



## Customs & Excise

# Web Services Specifications for Transactions Retrieval

*The information in this document is provided as a guide only and is not professional advice, including legal advice. It should not be assumed that the guidance is comprehensive or that it provides a definitive answer in every case.*

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Version Control		
Version	Date	Change
1.0	01/12/2022	Initial document
1.1	09/01/2023	Modified endpoints' list: <ul style="list-style-type: none"> <li>- Removed Period MRNs with Tax Details endpoint</li> <li>- Removed Daily MRNs with Tax Details endpoint</li> <li>- Removed Period Postponed VAT endpoint</li> <li>- Added Monthly combined taxes report for Importers endpoint</li> </ul> Renamed other endpoints for clarity
1.2	14/02/2023	Added section detailing Public Interface Testing

## Document References

Reference
1. <a href="#">Customs &amp; Excise REST Web Service Integration Guide</a>
2. <a href="#">Full list of ROS error codes</a>

## Introduction

This document details the ROS web services specification for retrieval of Customs & Excise transactions.

These web services are built on industry standard technologies. They are available over the Internet as synchronous REST services and ensure the same level of privacy and security as the ROS web site.

This document covers the following Customs & Excise web services:

- Transactions Handshake
- Monthly summary report for Payers
- Monthly combined taxes report for Payers
- Monthly tax type report for Payers
- Monthly combined taxes report for Importers
- Daily summary report for Payers
- Daily combined taxes report for Payers
- Daily tax type report for Payers
- Unpaid declarations report for Payers
- Balance

Payers' transaction lists are provided on either daily or a monthly basis depending on the type of Payer. There is a distinction between non-large and large payers, large payers are those who's monthly import declaration submissions exceed a defined threshold. Traders deemed as large payers will need to request transaction lists using the daily details endpoints. Revenue will contact large traders informing them of the requirement to retrieve transaction lists daily. Section 2 of the document outlines each of the web services available and indicates if the service is to be used by large or normal payers, or if it is available to all payers.

## 1 Digital Signatures

Any ROS web service request that either returns confidential information or accepts submission of information must be digitally signed. This must be done using a digital certificate that has been previously retrieved from ROS.

The digital signature must be applied to the message in accordance with the HTTP Signatures specification.

The digital signature ensures the integrity of the document. By signing the document, we can ensure that no malicious intruder has altered the document in any way. It can also be used for non-repudiation purposes.

If a valid digital signature is not attached, a HTTP status code of 401 (Unauthorised) will be returned. The message body will provide more information on the details of the problem.

Detailed specifications for digitally signing REST messages are described in [Customs & Excise REST Web Service Integration Guide](#) available on Revenue.ie website.

For REST GET requests the message to be signed is an empty string.

## 2 Public Interface Testing (PIT)

The [Transaction Handshake](#) service is the only service listed in the document available in the PIT environment.

To call the transaction handshake service the request message must be digitally signed, as detailed in [section 1](#).

The steps required to retrieve a successful response from the transaction handshake service are a prerequisite to calling all other listed services.

The document has provided sample response messages for all-other web services not provided in the PIT environment

### 3 Web Services

The following sections describe the operation of each web service.

If successful, the appropriate message will be processed and a synchronous JSON response message will be returned.

If unsuccessful, the synchronous response will be either HTTP code or a *MessageAcknowledgement* containing a ROS error code.

The full web service URL consists of environment-specific URL and the service-specific endpoint, e.g.:

`https://www.ros.ie/customs/webservice/v1/rest/transactions/handshake`

Environment URLs:

Live:	<code>https://www.ros.ie/customs/webservice/v1/rest</code>
Public Interface Test (PIT):	<code>https://softwaretestnextversion.ros.ie/customs/webservice/v1/rest</code>

#### 3.1 Transactions Handshake

Purpose:	Validate connectivity and digital signature.
Http Method:	GET
Endpoint:	<code>/transactions/handshake</code>
Parameters:	None
Successful response format:	<pre>{   "acknowledged": true,   "info": "string" }</pre>

