own reference number. Where supported (e.g. Tracked Returns) this number will appear on the label
safePlace	30	0..1	For Tracked non-signature service offerings only; this field allows a string that gives details of the recipient's designated safeplace (e.g. "inside the porch")

#### serviceEnhancement element

Element	Maximum length	Occurs	Description
enhancementType	4	1..infinity	If serviceEnhancement is included then enhancementType is Mandatory There can never be more than one enhancementType specified from each Service Enhancement Group. See Section 12.6 for details of enhancement types.

#### recipientContact element

Element	Maximum length	7.4.3 Occurs	7.4.4 Description
name	80	0..1	Contact name
complementaryName	64	0..1	Business name
telephoneNumber	12	0..1	UK mobile phone number. Required if an SMS service enhancement is selected

Element	Maximum length	7.4.3 Occurs	7.4.4 Description
electronicAddress	60	0..1	Email address to be used for notifications. Required if enhancement Email is selected

Note: If you specify more than 27 characters in name or complimentary name fields and generate a PDF label, these fields will be truncated to 27 characters in order to fit onto the label.

#### recipientAddress element

Element	Maximum Length	Occurs	Description
addressLine1	80 (27)	0..1	First line of the address
addressLine2	80 (27)	0..1	Second line of the address
addressLine3	80 (27)	0..1	Third line of the address
postTown	40	0..1	Town or City
postcode	15	0..1	Mandatory for UK addresses If the Shipment Type is "Return" then this must match the postcode of the registered return address
countryCode	2	1..1	The relevant country code for the address. See the reference data appendix for a list of allowable values. For domestic services this must be GB

Note: If you specify more than 27 characters in addressLine1, addressLine2 or addressLine3 fields and generate a PDF label, these fields will be truncated to 27 characters in order to fit onto the label.

#### items

The items element can contain multiple item elements. Each item element is constructed as follows:

Element	Maximum length	Occurs	Description
numberOfItems	2	0..1	Number of items for the associated weight.
weight		1..1	Weight in grams of each of the items (no decimal places) If the service has a weight band ,for example Special Delivery, then the upper band will be used. For example, 150 grams will use the 100 to 200 grams band. Tracked services, for example, do not have a band and therefore take the actual weight
code		1..1	Must be 'g' for grams
value	5	1..1	Weight in grams of each of the items (no decimal places)

## 7.4.5 CreateShipment Response Message

The response for a requested createShipment operation is constructed as a SOAP message described in Section 6.2.

The createShipmentResponse element is contained in SOAP's Body element.

The createShipmentRequest element contains

- An integrationHeader element described in Section 7.1
- An optional completedShipmentInfo element described in the table below. The completedShipmentInfo element will not be present in the response if an error occurred in the processing of the request – the error details will be included in the integrationFooter element.
- And an optional integrationFooter element described in Section 7.2

### completedShipmentInfo element

Element	Max Length	Occurs	Details
status	9	1..1	This will be set to 'Allocated' See Section 12.8 for the full set of values shipment status can have
allCompletedShipments	n/a	1..1	The set of all completed shipments created as a result of processing the associated request
weight	5	0..1	The weight band the completed shipments are within
code		1..1	Must be 'g' for grams
value	5	1..1	Weight in grams of each of the items (no decimal places)
shipments	n/a	1..infinity	The set of shipments within the weight band
shipmentNumber	13	0..99	For barcoded products, this field will contain the barcode number. For non-barcoded products, this field will contain the Shipping API internal reference number. For requests where there are multiple items, there will be a corresponding shipmentNumber for each item
requestedShipment	n/a	1..1	The requestedShipment element as provided in the associated createShipmentRequest message.

#### 7.4.6 Example Data

Full XML examples of SOAP requests and responses are provided in Section 13 at the end of this document. This section provides a simplified example shown only.

##### Example Request Data

Element	Value
integrationHeader	
dateTime	2014-01-01T 21:32:52
version	1.0
identification	
applicationId	0123456789
transactionId	9876543210
identification	
requestedShipment	
shipmentType	Delivery
serviceOccurance	1
serviceType	T
serviceOffering	
code	TPS
shippingDate	2014-01-06
recipientContact	
name	John West
recipientAddress	
addressLine1	3 South Street
addressLine2	West Mersia
postTown	Romford
postcode	RM99 2AA
countryCode	GB
items	
item	
numberOfItems	1
weight	
unitOfMeasure	g
value	1000

## Example Response Data

Element	Value
integrationHeader	
dateTime	2014-01-01T 21:32:52
version	1.0
identification	
applicationId	0123456789
transactionId	9876543210
identification	
completedShipmentInfo	
status	
code	Allocated
validFrom	2014-01-01T 21:33:52
allCompletedShipments	
weight	
unitOfMeasureCode	g
value	1000
shipments	
shipmentNumber	AAA000000235GB
requestedShipment	
shipmentType	Delivery
serviceOccurance	1
serviceType	T
serviceOffering	
code	TPS
shippingDate	2014-01-06
recipientContact	
name	John West
recipientAddress	
addressLine1	3 South Street
addressLine2	West Mersia
postTown	Romford
postcode	RM99 2AA
countryCode	GB
items	
item	
numberOfItems	1
weight	
unitOfMeasure	g
value	1000

## 7.5 updateShipment operation

### 7.5.1 Description

The updateShipment operation allows customers to update the details of a previously created (but not manifested) shipment, provided that doing so does not violate the validation rules applied, or change the barcode number (e.g. it is not possible to update a Special Delivery item to become a Tracked Next Day item).

Only one shipment (identified by a single shipment number) can be updated per request, though multiple fields can be updated each time. If any field fails validation, then an error code will be returned and no fields will be updated. There is no limit to the number of times a shipment can be updated.

The status of the shipment is not affected by the update (e.g. a shipment with status 'Allocated' before an update will be 'Allocated' afterwards; a shipment with status 'Printed' will be 'Printed' afterwards)

### 7.5.2 updateShipment Request Message

To invoke the updateShipment operation, the customer shipping system constructs a SOAP message described in Section 6.2. The updateShipmentRequest element is contained in the SOAP Body element. The updateShipmentRequest element is described in the table below:

#### updateShipmentRequest element

Element	Maximum length	Occurs	Description
integrationHeader	N/A	1..1	As described in Section 7.1
shipmentNumber	13	0..1	The number of the shipment to update
requestedShipment	N/A	0..1	The updated details for the identified shipment. As described for the createShipment operation in Section 7.4

### 7.5.3 Response Message

The response for a requested updateShipment operation is constructed as a SOAP message described in Section 6.2. The updateShipmentResponse element is contained in SOAP's Body element. The updateShipmentRequest element is described in the table below

#### updateShipmentResponse element

Element	Maximum length	Occurs	Description
integrationHeader	N/A	1..1	As described in Section 7.1
status	9	0..1	This will be set to current status of the updated shipment: 'Allocated' or 'Printed' See Section 12.8 for the full set of values shipment status can have
shipmentNumber	13	0..1	The number of the shipment updated
requestedShipment	N/A	0..1	As described for the createShipment operation in Section 7.4 Note that the barcode allocated to a shipment can not be changed the updateShipment operation and therefore the serviceType and serviceEnhancements elements can not be altered by the updateShipment operation. If changes to these elements are included in the requestedShipment element, an error will be returned.
integrationFooter	N/A	0..1	As described in Section 7.2



#### 7.5.4 Example Data

Full XML examples of SOAP requests and responses are provided in Section 13 at the end of this document. This section provides a simplified example shown only.

