Revenue
Cáin agus Custaim na hÉireann
Irish Tax and Customs

Customs & Excise

Web Services Specifications
(incl. AIS Operational November 2020)

Contents

Version Control		
Version	**Date**	**Change**
0.1	04/10/2019	Initial document published
0.2	06/02/2020	Renamed "UCC Import Declaration" with "AIS Submit". Restructured/rewrote content for clarity
0.3	28/05/2020	Updated "INVALID" and "EXPIRED" scenarios

Document References

Reference
1.   Customs & Excise Web Services Specifications (incl AIS) Operational November 2020
2.   Customs & Excise SOAP Web Service Integration Guide
3.   Customs & Excise REST Web Service Integration Guide
4.   Error Codes

INTRODUCTION

This document details the Customs & Excise ROS web services specification including the AIS Import Declaration specification. The Revenue Customs web services are exposed over SOAP and, with the introduction of the AIS system, some REST web services are made available. For further details please refer to the Document References section.

ROS web services are built on industry standard technologies. They are available over the Internet and ensure the same level of privacy and security as the ROS web site. This document covers the following Customs & Excise web services:

- AIS Submit (for Import Declarations, Amendments, G3, etc.)
- Mailbox Collect
- Mailbox Acknowledge
- SAD Single Administrative Document (available for Export only)
- EDE (Excise Duty Entry)
- Enquiry
- TransactionID (Reliable Messaging)
- Arrival at Exit
- Exit Summary Declaration
- Export Cancellation Request
- Excise Movement Control System (EMCS)
  - Submission and Registration of an Electronic Administrative Document (e-AD)
  - Cancellation of an Electronic Administrative Document (e-AD)
  - Change of Destination
  - Explanation for Delay of Delivery
  - Report of Receipt
  - Alert or Rejection of an e-AD
  - Submission Draft of Splitting Operation
  - Explanation on Reason for Shortage
- Import Control System (ICS)
  - Entry Summary Declaration Amendment
  - Entry Summary Declaration
  - Diversion Request Import
- Manifest System
  - Manifest Declaration Amendment
  - Manifest Declaration
  - Manifest Declaration Cancellation

There is also the option for traders and economic operators to use a Reliable Messaging Service. Reliable messaging is a protocol that guarantees a set of delivery semantics for a message. In the context of the Customs & Excise web services, reliable messaging is used to guarantee once-only submission of a Customs & Excise document from a trader or economic operator to Revenue.

For example, when the connection from the trader/economic operator is broken while the web service request is being made, it is possible to recover to a point that allows:
- The trader/economic operator submitting the message to be sure that it was received by Revenue.

- The trader/economic operator submitting the message to be sure that the message is only processed once by Revenue.

1.1. Reliable Messaging Service

1.1.1. Summary Overview

Reliable Messaging Service is an optional piece of functionality that traders and economic operators can utilise. The introduction of Reliable Messaging does not affect existing functionality. i.e. you are not required to change existing software.

Reliable messaging ensures that a message submitted was received by Revenue and that a message is only processed once by Revenue.

When calling one of the submit web services without reliable messaging, the Trader/Economic Operator software will submit the request and receive an acknowledgement from ROS. However, if this acknowledgement is not properly received, due to a lost network connection or a timeout for example; then the Trader/Economic Operator software cannot positively determine whether the message was received by ROS or not, i.e. did the connection fail before the message reached ROS, or after it reached ROS and before the acknowledgement was returned. There are two choices for the Trader/Economic Operator at this point: resend the message and risk it being processed a second time, or do not resend the message and risk it not being received at all by ROS.

The reliable messaging protocol serves to address this issue. The Trader/Economic Operator may first call a new web service, the TransactionID web service, to retrieve up to 100 Transaction Ids in advance of calling any of the submission web services. The Trader/Economic Operator software should then assign each of these Transaction IDs to an Import Declaration/EMCS request and send that Transaction ID with the request when calling the submission web service. The submission web service will ensure that the Transaction ID is valid (it was issued by ROS and has not yet expired) and ensure that each ID is processed only once. Thus, for the scenario described above where an acknowledgement is not received by the Trader/Economic Operator Software, it can safely resend the same Import Declaration/ECMS request with the same Transaction ID as ROS will guarantee that duplicate submissions with the same Transaction ID are not processed twice.