### 3.2 Period (monthly) details – summary report for Payers

Purpose:	Retrieve transactions' summary for given period broken down by tax and by day. Available to all Payers; the daily breakdown list returned in the response indicates days within the period that a large payer can request a Daily transaction list
Http Method:	GET
Endpoint:	/transactions/periods/{period}/payer-summary-report
Parameters:	<b>period</b> : first day of accounting period in yyyyymmdd format, e.g. 20221101
Successful response format:	<pre>{   "eori": "string",   "period": "string",   "taxTotal": 0,   "taxBreakdown": [     {       "taxType": "string",       "payableAmount": 0     }   ],   "dailyBreakdowns": [     {       "date": "string",       "taxTotal": 0     }   ] }</pre>
Sample Response	<pre>{   "timestamp": 1660211772103,   "eori": "IE1234567A",   "period": "20220801",   "taxTotal": 400.0,   "taxBreakdown": [{     "taxType_4_3": "A00",     "payableAmount_4_6": 150.0   }, {     "taxType_4_3": "B00",     "payableAmount_4_6": 250.0   }],   "dailyBreakdowns": [{     "date": "20220810",     "taxTotal": 200.0   }, {     "date": "20220811",     "taxTotal": 200.0   }] }</pre>



### 3.3 Period (monthly) details – combined taxes report for Payers

Purpose:	Retrieve list of all paid MRNs with taxes broken down by groups, within given period. – Available to non-large Payers
Http Method:	GET
Endpoint:	/transactions/periods/{period}/payer-combined-taxes-report
Parameters:	<b>period</b> : first day of accounting period in yyyyymmdd format, e.g. 20221101
Successful response format:	<pre>{   "eori": "string",   "period": "string",   "paidOrders": [     {       "mrn": "string",       "version": 0,       "amendment": false,       "payer": "string",       "importer": "string",       "importerName": "string",       "declarant": "string",       "declarantName": "string",       "dtReceived": "2022-12-01T14:10:41.884Z",       "taxTotal": 0,       "totalDuty": 0,       "vatOnDuty": 0,       "totalExcise": 0,       "vatOnExcise": 0,       "postponedVat": 0,       "lrn": "string",       "ucr": "string",       "commericalTransportDoc": "string"     }   ] }</pre>
Sample Response	<pre>{   "timestamp": 1660211772103,   "eori": "IE1234567A",   "period": "20220801",   "paidOrders": [{     "mrn": "22IEDUB4BBFC22PER2",     "version": 1,     "amendment": false,     "declarationMsgType": "H1",     "payer": "IE1234567A",     "importer": "IE1234567A",     "importerName": "MR Test O'Neill",     "declarant": "IE7654321A",     "declarantName": "MR Test Murphy"   ] }</pre>

	<pre> "dtReceived": "2022-08-11T10:56:11.903+0100", "taxTotal": 200.0, "totalDuty":150, "vatOnDuty": 50, "totalExcise": 0, "vatOnExcise": 0, "postponedVat": 100, "lrn": "EXA214094_06AaxY", "ucr": "123422342", "commercialTransportDoc": "N703124242" }, { "mrn": "22IEDUB4BBFC22PER2", "version": 2, "amendment": true, "declarationMsgType": "H1", "payer": "IE1234567A", "importer": "IE1234567A", "importerName": "MR Test O'Neill", "declarant": "IE7654321A", "declarantName": "MR Test Murphy" "dtReceived": "2022-08-13T17:46:11.903+0100", "taxTotal": 500.0, "totalDuty":50, "vatOnDuty": 50, "totalExcise": 350, "vatOnExcise": 50, "postponedVat": 100, "lrn": "EXA214094_06AaxY", "ucr": "1234787878342", "commercialTransportDoc": "N703124242" }] } </pre>
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### 3.4 Period (monthly) details – tax type report for Payers