##### Example Request Data

Element	Value
integrationHeader	
dateTime	2014-01-01T 21:32:52
version	1.0
identification	
applicationId	0123456789
transactionId	9876543210
identification	
shipmentNumber	AAA000000235G
requestedShipment	
shipmentType	Delivery
serviceOccurance	1
serviceType	T
serviceOffering	
code	TPS
shippingDate	2014-01-06
recipientContact	
name	John East
recipientAddress	
addressLine1	3 South Street
addressLine2	West Mersia
postTown	Romford
postcode	RM99 2AA
countryCode	GB
items	
item	
numberOfItems	1
weight	
unitOfMeasure	g
value	1000

### Example Response Data

Element	Value
integrationHeader	
dateTime	2014-01-01T 21:32:52
version	1.0
identification	
applicationId	0123456789
transactionId	9876543210
identification	
status	
code	Allocated
validFrom	2014-01-01T 22:32:52
shipmentNumber	AAA000000235G
requestedShipment	
shipmentType	Delivery
serviceOccurance	1
serviceType	T
serviceOffering	
code	TPS
shippingDate	2014-01-06
recipientContact	
name	John East
recipientAddress	
addressLine1	3 South Street
addressLine2	West Mersia
postTown	Romford
postcode	RM99 2AA
countryCode	GB
items	
item	
numberOfItems	1
weight	
unitOfMeasure	g
value	1000

Full XML examples will be provided as part of this specification, with a simplified example shown below.

## 7.6 cancelShipment operation

### 7.6.1 Description

The cancelShipment operation allows customers to update the details of a previously created (but not manifested) shipment. Once a shipment has been cancelled its status will change from 'Allocated' or 'Printed' to 'Cancelled'.

Shipments created by the GUI or API can be cancelled by the API call, and Cancelled shipments are visible in the system. Any Tracked Returns shipments must be cancelled before midnight as this is when they will be automatically processed and archived by the system.

Up to 1,000 shipments can be cancelled in a single request.

Any shipments that can't be cancelled will be represented as error elements in the integrationFooter as described in section 7.2.

### 7.6.2 cancelShipment Request Message

To invoke the cancelShipment operation, the customer shipping system constructs a SOAP message described in Section 6.2.

The cancelShipmentRequest element is contained in the SOAP Body element.

The cancelShipmentRequest element is described in the table below

#### cancelShipmentRequest element

Element	Maximum length	Occurs	Description
integrationHeader	N/A	1..1	As described in Section 7.1
cancelShipments	13	0..1	The list of shipments to cancel
shipmentNumber	13	1..infinity	The shipment number to be cancelled

### 7.6.3 cancelShipment Response Message

The response for a requested updateShipment operation is constructed as a SOAP message described in Section 6.2.

The updateShipmentResponse element is contained in SOAP's Body element.

The updateShipmentRequest element is described in the table below

#### cancelShipmentResponse element

Element	Maximum length	Occurs	Description
integrationHeader	N/A	1..1	As described in Section 7.1
completedCancelInfo	N/A	0..1	The set of successfully cancelled shipments
status	9	0..1	Set to 'Cancelled'. See Section 12.8 for the full set of values shipment status can have
shipmentNumber	13	0..infinity	The shipment number of each shipment that have been successfully cancelled.
integrationFooter	N/A	0..1	As described in Section 7.2

## 7.6.4 Example Data

Full XML examples of SOAP requests and responses are provided in Section 13 at the end of this document. This section provides a simplified example shown only.

### Example Request Data

Element	Value
integrationHeader	
dateTime	2014-01-01T 21:32:52
version	1.0
identification	
applicationId	0123456789
transactionId	9876543210
identification	
cancelShipments	
shipmentNumber	AAA000000235G

### Example Response Data

Element	Value
integrationHeader	
dateTime	2014-01-01T 21:32:52
version	1.0
identification	
applicationId	0123456789
transactionId	9876543210
identification	
completedCancelInfo	
status	
code	Cancelled
validFrom	014-01-01T 21:42:52
completedCancelShipments	
shipmentNumber	AAA000000235G

## 7.7 printLabel operation

### 7.7.1 Description

The printLabel operation allows customers to request a label in Base64 encoded PDF format for a specific shipment. Once the printLabel operation has been called on a shipment with status 'Allocated', the status for that shipment is changed to 'Printed'

Shipments created by either the GUI or API can be printed by the API call. There is no limit on the number of times the PrintLabel request can be used on a shipment, though high numbers of reprints will be flagged to Royal Mail.

### 7.7.2 printLabel Request Message

To invoke the printLabel operation, the customer shipping system constructs a SOAP message described in Section 6.2.

The printLabelRequest element is contained in the SOAP Body element.

The printLabelRequest element is described in the table below

#### printLabelRequest element

Element	Maximum length	Occurs	Description
integrationHeader	N/A	1..1	As described in Section 7.1
shipmentNumber	13	1..1	The shipment number of the shipment to be printed

### 7.7.3 Response Message

The response for a requested printLabel operation is constructed as a SOAP message described in Section 6.2.

The printLabelResponse element is contained in SOAP's Body element.

The printLabelResponse element is described in the table below

#### printLabelResponse element

Element	Maximum length	Occurs	Description
integrationHeader	N/A	1..1	As described in Section 7.1
label		0..1	Label in PDF format and Base64 encoded
integrationFooter	N/A	0..1	As described in Section 7.2

### 7.7.4 Example Data

Full XML examples of SOAP requests and responses are provided in Section 13 at the end of this document. This section provides a simplified example shown only.

#### Example Request Data

Element	Value
integrationHeader	
dateTime	2014-01-01T 21:32:52
version	1.0
identification	
applicationId	0123456789
transactionId	9876543210
identification	
shipmentNumber	AAA000000235G

### Example Response Data

Element	Value
integrationHeader	
dateTime	2014-01-01T 21:32:52
version	1.0
identification	
applicationId	0123456789
transactionId	9876543210
identification	
label	JVBERi0xLjYKJeTjz9IKMSAw.. (truncated)

## 7.8 createManifest operation

### 7.8.1 Description

The createManifest operation allows customers to submit to Royal Mail details of all of the items that will be despatched that day. Once the createManifest operation has been called, all shipments that have status 'Printed' will be set to status 'Manifested' and it will no longer be possible to update or cancel them.

Manifests can be created by Service Reference or by Service Code, or if neither is specified then all shipments that have status 'Printed' will be included (N.B. Tracked Returns are not included in any part of the manifesting process.)

### 7.8.2 createManifest Request Message

To invoke the createManifest operation, the customer shipping system constructs a SOAP message described in Section 6.2.

The createManifestRequest element is contained in the SOAP Body element.

The createManifestRequest element is described in the table below

### createManifestRequest element

Element	Maximum length	Occurs	Description
integrationHeader	N/A	1..1	As described in Section 7.1
serviceOccurrence	2	0..1	All or one Service Occurrence If not included then ALL Service Occurrences are included in the manifest.
serviceOffering	3	0..1	All or one Service Offerings If not included then ALL Service Offerings are included in the manifest
yourDescription	40	0..1	This is a description field that corresponds to the Your Description field in RM Online Business Account (OBA). This is for customer reference, but will not appear on any paperwork
yourReference	40	0..1	Included on the Customer Collection Receipt

### 7.8.3 Response Message

The response for a requested createManifest operation is constructed as a SOAP message described in Section 6.2.

The createManifestResponse element is contained in SOAP's Body element.