If all validation on the TransactionID passes, then the Import Declaration/EMCS response is sent as per existing functionality.

1.1.2. Scenarios

When an Import Declaration/EMCS request is filed using Reliable Messaging a number of scenarios can be encountered, relating to the response returned to the Trader/Economic Operator. All examples of responses can be found in the relating Customs Excise SOAP Web Service Guide or Customs Excise REST Web Service Guide document.

The MessageStatus field will contain one of two values:
- **ACCEPTED** – The message was successfully accepted by Revenue.

- **REJECTED** – The message was rejected for some reason. This may be due to either an issue with the Transaction ID or the message itself. The TransactionIdStatus field and the optional error field can be used for further diagnosis.

The TransactionIdStatus field will contain one of these values if the MessageStatus is ACCEPTED. They can be ignored or used to validate that the correct redelivery semantics worked.
- **ACCEPTED** – The message has been accepted by Revenue and the Transaction ID can be used as a reference to this message.
- **ALREADY_ACCEPTED** – A message has already been accepted by Revenue that used this Transaction ID.

If the MessageStatus is REJECTED, the TransactionIdStatus will be set to one of these values. These can be used to determine whether the problem was related to the reliable messaging protocol, and if so, what the problem was.
- **INVALID** – The Transaction ID was not recognised. This can happen if the Transaction ID was not retrieved from Revenue in the first place.
- **EXPIRED** – The Transaction ID is recognised, has not been used, but has expired. A new Transaction ID should be retrieved and used.
- **ERROR** – There was an error with the submission of the message unrelated to the Transaction ID; see the ErrorReference element for more details.

1.1.3.   Transaction ID request

Description
After the trader creates and sends the request for a Transaction ID to ROS, ROS will verify that the message is correctly formatted, check that the trader is authorised to file Customs/Excise returns and that the digital signature is valid. ROS will then generate transaction IDs and return them to the trader.

1.2.   Common Failure Scenarios

These are the most common failure scenarios that may arise when sending messages between a trader and ROS. ROS will return an appropriate error code. Scenarios that are specific to each type of message are outlined beneath them.

In the event of a connection failure when the trader attempts to communicate with ROS or ROS attempts to communicate with the trader then the trader's software will time out.

ROS will terminate the process and return a fault message if any of the following occur:

- The message is not well formed

- The request is for an invalid web service

- The digital signature cannot be validated

ROS will return a negative web service response if:

- The trader is not authorised to file messages

- The type of message being submitted is not recognised

For further details in relation to the ROS Error Codes please refer to the Document References section.

2. MESSAGE DELIVERY AND COLLECTION PROCESS

2.1.   Message Delivery Process

This section details the exchange of messages between the trader's software and ROS. There are two default methods of message exchange, without reliable messaging and with reliable messaging. Both are outlined below.

2.1.1. Default C&E Message Delivery Process (Without Reliable Messaging)

Description
After the trader creates and sends the digitally-signed message to ROS, ROS will verify that the message is correctly formatted and that the digital signature is valid. ROS will accept the message for processing once it verifies that the trader is authorised to file messages and that the type of message is acceptable to the web service. ROS will reply to the trader with an acknowledgement containing the transaction ID.

2.1.2. Default C&E Message Delivery Process (With Reliable Messaging)

Description
The trader sends a WS request to ROS. This request must contain the transaction ID within the header message. ROS will verify that the message is correctly formatted and that both the digital signature and transaction ID are valid. In the background ROS will set the Transaction ID to be processed. ROS will reply to the trader with an acknowledgement.