Purpose:	Retrieve list of all paid MRNs with individual tax amounts, within given period. Available to non-large Payers
Http Method:	GET
Endpoint:	/transactions/periods/{period}/payer-tax-types-report
Parameters:	<b>period</b> : first day of accounting period in yyyyymmdd format, e.g. 20221101
Successful response format:	<pre> {   "eori": "string",   "period": "string",   "taxDetails": [     {       "mrn": "string",       "version": 0,       "taxes": {         "additionalProp1": 0, </pre>

	<pre> "additionalProp2": 0,     }   } ] } </pre>
<p>Sample Response</p>	<pre> {   "timestamp": 1660211772103,   "eori": "IE1234567A",   "period": "20220801",   "taxDetails": [{     "mrn": "22IEDUB4BBFC22PER2",     "version": 1,     "1D3": 0,     "1A1": 0,     "1B2": 0,     "A00": 5,     "1B3": 0,     "1D5": 0,     "A45": 0,     "B00": 5,     "1D6": 0,     "A35": 0,     "B00EX": 0,     "1S1": 0,     "1E1": 0,     "A40": 0,     "A30": 0,     "1C1": 0,     "2E2": 0,     "A20": 0   }, {     "mrn": "22IEDUB4BBFC22AZR2",     "version": 3,     "1D3": 0,     "1A1": 0,     "1B2": 0,     "A00": 5000,     "1B3": 200,     "1D5": 0,     "A45": 0,     "B00": 50,     "1D6": 0,     "A35": 0,     "B00EX": 0,     "1S1": 0,     "1E1": 0,     "A40": 0,     "A30": 0,     "1C1": 0,     "2E2": 0,     "A20": 0   }] } </pre>

### 3.5 Period (monthly) details – combined taxes report for Importers

Purpose:	Retrieve list of all paid MRNs with taxes broken down by groups for an importer, within given period. Available to All Importers
Http Method:	GET
Endpoint:	/transactions/periods/{period}/importer-combined-taxes-report
Parameters:	<b>period</b> : first day of accounting period in yyyyymmdd format, e.g. 20221101
Successful response format:	<pre>{   "eori": "string",   "period": "string",   "paidOrders": [     {       "mrn": "string",       "version": 0,       "amendment": false,       "payer": "string",       "payerName": "string",       "importer": "string",       "declarant": "string",       "declarantName": "string",       "dtReceived": "2022-12-01T14:10:41.884Z",       "taxTotal": 0,       "totalDuty": 0,       "vatOnDuty": 0,       "totalExcise": 0,       "vatOnExcise": 0,       "postponedVat": 0,       "lrn": "string",       "ucr": "string",       "commericalTransportDoc": "string"     }   ] }</pre>
Sample Response	<pre>{   "timestamp": 1660211772103,   "eori": "IE1234567A",   "period": "20220801",   "paidOrders": [{     "mrn": "22IEDUB4BBFC22PER2",     "version": 1,     "amendment": false,     "declarationMsgType": "H1",     "payer": "IE1234567A",     "payerName": "MR Test O'Neill",     "importer": "IE1234567A",     "declarant": "IE7654321A",     "declarantName": "MR Test Murphy",     "dtReceived": "2022-08-11T10:56:11.903+0100",</pre>

	<pre> "taxTotal": 200.0, "totalDuty":150, "vatOnDuty": 50, "totalExcise": 0, "vatOnExcise": 0, "postponedVat": 100, "lrn": "EXA214094_06AaxY", "ucr": "123422342", "commercialTransportDoc": "N703124242" }, { "mrn": "22IEDUB4BBFC22PER2", "version": 2, "amendment": true, "declarationMsgType": "H1", "payer": "IE1234567A", "payerName": "MR Test O'Neill", "importer": "IE1234567A", "declarant": "IE7654321A", "declarantName": "MR Test Murphy" "dtReceived": "2022-08-13T17:46:11.903+0100", "taxTotal": 500.0, "totalDuty":50, "vatOnDuty": 50, "totalExcise": 350, "vatOnExcise": 50, "postponedVat": 100, "lrn": "EXA214094_06AaxY", "ucr": "1234787878342", "commercialTransportDoc": "N703124242" }] } </pre>
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### 3.6 Daily details – summary report for Payers

