

**Real Time Information (RTI)**  
**Online for Employers -**  
**Internet filing enabled software**

**How to use the Internet services  
from April 2013**

## **Background**

Developers using the Internet route for RTI will need to support the Government Gateway protocol for RTI submissions. Employers will need to use DPS (Data Provisioning Service) to retrieve notifications from HMRC. They can do this using a third party product or they can use the HMRC products PAYE desktop viewer or PAYE online for employers. Submissions made using the Internet channel will not include any banking details relating to payments made into employees' bank accounts.

## **Notifications**

The RTI Notification message will be used to notify employers of the following:

- HMRC have identified a mismatch between a NINO they are using and the NINO they should be using
- a correct NINO to use when no NINO has been supplied
- that they must stop using a supplied NINO when the correct NINO to use is unknown.

Generic Notification messages may also be produced. These will be used to inform employers that:

- HMRC has not received an FPS, where one was expected
- an FPS was late
- they are late with a payment

Other messages may be added when they become available.

Notifications will be made available via the Data Provisioning Service (DPS). See the [DPS technical pack](#) for further information.

## **Submissions**

There are 5 types of submissions available for RTI:

**Employer Alignment Submission (EAS):** allows employers and HMRC to align employee records before the employer joins RTI.

**Full Payment Submission (FPS):** required each time an employer makes a payment to an employee.

Can be used to report the final return for year details.

**Employer Payment Summary (EPS):** the submission will include data to enable HMRC to calculate employer liability. The submission will only be needed where the employer needs to notify HMRC of adjustments to their overall liability.

Can be used to report the final return for year details.

Should also be used to report if no employees have been paid in a pay period.

**NINO Verification Request (NVR):** allows employers to validate the NINO or check if a new employee NINO is available.

**Earlier Year Update (EYU):** allows employers to correct, after 19 April, any of the year to date totals submitted in their most recent FPS for a previous tax year. This only applies to RTI years and the first year an employer can amend using an EYU is 2012/2013.

The figures used in an EYU will be added to the amounts already reported so only

the differences between the amounts should be entered (delta figures). To reduce a previously reported amount, a negative figure should be entered.

Each RTI form has different message <Class> and only one of these types can be included in a single submission. They must be submitted via the Government Gateway. Please be aware that the version control for each form may vary from the others as changes are made to individual documents. The version numbers of the forms held within a zip file, for example, may not match the version number of the zip file itself.

### **NINO verification**

**NVR** is a request for NINO information and must be sent to the Government Gateway. A successful NINO Verification Request will generate a generic success\_response through the Government Gateway. This will NOT include any NINO information relating to the request. The submitter will receive details of the specific NINO responses in much the same way as coding notices are currently retrieved. This may involve a separate call to the Data Provisioning Service (DPS). The request parameters have been added to the current DPS messages. Further information regarding DPS can be found within the DPS technical pack.

Notifications may also be generated from **FPS** and **EAS** submissions. There will be different message types within the DPS repository depending on whether notifications were generated as a result of a NINO Verification Request or whether any mismatches were identified during downstream processing of an FPS or EAS submission.

### **Summary of messages supported in the live environment**

	<b>Year-specific?</b>	<b>Valid from</b>	<b>Valid until</b>
<b>FPS</b>	Year-specific	6 March prior to the beginning of the Related Tax Year <sup>1</sup>	19 April <sup>2</sup> following the end of the Related Tax Year
<b>EYU</b>	Year-specific	20 April <sup>2</sup> following the end of the Related Tax Year	Last day (5 April) of Related Tax Year-plus-six <sup>3</sup> . Multiple years supported in parallel
<b>EPS</b>	Year-specific	6 March prior to the beginning of the Related Tax Year <sup>1</sup>	Last day (5 April) of Related Tax Year-plus-six <sup>3</sup> . Multiple years supported in parallel
<b>EAS</b>	Version specific	6 April 2013	Indefinitely
<b>NVR</b>	Version specific	6 April 2013	Indefinitely

<sup>1</sup> For 2012-13 and 2013-14, FPS and EPS were valid from 6 April at the beginning of the Related Tax Year.

<sup>2</sup> Or other date specified by HMRC.

<sup>3</sup> For example: EYU 2012-13 valid until 5 April 2019, EPS 2013-14 valid until 5 April 2020.

## **Test-in-Live**

There is also a Test-in-Live message <Class> for each message type. This functionality exists in both the test and live environments. We strongly recommend that you make it clear to your customer when they are making a test submission.