The createManifestResponse element is described in the table below

### createManifestResponse element

Element	Maximum length	Occurs	Description
integrationHeader	N/A	1..1	As described in Section 7.1
completedManifests		1..infinity	The information on the manifest that was created
manifestBatchNumber	4	1..1	The batch number of the manifest. Used in subsequent call to the printManifest operation
totalItemCount	2	1..1	Total number of shipments on this manifest
manifestShipment	N/A	1..infinity	The list of shipments included in the manifest
serviceOffering	3	1..1	The service offering of a shipment on the manifest
shipmentNumber	13	1..1	The shipment number of a shipment on the manifest
integrationFooter	N/A	0..1	As described in Section 7.2

### 7.8.4 Example Data

Full XML examples of SOAP requests and responses are provided in Section 13 at the end of this document. This section provides a simplified example shown only.

#### Example Request Data

Element	Value
integrationHeader	
dateTime	2014-01-01T 21:32:52
version	1.0
identification	
applicationId	0123456789
transactionId	9876543210
identification	
serviceOffering	STL
yourDescription	Shipments2014-01-01
yourReference	Shipments2014-01-01

#### Example Response Data

Element	Value
integrationHeader	
dateTime	2014-01-01T 21:32:52
version	1.0
identification	
applicationId	0123456789
transactionId	9876543210
identification	
completedManifests	
manifestBatchNumber	295
totalItemCount	2
manifestShipment	
serviceOffering	STL
shipmentNumber	JB924043946GB
manifestShipment	
serviceOffering	STL
shipmentNumber	JB024043946GB

## 7.9 printManifest operation

### 7.9.1 Description

The printManifest operation allows customers to request a manifest (Customer Collection Receipt) in Base64 encoded PDF format. Once the printManifest operation has been called, all shipments that have status 'Manifested' will be set to status 'ManifestedPrinted'. Manifests can be specified by either the manifestBatchNumber or the salesOrderNumber (the salesOrderNumbers are available via the GUI the day after the manifest was created)

There is no limit on the number of times the PrintManifest request can be used on a manifest, however reprints will not include the barcodes and excessive requests for reprints will be flagged to Royal Mail.



### 7.9.2 printManifest Request Message

To invoke the printManifest operation, the customer shipping system constructs a SOAP message described in Section 6.2.

The printManifestRequest element is contained in the SOAP Body element.

The printManifestRequest element is described in the table below

#### printManifestRequest element

Element	Maximum length	Occurs	Description
integrationHeader	N/A	1..1	As described in Section 7.1
manifestBatchNumber	20	0..1	This is the batch number to print. As returned by a prior call to createManifest operation
salesOrderNumber	20	0..1	Search and Reprint Customer Collection Receipt - Sales Order Numbers Available next day via the Shipping System End of Day GUI

### 7.9.3 Response Message

The response for a requested printManifest operation is constructed as a SOAP message described in Section 6.2.

The printManifestResponse element is contained in SOAP's Body element.

The printManifestResponse element is described in the table below

#### printManifestResponse element

Element	Maximum length	Occurs	Description
integrationHeader	N/A	1..1	As described in Section 7.1
manifest		0..1	Customer Collection Receipt in PDF format -Base64 encoded for transfer
integrationFooter	N/A	0..1	As described in Section 7.2

### 7.9.4 Example Data

Full XML examples of SOAP requests and responses are provided in Section 13 at the end of this document. This section provides a simplified example shown only.

#### Example Request Data

Element	Value
integrationHeader	
dateTime	2014-01-01T 21:32:52
version	1.0
identification	
applicationId	0123456789
transactionId	9876543210
identification	
manifestBatchNumber	253

### Example Response Data

Element	Value
integrationHeader	
dateTime	2014-01-01T 21:32:52
version	1.0
identification	
applicationId	0123456789
transactionId	9876543210
identification	
manifest	JVBERi0xLjYKJeTjz9IKMSAw.. (truncated)

## 8 Error Handling

### 8.1 Overview

The Shipping API service highlights issues in three ways:

- **Technical Errors** – Highlights fundamental problems with either the system or the request
- **Business Errors** – Indicates that while the request was correctly formatted, it contained invalid data that cannot be automatically corrected
- **Warnings** – Indicates that while the request was correctly formatted and the data was mostly accurate, there were minor corrections or assumptions that the system had to make to allow the request to be processed.

Errors and warnings are the same in both the onboarding and live environments. Please refer to the Reference Data section for the full list of all error and warning codes.

### 8.2 Technical Errors

Technical Errors highlight that there is either a problem with the Royal Mail system or there is a fundamental problem with the messages being sent to Royal Mail by the customer. Examples of technical errors caused by the customer would include the use of an invalid security certificate or the submission of a request message that failed schema validation.

Technical errors indicate that the request was not successful, and has not been processed by Royal Mail (e.g. createShipment requests that receive a Technical Error will not result in a shipment being created on the system).

Technical errors may also be an indication of serious problems with the interaction between the customer and Royal Mail, and customer systems should be built in such a way that these errors are captured and reported to the relevant technical resources. Failure to do so may result in severe disruption to services. See Section 12.11 for the set of technical errors that may be reported.

### 8.3 Business Errors

Business Errors indicate that the data provided in the request, while correctly formatted, is not valid. Examples of issues that would lead to a business error being received include attempting to use a service that the customer does not have an agreement line for, specifying a shipment date too far in the future, or attempting to update a shipment that has already been manifested

Business errors indicate that the request was not successful, and has not been processed by Royal Mail (e.g. updateShipment requests that receive a Business Error will not result in any changes to the specified shipment).

See Section 12.9 for the set of business errors that may be reported.

## 8.4 Warnings

Warning messages are received when the data supplied to Royal Mail in the request is not completely accurate, but the system is able to make assumptions or corrections automatically. Examples of problems that would result in a warning message include: address lines with too many characters (that are then truncated), a telephone number being specified without an SMS option being selected (and hence being ignored), and a shipment date being specified in the past (and being automatically updated to today's date).

Requests that result in a warning message are processed by the system (e.g. a `createShipment` request where the customer reference is longer than 12 characters will be created on the system, but with the customer reference truncated to 12 characters).

See Section 12.10 for the set of warnings that may be reported.

## 9 Protocol Specification

### 9.1 Overview

All API service calls will be made using mutually authenticated HTTPS bound SOAP Web Services. The Shipping API exposes the services using SOAP version 1.1 with a document/literal document-style encoding.

### 9.2 Transport

HTTP over TLS is used for the transmission channel.

### 9.3 WSDL

This section includes the full definition on the Shipping Web Service – documented through supporting WSDL and XSD files.

The WSDL for the Shipping API (ShippingAPI\_V1.0.wsdl) is provided in a supporting file.

### 9.4 Schemas & Data Model

The following table lists the documents that should be referenced for the RMG-defined canonical data types used by Shipping API. The XML schema documents themselves are provided in a supporting file.

XML Schema file	Description
CommonClassesV2_2.xsd	Royal Mail (RMG) schema which defines common objects such as “address” which are complex types with a defined structure based on RMG defined simple data types as well as reference data types.
DatatypesV2_2.xsd	RMG defined simple types that are commonly required such as “date” and “name”. This schema is the foundation for the other schema files.
CommonIntegrationSchemaV1_9.xsd	RMG schema which defines a common header definition to be used for request and response messages.
ReferenceDataV2_2.xsd	RMG schema which defines a set of types for common reference data such as address fields that are defined using the RMG simple data types.
RMSASchemaV1_0.xsd	Royal Mail schema for the public API which is built from the RMG defined canonical data types. This file defines the actual request and response message structures.