Purpose:	Retrieve transactions’ summary for given day, broken down by tax type. Available to Large Payers
Http Method:	GET
Endpoint:	/transactions/daily/{day}/payer-summary-report
Parameters:	<b>day</b> : relevant day of accounting period in yyyyymmdd format, e.g. 20221125
Successful response format:	<pre> {   "eori": "string",   "date": "string",   "taxTotal": 0,   "taxBreakdown": [     {       "taxType": "string",       "payableAmount": 0     }   ] } </pre>

	}
Sample Response	<pre>{   "timestamp": 1660211772103,   "eori": "IE1234567A",   "date": "20220811",   "taxTotal": 400.0,   "taxBreakdown": [{     "taxType_4_3": "A00",     "payableAmount_4_6": 150.0   }, {     "taxType_4_3": "B00",     "payableAmount_4_6": 250.0   } ]</pre>

### 3.7 Daily details – combined taxes report for Payers

Purpose:	Retrieve list of all paid MRNs with taxes broken down by groups, in given day. Paid orders submitted on a given day but posted to a different period will include the period to which the payment order was posted. If the period field is not present the payment order was posted to the accounting period the day, requested, is part of. Available to Large Payers
Http Method:	GET
Endpoint:	/transactions/daily/{day}/payer-combined-taxes-report
Parameters:	<b>day</b> : relevant day of accounting period in yyyyymmdd format, e.g. 20221125
Successful response format:	<pre>{   "eori": "string",   "date": "string",   "paidOrders": [     {       "mrn": "string",       "version": 0,       "amendment": false,       "payer": "string",       "importer": "string",       "importerName": "string",       "declarant": "string",       "declarantName": "string",       "dtReceived": "2022-12-01T14:38:11.352Z",       "taxTotal": 0,       "totalDuty": 0,       "vatOnDuty": 0,       "totalExcise": 0,       "vatOnExcise": 0,       "postponedVat": 0,       "lrn": "string",       "ucr": "string", </pre>

	<pre>"commericalTransportDoc": "string" "period": "string", } ] }</pre>
<p>Sample Response</p>	<pre>{   "timestamp": 1660211772103,   "eori": "IE1234567A",   "day": "20220811",   "paidOrders": [{     "mrn": "22IEDUB4BBFC22PER2",     "version": 1,     "amendment": false,     "declarationMsgType": "H1",     "payer": "IE1234567A",     "importer": "IE1234567A",     "importerName": "MR Test O'Neill",     "declarant": "IE7654321A",     "declarantName": "MR Test Murphy",     "dtReceived": "2022-08-11T10:56:11.903+0100",     "taxTotal": 200.0,     "totalDuty":150,     "vatOnDuty": 50,     "totalExcise": 0,     "vatOnExcise": 0,     "postponedVat": 100,     "lrn": "EXA214094_06AaxY",     "ucr": "123422342",     "commercialTransportDoc": "N703124242"   }, {     "mrn": "22IEDUB4BBFC22PER2",     "version": 2,     "amendment": true,     "declarationMsgType": "H1",     "payer": "IE1234567A",     "importer": "IE1234567A",     "importerName": "MR Test O'Neill",     "declarant": "IE7654321A",     "declarantName": "MR Test Murphy",     "dtReceived": "2022-08-13T17:46:11.903+0100",     "taxTotal": 500.0,     "totalDuty":50,     "vatOnDuty": 50,     "totalExcise": 350,     "vatOnExcise": 50,     "postponedVat": 100,     "lrn": "EXA214094_06AaxY",     "ucr": "1234787878342",     "commercialTransportDoc": "N703124242"     "period": "20220101"   }   ] }</pre>