Failure Scenarios
ROS detects that the given transaction ID has a status of "processed"

- This means the transaction ID has already been against this or another web service

The transaction ID expires after a certain period of time

- The trader will receive an acknowledgement message with the Transaction ID and a status of REJECTED/EXPIRED

ROS does not find the given transaction ID among the list of valid IDs with status "processed" or "unprocessed"

- The trader will receive an acknowledgement message with the Transaction ID and a status of REJECTED/INVALID

2.2. Message Collection Process

Description

After the trader creates and sends the digitally-signed message to ROS, ROS will verify that the message is correctly formatted and that the digital signature is valid. ROS will determine the ID of the trader as per the Administrator digital cert and ensures that the trader hasn't made a collect request within the last minute. ROS then retrieves a maximum of 50 previously uncollected and unacknowledged mailbox items to the trader.

Once the trader receives the items, the trader's software will send an acknowledgement message to ROS. Once ROS validates that message, it will remove the items from the mailbox. Finally, an acknowledgement will be sent to the trader's software containing the ID's of the deleted items and the status all acknowledged messages.

If there are more mailbox items to be collected, ROS will indicate that there are more remaining in the mailbox. In this case the process must be repeated in order to retrieve the remaining items.

Failure Scenarios

ROS detects that there has been a collect request from the trader within the last minute

- ROS will send a response informing the trader that they must wait a minute between mailbox collect requests

ROS is unable to complete the mailbox operation

- ROS responds with an error stating the reason for the failure

3. WEB SERVICES

The following sections will describe the operation of each web service.

Below is a list of web services that can be used to indicate that the relevant message should be submitted to Irish Customs & Excise. The contents of the bodies of these web service messages can be in either XML or EDIFACT format. If successful, the appropriate message will be processed and a response message will be placed in the customer's mailbox. The synchronous response message will be a MessageAcknowledgement.

The response messages will be placed in the customer's mailbox and the trader will use the Mailbox web services to retrieve these responses. Please refer to the message collection process for details on how to retrieve messages from the customer's mailbox.

Please note:
- Mailbox items are stored, retrieved and acknowledged at customer level i.e. items are not specific to individual digital certs.
- A restriction will be applied to the interval frequency of Mailbox requests for the customer. This interval frequency is subject to change. If a request is sent to this web service and there has been a previous request within the defined interval, the web service request will not be accepted for processing.
- A restriction will be applied to the number of mailbox items that can be returned to a customer at any one time. This number restriction is subject to change. Where additional mailbox items are available for collection, this will be indicated in the response message.

Web Service Name	Format	Note
AIS Submit	XML	
SAD	XML/ EDIFACT	Since the introduction of UCC the existing SAD webservice will accept new export declarations only, all the messages relating to the Import Declaration must be in the UCC format and submitted to the AIS Submit web service. The response messages will be placed in the customer's mailbox and the trader will use the Mailbox web services to retrieve these responses. Please refer to the message collection process for details on how to retrieve messages from the customer's mailbox.
Ede	XML	
NOI	XML/ EDIFACT	
SadComTransfer	XML/ EDIFACT	
SadExUnderControl	XML/ EDIFACT	

SAD Enquiry	XML/ EDIFACT	
Ede Enquiry	XML	
NOI Enquiry	XML/ EDIFACT	
SadComTransfer Enquiry	XML/ EDIFACT	
SadExUnderControl Enquiry	XML/ EDIFACT	
Mailbox Collect	XML	
Mailbox Acknowledgement	XML	
Transaction ID	XML	The message will contain the total number of Transaction Identifiers that the trader requires. The response message will contain the number of transaction ID numbers requested. All requested transaction Id details are stored and utilised when a SAD is processed
ArrivalAtExit	XML/ EDIFACT	
ExitSummaryDeclaration	XML/ EDIFACT	
ExportCancellationRequest	XML/ EDIFACT	
DiversionRequestImport	XML/ EDIFACT	
EntrySummaryDeclaration	XML/ EDIFACT	
EntrySummaryDeclarationAmendment	XML/ EDIFACT	