### 9.5 Service Endpoint

#### 9.5.1 Onboarding

Royal Mail has made available an instance of the Shipping API for customers to test their systems against. This ‘Onboarding’ environment is available 24x7, has the same functionality as live (though with a reduced capacity) and can be accessed with the same access certificates / credentials as the live service via the following endpoint:

<https://api.royalmail.com/shipping/onboarding>

### 9.5.2 Live

Once Royal Mail has confirmed that a customer has successfully completed the take-on process, permission will be granted to access the live service via the following endpoint

<https://api.royalmail.com/shipping>

## 10 Non Functional Characteristics

### 10.1 Availability

#### 10.1.1 Service Hours

The Shipping API is available 24 hrs per day x 365 days per year.

#### 10.1.2 Maintenance Windows

Royal Mail Online Services Terms and Conditions define the maintenance window for this service.

#### 10.1.3 Unavailability

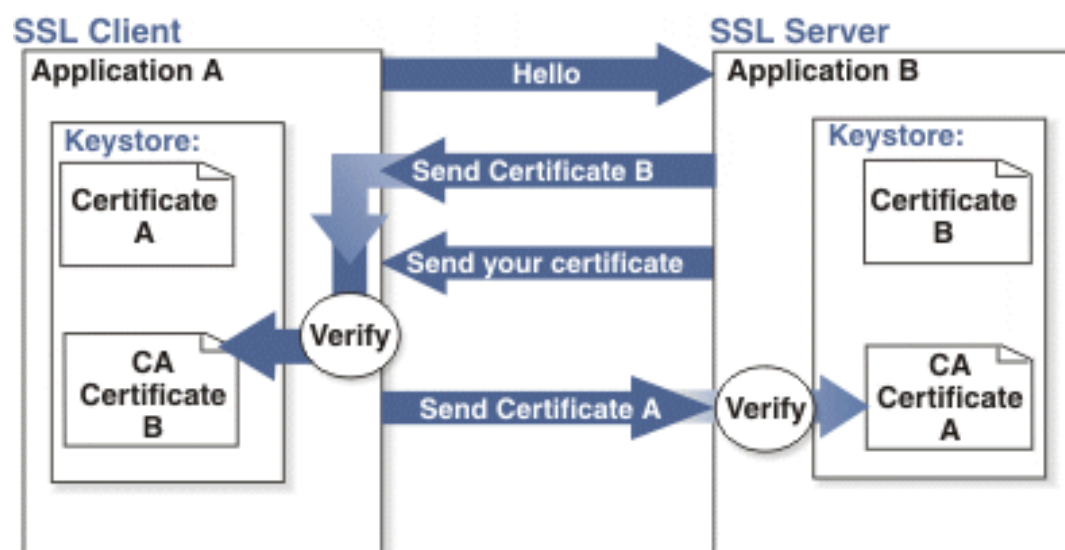
In the unlikely event of the Shipping API being unavailable, customer systems should be able to handle this appropriately.

### 10.2 Performance

Performance will be slower during peak periods of activity (between 3 and 6, Monday to Friday). To avoid issues associated with slower response times during periods of heavy traffic, customers are strongly advised to spread their traffic out throughout the day where possible.

### 10.3 Security

Security is provided via mutual authentication over a secure channel. Mutual authentication or two-way authentication refers to two parties authenticating each other suitably. It works by each party initially providing a “lock” to the other party. When communicating each party provides the “key” to their “lock” so the other side can verify the correct party is calling. In technology terms, it refers to a client or user authenticating themselves to a server and that server authenticating itself to the user in such a way that both parties are assured of the others' identity.



The “Lock” is a public key certificate issued by a trusted Certificate Authority (CA). Both of which Royal Mail and the customer will exchange with each other as needed. Each party then use their own private certificate to sign the communication channel. This signature is the “key” that then can be verified against the “lock” provided in the trusted public key certificate.

When describing online authentication processes, mutual authentication is often referred to as website-to-user authentication, or site-to-user authentication. Typically, this is done for a client process and a server process without user interaction.

Mutual SSL provides the same benefits as server only SSL, with the addition of authentication and non-repudiation of the client authentication, using digital signatures. Due to issues with complexity, cost, logistics, and effectiveness, most web applications are designed so they do not require client-side certificates.

### **Certificate request procedure**

Customers who already have exchanged certificates with RMG can continue using their existing certificates.

New customers (or existing customers who do not yet have a certificate) need to request access and exchange certificates in order to use the service.

### **Shipping Secure Web Service Access and Data Transmission**

The customer system will be required to present known certificate security data each time a new connection to the Shipping Web Service is made. Customers will be requesting the necessary security credentials from RMG Certificate Authority (CA) to jointly verify credentials, namely:-

- Customer will raise a certificate signing request with the RMG Certificate Authority. RMG will provide the CA certificate and the signed client certificate. The certificates have to be valid and not expired.
- RMG Certificate Authority Certificate and public certificate. The certificates have to be valid and not expired.

Customers are required to install the RMG Root CA(s) on their system and to authenticate with the client certificate provided. Further the customer is required to use the corresponding RMG Root CA to validate the RMG server certificate as part of their authentication process. The customer system should also check that the certificates are still valid i.e. have not expired.



## **11 Frequently Asked Questions**

### **How do I cancel a shipment?**

The cancelShipment API function will cancel any shipment that has not been manifested. Shipments can also be cancelled via the web based Shipping API Management system (DMO) Current Shipments screen

### **How do I update a shipment**

The updateShipment API function will update shipments that have not been manifested. Only certain fields can be changed – please refer to Section 7.5 for details of fields.

### **Where can I find the latest versions of the Shipping API WSDL and supporting XSD files?**

We can email the latest version to you.

### **Why am I receiving messages telling me that the authentication failed?**

Please check that your Username and Password is correct for the environment (Production or On-Boarding)

### **Is an eBay/Amazon plugin available?**

Unfortunately this is not available

### **Which Service Offerings can I use on Shipping API**

See Section 12.6 for the service offerings available via Shipping API. You can use any of these service offerings providing that your Royal Mail SAP account has been setup to use them.

### **Can I reprint labels or Customer Collection Receipts?**

You can reprint shipments using the printLabel function (if the shipment has not been manifested) and you can reprint Customer Collection Receipts using the printManifest function. You must not reprint labels to use on multiple items going to the same address; this is regarded as fraud and is actively monitored by Royal Mail.

### **Can Royal Mail do the API programming for me?**

Royal Mail only provides user guides to enable an understanding of the Web Services and therefore cannot complete the programming for your business

### **Do you have an environment for me to test against?**

Yes, you will initially be given access to an On-Boarding environment before proceeding to the Production environment. This is a sandboxed environment that allows you to test the ability to create/update/cancel shipments, print labels and print Customer Collection Receipts without any data being sent to downstream systems and without any charges being incurred.

**How do I track the items I have shipped?**

There is a separate Royal Mail web service available for tracking. Please contact your Account Handler if you would like more information. You can also track shipments individually via the Royal Mail website: <http://www.royalmail.com/track-trace>

**Why has the department reference that I used been ignored?**

You first need to create the department references that you want to use in your OBA account. If the department reference that you used in SAPI does not match one of those in OBA it will be ignored. Note that when you create or update a department reference in your OBA account it will be passed to the SAPI system overnight and will only be available to use from the following day. Note also that department references have a date range when they are valid to use; they will only be available in the SAPI system if they are within their date range.