### 3.8 Daily details – tax type report for Payers

Purpose:	Retrieve list of all paid MRNs with individual tax amounts, in given day. Available to Large Payers
Http Method:	GET
Endpoint:	/transactions/daily/{day}/payer-tax-types-report
Parameters:	<b>day</b> : relevant day of accounting period in yyyyymmdd format, e.g. 20221125
Successful response format:	<pre>{   "eori": "string",   "period": "string",   "day": "string",   "taxDetails": [     {       "mrn": "string",       "version": 0,       "taxes": {         "additionalProp1": 0,         "additionalProp2": 0,         "additionalProp3": 0       }     }   ] }</pre>
Sample Response	<pre>{   "timestamp": 1660211772103,   "eori": "IE1234567A",   "day": "20220811",   "taxDetails": [{     "mrn": "22IEDUB4BBFC22PER2",     "version": 1,     "1D3": 0,     "1A1": 0,     "1B2": 0,     "A00": 5,     "1B3": 0,     "1D5": 0,     "A45": 0,     "B00": 5,     "1D6": 0,     "A35": 0,     "B00EX": 0,     "1S1": 0,     "1E1": 0,     "A40": 0,     "A30": 0,     "1C1": 0,     "2E2": 0,     "A20": 0   }, {     "mrn": "22IEDUB4BBFC22AZR2",     "version": 3,     "1D3": 0,</pre>



	<pre> "1A1": 0, "1B2": 0, "A00": 5000, "1B3": 200, "1D5": 0, "A45": 0, "B00": 50, "1D6": 0, "A35": 0, "B00EX": 0, "1S1": 0, "1E1": 0, "A40": 0, "A30": 0, "1C1": 0, "2E2": 0, "A20": 0     ]   } </pre>
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### 3.9 Unpaid declarations report for Payers

Purpose:	Retrieve current list of unpaid MRNs. Available to All Payers
Http Method:	GET
Endpoint:	/transactions/payer-unpays-report
Parameters:	None
Successful response format:	<pre> {   "eori": "string",   "unpaidOrders": [     {       "mrn": "string",       "version": 0,       "taxTotal": 0     }   ] } </pre>
	<pre> {   "timestamp": 1659045615352,   "eori": "IE7654321A",   "unpaidOrders": [{     "mrn": "22IEDUB4BBFC22BPP3",     "version": "1",     "taxTotal": 1000.0   }, {     "mrn": "22IEDUB4BBFC22BPP1",     "version": "1",     "taxTotal": 2000,0   }, {     "mrn": "22IEDUB4BBFC22BPP2", </pre>

	<pre> "version": "1", "taxTotal": 2000.0     ]}   }</pre>
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### 3.10 Balance

Purpose:	Retrieve current Customs & Excise balances. Available to all traders
Http Method:	GET
Endpoint:	/transactions/balance
Parameters:	None
Successful response format:	<pre> {   "total": "string",   "cash": "string",   "deferred": "string" }</pre>
Sample Response	<pre> {   "timestamp": 1659045615352,   "total": "11061096.00",   "cash": "9361096.00",   "deferred": "1700000.00" }</pre>

## 4 ROS Error Codes

Certain unsuccessful calls may result in an XML with ROS error response returned to the caller, e.g.:

```
<ns2:MessageAcknowledgement
xmlns:ns2="http://www.ros.ie/schemas/customs/messageacknowledgement/v1">
  <ns2:ErrorReference>
    <ns2:ErrorCode>111008</ns2:ErrorCode>
  </ns2:ErrorReference>
</ns2:MessageAcknowledgement>
```

Table below shows possible ROS error codes that can be returned by */transactions/* web services.

Full list of ROS error codes is available on the Revenue website:

<https://www.revenue.ie/en/customs/documents/electronic/error-spec1.txt>

Code	Message
ROS-222000	Error occurred when sending the message to backend systems for processing.
111004	The digital certificate does not have the required C&E file permission.
111005	Digital certificate is expired.
111007	Message was not digitally signed.
111008	Internal system error has occurred when processing the WS request.
111013	Error occurred when processing the timestamp.
111014	The received message is expired.
111015	Digital certificate is invalid or not found.
111016	Request message is invalid or malformed.
111017	The server is temporarily unable to service your request due to maintenance downtime.