Excise Movement Control System Web Services

Web Service Name	Message	Format
CancellationOfAnEAAD	IE810	XML
ChangeOfDestination	IE813	XML
SubmittedDraftofEAAD	IE815	XML
AcceptedOrRejectReportOfReceipt	IE818	XML
ExplanationOnDelayForDelivery	IE837	XML
AlertOrRejection	IE819	XML
SubmittedDraftofSplittingOperation	IE825	XML
ExplanationonReasonForShortage	IE871	XML
Manifest Declaration		XML
Manifest Amendment		XML
Manifest Cancellation		XML

3.1. INTERPRETING THE RESPONSE

Each web service will return a response message to the trader as outlined below.

3.1.1. AIS Submit, SAD/File, EDE/File & EMCS/e-AD

Synchronous response: A message acknowledgement is returned synchronously to acknowledge successful or failed delivery of the message to Irish Customs & Excise for processing. A successful message acknowledgement will contain a transaction ID. A negative message acknowledgement will contain an error indicating the reason for the failure.

Asynchronous mailbox response: Responses generated during processing (e.g. functional response messages or error messages) will be placed in the Mailbox for asynchronous collection.

3.1.2. Enquiry/Request

Synchronous response: A message acknowledgement is returned synchronously to acknowledge successful or failed delivery of the message to Irish Customs & Excise for processing. A successful message acknowledgement will contain a transaction ID. A negative message acknowledgement will contain an error indicating the reason for the failure.

Asynchronous mailbox response: Responses generated during processing (e.g. functional response messages or error messages) will be placed in the Mailbox for asynchronous collection.

3.1.3. Mailbox/Collect

Synchronous response: A Collect response message will be returned synchronously when the message is processed. The Collect response message will contain previously uncollected and unacknowledged mailbox items for that customer. When the number of mailbox items is greater than the restriction limit for the number of items that can be returned at any one time, the Collect response will specify that there are still mailbox items to collect. When the mailbox contains no mailbox items, the same response message will be returned but it will not contain any mailbox items. If the Mailbox Collect message cannot be successfully processed (e.g. message sent in was malformed), the Collect response message will contain an error indicating the reason for the failure.

Asynchronous mailbox response: Not applicable.

3.1.4. Mailbox/Acknowledge

Synchronous response: An Acknowledge response message will be returned synchronously when the message is processed. The Acknowledge response message will contain the mailbox IDs of all mailbox items that have been acknowledged and therefore cleaned down from the

Mailbox for that customer. If the Mailbox Acknowledgement message cannot be successfully processed (e.g. message sent in was malformed), the Acknowledge response message will contain an error indicating the reason for the failure.
 Asynchronous mailbox response: Not applicable.

3.2.   *Reliable Messaging Service*

Synchronous response: A message acknowledgement is returned synchronously to acknowledge successful or failed delivery of the message to Irish Customs & Excise for processing. A successful message acknowledgement will contain a Message Status and a Transaction ID status (see below details). A negative message acknowledgement will contain an error indicating the reason for the failure.

When the trader is using Reliable messaging, they will receive extra information back as part of the acknowledgement message for a Customs & Excise document submission. There are a number of different scenarios for the acknowledgment response document to take when the trader uses Reliable Messaging. They are listed in the table below.

MessageStatus	TransactionIdStatus	Description
ACCEPTED	ACCEPTED	The message has been accepted and the transaction ID is valid. The request is sent for processing.
ACCEPTED	ALREADY ACCEPTED	The message has been accepted but the transaction ID has already been used by another Customs & Excise submission. The request is not sent for processing.
REJECTED	INVALID	The message has been rejected because the transaction ID is invalid.
REJECTED	EXPIRED	The message has been rejected because the transaction ID used has expired, i.e. if is more than 7 days old
REJECTED	ERROR	The message has been rejected because a problem has arisen unrelated to the Transaction ID

Asynchronous mailbox response: Responses generated during processing (e.g. functional response messages or error messages) will be placed in the Mailbox for asynchronous collection.