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## 12 Appendix A – Reference Data

### 12.1 Service Type

- Used in the createShipment element <serviceType>

<Service Type>	Description
1	Royal Mail 24 / 1st Class
2	Royal Mail 48 / 2nd Class
D	Special Delivery Guaranteed
H	HM Forces (BFPO)
I	International
R	Tracked Returns
T	Royal Mail Tracked

### 12.2 Service Offerings

- Used in the createShipment element <serviceOffering>

<serviceOffering>	Description
CRL	ROYAL MAIL 24\48
CRL	ROYAL MAIL 24\48
DE1	INTL BUS PARCELS ZERO SORT HI VOL PRIORITY I
DE3	INTL BUS PARCELS ZERO SORT HI VOL ECONOMY
DE4	INTL BUS PARCELS ZERO SRT LO VOL PRIORITY
DE6	INTL BUS PARCELS ZERO SRT LO VOL ECONOMY
DG1	INTL BUS MAIL L LTR CTRY SRT HI VOL PRIORITY
DG3	INTL BUS MAIL L LTR CTRY SRT HI VOL ECONOMY
DG4	INTL BUS MAIL L LTR CTRY SRT LO VOL PRIORITY
DG6	INTL BUS MAIL L LTR CTRY SRT LO VOL ECONOMY
FS1	ROYAL MAIL 24 (SORT8) (LL) FLAT RATE
FS2	ROYAL MAIL 48 (SORT8) (LL) FLAT RATE
IE1	INTL BUS PARCELS ZONE SORT PRIORITY
IE3	INTL BUS PARCELS ZONE SORT ECONOMY
IG1	INTL BUS MAIL LRG LTR ZONE SORT PRI
IG3	INTL BUS MAIL LRG LTR ZONE SORT ECONOMY
IG4	INTL BUS MAIL LRG LTR ZONE SRT PRI MCH
IG6	INTL BUS MAIL L LTR ZONE SRT ECONOMY MCH
MB1	INTL BUS PARCELS PRINT DIRECT PRIORITY
MB2	INTL BUS PARCELS PRINT DIRECT STANDARD

<serviceOffering>	Description
MB3	INTL BUS PARCELS PRINT DIRECT ECONOMY
MP0	INTL BUS PARCELS SIGNED EXTRA COMP CTRY
MP1	INTL BUS PARCELS TRACKED
MP4	INTL BUS PARCELS TRACKED EXTRA COMP
MP5	INTL BUS PARCELS SIGNED
MP6	INTL BUS PARCELS SIGNED EXTRA COMP
MP7	INTL BUS PARCELS TRACKED COUNTRY PRICED
MP8	INTL BUS PARCELS TRACKED EXTRA COMP CTRY
MP9	INTL BUS PARCELS SIGNED COUNTRY PRICED
MTA	INTL BUS PARCELS TRACKED & SIGNED
MTB	INTL BUS PARCELS TRACKED SIGNED XTR COMP
MTC	INTL BUS MAIL TRACKED & SIGNED
MTD	INTL BUS MAIL TRACKED & SIGNED XTR COMP
MTE	INTL BUS PARCELS TRACKED & SIGNED CTRY
MTF	INTL BUS PARCEL TRACK&SIGN XTR CMP CTRY
MTG	INTL BUS MAIL TRACKED & SIGNED COUNTRY
MTH	INTL BUS MAIL TRACK & SIGN XTR COMP CTRY
MTI	INTL BUS MAIL TRACKED
MTJ	INTL BUS MAIL TRACKED EXTRA COMP
MTK	INTL BUS MAIL TRACKED COUNTRY PRICED
MTL	INTL BUS MAIL TRACKED EXTRA COMP CTRY
MTM	INTL BUS MAIL SIGNED
MTN	INTL BUS MAIL SIGNED EXTRA COMP
MTO	INTL BUS MAIL SIGNED COUNTRY PRICED
MTP	INTL BUS MAIL SIGNED EXTRA COMP COUNTRY
MTQ	INTL BUS PARCELS ZONE SORT PLUS PRIORITY
MTS	INTL BUS PARCELS ZONE SRT PLUS ECONOMY
OLA	INTL STANDARD ON ACCOUNT
OLS	INTL ECONOMY ON ACCOUNT
OSA	INTERNATIONAL SIGNED ON ACCOUNT
OSB	INTL SIGNED ON ACCOUNT EXTRA COMP
OTA	INTERNATIONAL TRACKED ON ACCOUNT
OTB	INTL TRACKED ON ACCOUNT EXTRA COMP
OTC	INTERNATIONAL TRACKED & SIGNED ON ACCT
OTD	INTL TRACKED & SIGNED ON ACCT EXTRA COMP

<serviceOffering>	Description
OZ1	INTL BUS MAIL MIXED ZONE SORT PRIORITY
OZ3	INTL BUS MAIL MIXED ZONE SORT ECONOMY
OZ4	INTL BUS MAIL MIXED ZONE SORT PRI MCH
OZ6	INTL BUS MAIL MIXED ZONE SRT ECONOMY MCH
PK0	ROYAL MAIL 48 (LL) FLAT RATE
PK1	ROYAL MAIL 24 (SORT8) (P) FLAT RATE
PK2	ROYAL MAIL 48 (SORT8) (P) FLAT RATE
PK3	ROYAL MAIL 24 (SORT8) (LL\P) DAILY RATE
PK4	ROYAL MAIL 48 (SORT8) (LL\P) DAILY RATE
PK9	ROYAL MAIL 24 (LL) FLAT RATE
PPF	ROYAL MAIL 24\48 (P) FLAT RATE
PPF	ROYAL MAIL 24\48 (P) FLAT RATE
PS0	INTL BUS PARCELS MAX SORT ECONOMY
PSC	INTL BUS PARCELS MAX SORT STANDARD
PS9	INTL BUS PARCELS MAX SORT PRIORITY
PS8	INTL BUS MAIL LRG LTR MAX SORT ECONOMY
PSB	INTL BUS MAIL LRG LTR MAX SORT STANDARD
PS7	INTL BUS MAIL LRG LTR MAX SORT PRIORITY
RM0	ROYAL MAIL 48 (SORT8) (P) DAILY RATE
RM1	ROYAL MAIL 24 (LL) DAILY RATE
RM2	ROYAL MAIL 24 (P) DAILY RATE
RM3	ROYAL MAIL 48 (LL) DAILY RATE
RM4	ROYAL MAIL 48 (P) DAILY RATE
RM5	ROYAL MAIL 24 (P) FLAT RATE
RM6	ROYAL MAIL 48 (P) FLAT RATE
RM7	ROYAL MAIL 24 (SORT8) (LL) DAILY RATE
RM8	ROYAL MAIL 24 (SORT8) (P) DAILY RATE
RM9	ROYAL MAIL 48 (SORT8) (LL) DAILY RATE
SD1	SD GUARANTEED BY 1PM
SD2	SD GUARANTEED BY 1PM (£1000)
SD3	SD GUARANTEED BY 1PM (£2500)
SD4	SD GUARANTEED BY 9AM
SD5	SD GUARANTEED BY 9AM (£1000)
SD6	SD GUARANTEED BY 9AM (£2500)
STL	1ST AND 2ND CLASS ACCOUNT MAIL
STL	1ST AND 2ND CLASS ACCOUNT MAIL
TPL	ROYAL MAIL TRACKED 48 (HV)
TPN	ROYAL MAIL TRACKED 24
TPS	ROYAL MAIL TRACKED 48
TRM	ROYAL MAIL TRACKED 24 (HV)

<serviceOffering>	Description
TRN	ROYAL MAIL TRACKED 24 (LBT)
TRS	ROYAL MAIL TRACKED 48 (LBT)
WE1	INTL BUS PARCELS ZERO SORT PRIORITY
WE3	INTL BUS PARCELS ZERO SORT ECONOMY
WG1	INTL BUS MAIL LRG LTR ZERO SRT PRIORITY
WG3	INTL BUS MAIL LRG LTR ZERO SORT ECONOMY
WG4	INTL BUS MAIL LRG LTR ZERO SRT PRI MCH
WG6	INTL BUS MAIL L LTR ZERO SRT ECONOMY MCH
WW1	INTL BUS MAIL MIXED ZERO SORT PRIORITY
WW3	INTL BUS MAIL MIXED ZERO SORT ECONOMY
WW4	INTL BUS MAIL MIXED ZERO SORT PRI MCH
WW6	INTL BUS MAIL MIXD ZERO SRT ECONOMY MCH
ZC1	INTL BUS MAIL MIXED ZERO SORT PREMIUM

## 12.3 Service Formats

- Used in the createShipment element <serviceFormat>

<serviceFormat>	Description
F	Inland Large Letter
L	Inland Letter
N	Inland format Not Applicable
P	Inland Parcel
E	International Parcel
G	International Large Letter
N	International Format Not Applicable
P	International Letter

## 12.4 BFPO Formats

- Only used for Service Type BFPO when Service Format is unknown
- BFPO Service Formats are International Flat, International Letter and International Pack
- Used in the createShipment element <bfpoFormat>

<BFPOcode>	Description
EAA	SD 0 - 100G £500 COMP
EAB	SD 101 - 500G £500 COMP
EAC	SD 501- 1KG £500 COMP
EAD	SD 1001G - 2KG £500 COMP
EBA	SD 0 - 100G £1000 COMP
EBB	SD 101 - 500G £1000 COMP
EBC	SD 501- 1KG £1000 COMP
EBD	SD 1001G - 2KG £1000 COMP
ECA	SD 0 - 100G £2500 COMP
ECC	SD 501- 1KG £2500 COMP
ECD	SD 1001G - 2KG £2500 COMP
EVb	SD 101 - 500G £2500 COMP
FAE	FORCES AEROGRAMMES

## 12.5 Domestic postcode format

Format	Example
@#^#@@	M1 1AA
@##^#@@	M60 1NW
@@#^#@@	CR2 1AA
@@##^#@@	DN55 1PT
@#@^#@@	W1C 1HQ
@@#@^#@@	EC1V 9HQ

# Numeric character

@ Alpha character

^ Denotes a space

## 12.6 Service Enhancements

As used in the createShipment element <enhancementType> described in Section 7.4

<enhancement Type>	Description	Enhancement Group
1	Consequential Loss £1000	Consequential Loss Insurance
2	Consequential Loss £2500	Consequential Loss Insurance
3	Consequential Loss £5000	Consequential Loss Insurance
4	Consequential Loss £7500	Consequential Loss Insurance
5	Consequential Loss £10000	Consequential Loss Insurance
6	Recorded	Recorded Signed For Mail
11	Consequential Loss £750	Consequential Loss Insurance
12	Tracked Signature	Tracked Delivery Options
13	SMS Notification	Tracking Notifications
14	E-Mail Notification	Tracking Notifications
15	Safeplace	Tracked Delivery Options
16	SMS & E-Mail Notification	Tracking Notifications



## 12.7 Countries

As used in the createShipment element <countryCode> described in Section 7.4

<country Code>	Description
AC	ASCENSION
AD	ANDORRA
AE	UNITED ARAB EMIRATES
AF	AFGHANISTAN
AG	ANTIGUA AND BARBUDA
AI	ANGUILLA
AL	ALBANIA
AM	ARMENIA
AN	NETHERLANDS ANTILLES
AO	ANGOLA
AQ	ANTARTIC
AR	ARGENTINA
AS	AMERICAN SAMOA
AT	AUSTRIA
AU	AUSTRALIA
AW	ARUBA
AX	ALAND ISLAND
AZ	AZERBAIJAN
BA	BOSNIA AND HERZEGOVINA
BB	BARBADOS
BD	BANGLADESH
BE	BELGIUM
BF	BURKINA FASO
BG	BULGARIA
BH	BAHRAIN
BI	BURUNDI
BJ	BENIN
BL	SAINT BARTHELEMY
BM	BERMUDA
BN	BRUNEI DARUSSALAM
BO	BOLIVIA, PLURINATIONAL STATE OF
BQ	BONAIRE
BR	BRAZIL
BS	BAHAMAS
BT	BHUTAN
BW	BOTSWANA
BY	BELARUS

<country Code>	Description
BZ	BELIZE
CA	CANADA
CC	COCOS (KEELING) ISLANDS
CD	CONGO, DEMOCRATIC REPUBLIC OF
CD	DEMOCRATIC REPUBLIC OF CONGO
CF	CENTRAL AFRICAN REPUBLIC
CH	SWITZERLAND
CI	COTE D'IVOIRE
CI	IVORY COAST
CK	COOK ISLANDS
CL	CHILE
CM	CAMEROON
CN	CHINA, THE PEOPLE'S REPUBLIC OF
CO	COLUMBIA
CR	COSTA RICA
CU	CUBA
CV	CAPE VERDE
CW	CURACAO
CX	CHRISTMAS ISLANDS (INDIAN)
CY	CYPRUS
CZ	CZECH REPUBLIC
DE	GERMANY
DJ	DJIBOUTI
DK	DENMARK
DM	DOMINICA
DO	DOMINICAN REPUBLIC
DZ	ALGERIA
EA	SPANISH NORTH AFRICA
EC	ECUADOR
EE	ESTONIA
EG	EGYPT
EH	WESTERN SAHARA
ER	ERITREA
ES	SPAIN
ET	ETHIOPIA
FI	FINLAND
FJ	FIJI
FK	FALKLAND ISLANDS
FK	FALKLAND ISLANDS
FM	MICRONESIA, FEDERATED STATES OF
FO	FAROE ISLANDS
FR	FRANCE
GA	GABON

<country Code>	Description
GB	UNITED KINGDOM
GD	GRENADA
GE	GEORGIA
GF	FRENCH GUIANA
GH	GHANA
GI	GIBRALTAR
GL	GREENLAND
GL	GREENLAND
GM	GAMBIA
GN	GUINEA
GP	GUADELOUPE, FRENCH ANTILLES
GQ	EQUATORIAL GUINEA
GR	GREECE
GS	SOUTH GEORGIA AND THE SOUTH SANDWICH ISLANDS
GT	GUATEMALA
GU	GUAM
GW	GUINEA-BISSAU
GY	GUYANA
HK	HONG KONG
HN	HONDURAS
HR	CROATIA
HT	HAITI
HU	HUNGARY
IC	CANARY ISLANDS
ID	INDONESIA
IE	REPUBLIC OF IRELAND
IL	ISRAEL
IN	INDIA
IO	BRITISH INDIAN OCEAN TERRITORY
IQ	IRAQ
IR	IRAN, ISLAMIC REPUBLIC OF
IS	ICELAND
IT	ITALY
JM	JAMAICA
JO	JORDAN
JP	JAPAN
KE	KENYA
KG	KYRGYZSTAN
KH	CAMBODIA
KI	KIRIBATI
KM	COMOROS
KN	SAINT KITTS AND NEVIS
KP	KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF

<country Code>	Description
KR	KOREA, REPUBLIC OF
KW	KUWAIT
KY	CAYMAN ISLANDS
KZ	KAZAKHSTAN
LA	LAO PEOPLE'S DEMOCRATIC REPUBLIC
LB	LEBANON
LC	SAINT LUCIA
LI	LIECHTENSTEIN,SWITZERLAND
LK	SRI LANKA
LR	LIBERIA
LS	LESOTHO
LT	LITHUANIA
LU	LUXEMBOURG
LV	LATVIA
LY	LIBYAN ARAB JAMAHIRIYA
MA	MOROCCO
MC	MONACO
MD	MOLDOVA, REPUBLIC OF
ME	MONTENEGRO
MF	SAINT MARTIN (FRENCH PART)
MG	MADAGASCAR
MH	MARSHALL ISLANDS
MK	MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF
ML	MALI
MM	BURMA (MYANMAR)
MN	MONGOLIA
MO	MACAO
MP	MARIANA ISLAND, UNITED STATES OF AMERICA
MQ	MARTINIQUE
MR	MAURITANIA
MS	MONTSERRAT
MT	MALTA
MU	MAURITIUS
MV	MALDIVES
MW	MALAWI
MX	MEXICO
MY	MALAYSIA
MZ	MOZAMBIQUE
NA	NAMIBIA
NC	NEW CALEDONIA
NE	NIGER
NF	NORFOLK ISLAND
NG	NIGERIA

<country Code>	Description
NI	NICARAGUA
NL	NETHERLANDS
NO	NORWAY
NP	NEPAL
NR	NAURU
NU	NIUE
NZ	NEW ZEALAND
OM	OMAN
PA	PANAMA
PE	PERU
PF	FRENCH POLYNESIA
PG	PAPUA NEW GUINEA
PH	PHILIPPINES
PK	PAKISTAN
PL	POLAND
PN	PITCAIRN
PR	PUERTO RICO
PT	PORTUGAL
PW	BELAU
PY	PARAGUAY
QA	QATAR
RE	REUNION
RO	ROMANIA
RS	SERBIA
RU	RUSSIAN FEDERATION
RW	RWANDA
SA	SAUDI ARABIA
SB	SOLOMON ISLANDS
SC	SEYCHELLES
SD	SUDAN
SE	SWEDEN
SG	SINGAPORE
SH	ST HELENA
SI	SLOVENIA
SJ	SVALBARD AND JAN MAYEN
SK	SLOVAKIA
SL	SIERRA LEONE
SM	SAN MARINO
SN	SENEGAL
SO	SOMALIA
SR	SURINAME
ST	SAO TOME AND PRINCIPE
SV	EL SALVADOR

<country Code>	Description
SY	SYRIAN ARAB REPUBLIC
SZ	SWAZILAND
TA	TRISTAN DA CUNHA
TC	TURKS AND CAICOS ISLANDS
TD	CHAD
TF	FRENCH SOUTHERN TERRITORIES
TG	TOGO
TH	THAILAND
TJ	TAJIKISTAN
TK	TOKELAU
TL	TIMOR-LESTE
TM	TURKMENISTAN
TN	TUNISIA
TO	TONGA
TR	TURKEY
TT	TRINIDAD AND TOBAGO
TV	TUVALU
TW	TAIWAN
TZ	TANZANIA, UNITED REPUBLIC OF
UA	UKRAINE
UG	UGANDA
UM	UNITED STATES OF AMERICA MINOR OUTLYING ISLANDS
US	UNITED STATES OF AMERICA
UY	URUGUAY
UZ	UZBEKISTAN
VA	HOLY SEE (VATICAN CITY STATE)
VC	SAINT VINCENT AND THE GRENADINES
VE	VENEZUELA, BOLIVARIAN REPUBLIC OF
VG	VIRGIN ISLANDS, BRITISH
VI	VIRGIN ISLANDS, U.S.
VN	VIET NAM
VU	VANUATU
WF	WALLIS AND FUTUNA
WS	SAMOA
XA	BRITISH ANTARTIC TERRITORY
XB	FRENCH SOUTH ANTARTIC TERRITOR
XC	NEW ZEALAND ANTARCTIC TERRITORY
XD	NORWEGIAN ANTARTIC TERRITORY
XE	LINE ISLAND, USA OF AMERICA
XF	GUANTANAMO BAY, UNITED STATES OF AMERICA
XG	HAWAII, UNITED STATES OF AMERICA
XH	CHRISTMAS ISLANDS (PACIFIC), KIRIBATI
XI	FANNING ISLAND, KIRIBATI

<country Code>	Description
XJ	PHOENIX ISLAND, KIRIBATI
XK	WASHINGTON ISLAND, KIRIBATI
XL	ST EUSTATIAS
XM	KEELING ISLAND, AUSTRALIA
XN	NORTHERN MARIANA ISLANDS
XO	NEW HEBRIDES, VANUATU
XZ	KOSOVO
YE	YEMEN
YT	MAYOTTE
ZA	SOUTH AFRICA
ZM	ZAMBIA
ZW	ZIMBABWE

## 12.8 Shipment Status Codes

The values for a shipment status are defined in the table below

<status>	Description
Allocated	Shipment with a Service Type / Service / Service Format and shipment number but not printed
Printed	Shipment with Service Type / Service / Service Format and shipment number and the label(s) printed
Manifested	Customer Collection Receipt has been created Customer Collection Receipt has been printed
Cancelled	Shipment has been cancelled

## 12.9 Error Codes

An error code means that the data is not processed and the operation stops

<errorCode>	<errorDescription>
E1084	shipmentType is a required field
E1085	The shipmentType specified is not valid
E1086	The serviceOccurrence (also known as the Service Reference) specified is not valid
E1087	serviceType is a required field
E1088	The serviceType specified is not valid
E1089	The serviceOffering (also known as Service) specified is not valid
E1090	serviceOffering (also known as Service) is not enabled for this account

<errorCode>	<errorDescription>
E1091	The serviceFormat specified is not valid
E1092	The bfpoFormat specified is not valid
E1093	shippingDate cannot be more than 28 days from the current date
E1094	The serviceOffering (also known as Service) specified is not valid for the specified destination country
E1095	This account is currently inactive, please contact your Account Manager
E1096	There was an error creating the shipment - please check the input data and retry. If this problem persists, please contact the Royal Mail helpdesk
E1097	The serviceOffering (also known as Service ) specified is not valid for Return ShipmentType
E1098	serviceOffering (also known as Service ) is not enabled for this account
E1099	Address postcode does not match the stored Returns address
E1100	postcode is a required field for domestic services
E1101	Name is a required field
E1102	addressLine1 is a required field
E1103	postTown is a required field
E1104	The countryCode specified is not valid
E1105	The countryCode specified is not valid
E1106	The countryCode <countryCode> is not valid for the specified Service
E1107	The specified combination of the partial postcode and postTown could not be validated
E1108	The specified combination of the full postcode and postTown could not be validated
E1109	serviceOffering (also known as Service ) and country combination are not valid
E1110	The telephoneNumber specified contained too many characters
E1111	The electronicAddress specified was too long
E1112	Invalid MobileNumber, must start with 00, 07 or +447 and brackets , ie "("")" are not valid
E1113	Invalid EmailAddress
E1114	The numberOfItems specified must be 1 or greater
E1115	The numberOfItems specified must be less than 100
E1116	weight is not valid for the service offering specified
E1117	Weight must be a positive number no longer than 5 digits
E1118	The enhancementType specified is not valid
E1119	Only one enhancementType from the specified Service Enhancement Group can be selected.
E1120	enhancementType is not valid for the specified Service



<errorCode>	<errorDescription>
E1121	enhancementType is not valid for the specified shipmentType
E1122	ElectronicAddress is required with enhancementType
E1123	telephoneNumber is required with enhancementType
E1124	shipmentNumber [ShipmentNumber] not found
E1125	shipmentNumber [ShipmentNumber] has been manifested so cannot be printed
E1126	The serviceReference specified is not valid
E1127	The serviceOffering (also known as Service) specified is not valid
E1128	No shipments found to manifest
E1129	manifestBatchNumber [manifestBatchNumber] not found
E1130	salesOrderNumber [salesOrderNumber] not found
E1131	manifestBatchNumber or SalesOrderNumber is required
E1132	Shipment number [ShipmentNumber] not found
E1133	Weight not valid for serviceOffering (also known as Service)
E1134	Shipment Number [shipmentNumber] has not been updated. It is not permitted to update the following fields [elements]
E1135	Shipment Numbers [shipmentNumber] has not been updated. The request did not contain any valid fields to update
E1136	Shipment number [ShipmentNumber] has been manifested so cannot be updated
E1137	shipmentNumber [shipmentNumber] not found
E1138	ShipmentNumber [shipmentNumber] cannot be cancelled because it has already been manifested
E1139	The maximum number of shipments that can be cancelled in a single call is 1000
E1140	Shipment number [ShipmentNumber] has been cancelled so cannot be updated
E1141	Shipment number [ShipmentNumber] has already been cancelled
E1146	The Service Occurrence (also known as the Service Reference) has not been specified
E1147	The Service Format has not been specified

## 12.10 Warning Codes

A warning code means that the data is processed and the operation continues

<warningCode>	<warningDescription>
W0018	ServiceFormat is not required for the ServiceCode specified and will be ignored
W0019	A bfpoFormat is only required for a HM Forces shipment and will be ignored for this shipment
W0020	signature is not a valid option for the service offering selected and will be ignored. If a signature is required cancel this shipment and re-raise specifying a valid Service Offering
W0021	The shippingDate specified is in the past. This has been defaulted to today's date
W0022	The customerReference specified is longer than 12 characters and has been truncated
W0023	The senderReference specified is longer than 20 characters and has been truncated
W0024	The safePlace specified is longer than 30 characters and has been truncated
W0025	safePlace is not valid for the serviceOffering specified and will be ignored
W0026	The departmentReference specified is invalid and will be ignored
W0027	The addressLine1 specified is longer than 80 characters and will be truncated
W0028	The addressLine2 specified is longer than 80 characters and will be truncated
W0029	The addressLine3 specified is longer than 80 characters and will be truncated
W0030	The postTown specified is longer than 40 characters and will be truncated
W0031	The postcode specified is longer than 15 characters and will be truncated
W0032	When shipping HM Forces shipments, countryCode field must be BFPO
W0033	The Name specified is longer than 80 characters and will be truncated
W0034	The ComplementaryName specified is longer than 64 characters and will be truncated
W0035	SMS option not selected so Telephone Number will be ignored
W0036	E-mail option not selected s so e-mail address will be ignored
W0037	The value specified for yourDescription is longer than 40 characters and will be truncated
W0038	The value specified for yourReference is longer than 25 characters and will be truncated
W0039	shipmentNumber [shipmentNumber] not found
W0040	Department references are not supported on the specified product and will be ignored

## 12.11 Technical Errors

An error code means that the data is not processed and the operation stops

<faultcode> [M]	<faultstring> [M]	<faultactor> [O]	<detail> [O]		
			<exceptionTransactionId> [O]	<exceptionCode> [O]	<exceptionText> [O]
Server	Internal Error	<i>[Map applicationId from Request]</i>	<i>[Map transactionId from Request]</i>	E0000	Internal Exception Occurred
Server	Service Unavailable	<i>[Map applicationId from Request]</i>	<i>[Map transactionId from Request]</i>	E0001	Service Unavailable
Server	Service Temporarily Unavailable	<i>[Map applicationId from Request]</i>	<i>[Map transactionId from Request]</i>	E0002	Service Temporarily Unavailable. Please try again later.
Client	Invalid Request	<i>[Map applicationId from Request]</i>	<i>[Map transactionId from Request]</i>	E0004	Failed Schema Validation
Server	Authorisation Failure	<i>[Map applicationId from Request]</i>	<i>[Map transactionId from Request]</i>	E0007	Authorisation Failure

## 12.12 Service Matrix

The Shipping API Service matrix is provided in a support file (Shipping\_API\_Service\_Matrix\_v1.0.xls).

## 12.13 Character Set

Allowable character set

Binary	Oct	Dec	Hex	Glyph
010 0000	040	32	20	•
010 0011	043	35	23	#
010 0110	046	38	26	&
010 0111	047	39	27	'
010 1000	050	40	28	(
010 1001	051	41	29	)
010 1011	053	43	2B	+
010 1100	054	44	2C	,
010 1101	055	45	2D	-
010 1110	056	46	2E	.
010 1111	057	47	2F	/
011 0000	060	48	30	0
011 0001	061	49	31	1
011 0010	062	50	32	2
011 0011	063	51	33	3
011 0100	064	52	34	4
011 0101	065	53	35	5
011 0110	066	54	36	6
011 0111	067	55	37	7
011 1000	070	56	38	8
011 1001	071	57	39	9
011 1010	072	58	3A	:
011 1111	077	63	3F	?

Binary	Oct	Dec	Hex	Glyph
100 0000	100	64	40	@
100 0001	101	65	41	A
100 0010	102	66	42	B
100 0011	103	67	43	C
100 0100	104	68	44	D
100 0101	105	69	45	E
100 0110	106	70	46	F
100 0111	107	71	47	G
100 1000	110	72	48	H
100 1001	111	73	49	I
100 1010	112	74	4A	J
100 1011	113	75	4B	K
100 1100	114	76	4C	L
100 1101	115	77	4D	M
100 1110	116	78	4E	N
100 1111	117	79	4F	O
101 0000	120	80	50	P
101 0001	121	81	51	Q
101 0010	122	82	52	R
101 0011	123	83	53	S
101 0100	124	84	54	T
101 0101	125	85	55	U
101 0110	126	86	56	V
101 0111	127	87	57	W
101 1000	130	88	58	X
101 1001	131	89	59	Y
101 1010	132	90	5A	Z
101 1011	133	91	5B	[
101 1101	135	93	5D	]
101 1111	137	95	5F	_

Binary	Oct	Dec	Hex	Glyph
110 0000	140	96	60	`
110 0001	141	97	61	a
110 0010	142	98	62	b
110 0011	143	99	63	c
110 0100	144	100	64	d
110 0101	145	101	65	e
110 0110	146	102	66	f
110 0111	147	103	67	g
110 1000	150	104	68	h
110 1001	151	105	69	i
110 1010	152	106	6A	j
110 1011	153	107	6B	k
110 1100	154	108	6C	l
110 1101	155	109	6D	m
110 1110	156	110	6E	n
110 1111	157	111	6F	o
111 0000	160	112	70	p
111 0001	161	113	71	q
111 0010	162	114	72	r
111 0011	163	115	73	s
111 0100	164	116	74	t
111 0101	165	117	75	u
111 0110	166	118	76	v
111 0111	167	119	77	w
111 1000	170	120	78	x
111 1001	171	121	79	y
111 1010	172	122	7A	z
111 1011	173	123	7B	{
111 1100	174	124	7C	
111 1101	175	125	7D	}
111 1110	176	126	7E	~

## 13 Appendix B – XML Examples

See supporting files for the following XML examples (both request and response):

### 13.1 createShipment:

- i. Request (createShipmentRequestInDoc.xml)
- ii. Response (createShipmentResponseInDoc.xml)

### 13.2 updateShipment

- i. Request (updateShipmentRequestInDoc.xml)
- ii. Response (updateShipmentResponseInDoc.xml)

### 13.3 cancelShipment

- i. Request (cancelShipmentRequestInDoc.xml)
- ii. Response (cancelShipmentResponseInDoc.xml)

### 13.4 printLabel

- i. Request (printLabelRequestInDoc.xml)
- ii. Response (printLabelResponseInDoc.xml)

### 13.5 createManifest

- i. Request (createManifestRequestInDoc.xml)
- ii. Response (createManifestResponseInDoc.xml)

### 13.6 printManifest

- i. Request (printManifestRequestInDoc.xml)
- ii. Response (printManifestResponseInDoc.xml)