Each message <Class> is listed below:

**HMRC-PAYE-RTI-FPS  
HMRC-PAYE-RTI-FPS-TIL  
HMRC-PAYE-RTI-EPS  
HMRC-PAYE-RTI-EPS-TIL  
HMRC-PAYE-RTI-NVR  
HMRC-PAYE-RTI-NVR-TIL  
HMRC-PAYE-RTI-EAS  
HMRC-PAYE-RTI-EAS-TIL  
HMRC-PAYE-RTI-EYU  
HMRC-PAYE-RTI-EYU-TIL**

## **IRmark**

All RTI submissions to the Government Gateway must contain a valid IRmark. Details can be found in the HMRC IRmark technical pack within the generic documents section of the RTI technical pack.

## **Compression**

Compression of employee data is supported. It must contain a data-stream which has been compressed using zip or gzip and base 64 encoded.

## **Using the Internet services**

**The following is a guide to using the RTI Internet services and is intended to assist with the production of software in the submission of RTI forms over the Internet.**

1. Download the technical pack that covers the forms you are developing.
2. Contact the Software Developers Support Team (SDS Team) <http://www.hmrc.gov.uk/softwaredevelopers/contactus.htm> who will register your details and provide a 'Vendor ID' and other credentials required to access the test services. If you already develop PAYE products you will be able to use the same credentials. You will need to include the 'Vendor ID' within the <URI> element of the XML message for both the 'live' and test services as this will enable us to provide developer support and feedback.
3. When you are ready to test your product, there are two separate test services available to mirror the 'Live' service. These are TPVS and VSIPS. For RTI forms there is an additional service available which can be used to supplement TPVS and VSIPS testing. This is known as the Local Test Service (LTS) and allows offline validation of files. This can be downloaded from the technical pack.

### **Third Party Validation Service (TPVS)**

This performs validation on the 'Form' or 'Body' of the submission against the specifications in the spec doc. Submissions to this test service should be made to:

Full Payment Submission	<a href="https://www.tpvs.hmrc.gov.uk/HMRC/RTIFPS">https://www.tpvs.hmrc.gov.uk/HMRC/RTIFPS</a>
Employer Payment Summary	<a href="https://www.tpvs.hmrc.gov.uk/HMRC/RTIEPS">https://www.tpvs.hmrc.gov.uk/HMRC/RTIEPS</a>
Employer Alignment Submission	<a href="https://www.tpvs.hmrc.gov.uk/HMRC/RTIEAS">https://www.tpvs.hmrc.gov.uk/HMRC/RTIEAS</a>
NINO Verification Request	<a href="https://www.tpvs.hmrc.gov.uk/HMRC/RTINVR">https://www.tpvs.hmrc.gov.uk/HMRC/RTINVR</a>
Earlier Year Update	<a href="https://www.tpvs.hmrc.gov.uk/HMRC/RTIEYU">https://www.tpvs.hmrc.gov.uk/HMRC/RTIEYU</a>

You must ensure that any XML documents you are submitting have been prepared using the most up to date RIM artefacts and as supported by the TPVS service. Further information can be obtained from the SDS team.

You should submit to TPVS using the credentials that are provided by the SDS Team when you applied for a vendor ID as detailed at point 2. For details on which elements should be populated with your credentials please see the non-form validation rules contained within the technical pack.

Response messages will be returned based on the outcome. Please remember that if you send submissions direct to the TPVS site, the service **will not** perform full validation on the GovTalkHeader aspect of your XML instance.

### **Vendor Single Integrated Proving Service (VSIPS)**

This allows Software Developers to submit test cases through the Government Gateway Test Site to the HMRC TPVS site, mirroring the 'live' citizen Internet service. Submissions to the VSIPS test service should go to:

<https://secure.dev.gateway.gov.uk/submission>

You must include the unique credentials provided by the SDS Team in the submissions to VSIPS. For details on which elements should be populated with your credentials please see the non-form validation rules contained in this technical pack.

This service first tests the Govtalk Header against the Govtalk Schema. The test submission will then be automatically routed to the TPVS service where the 'Form' or 'Body' of the submission will be validated against the appropriate RTI RIM artefacts. Response messages will be returned based on the outcome. **NB.** You must use **this** test service if you wish to apply for Recognition for Internet enabled Software.

### **Non-form validation rules (NFVRs)**

There are a number of “level 3” validations that take place within the live (Production) environment based on information that is held outside of the submission itself. These are commonly referred to as “referential rules” or Non Form Validation Rules.

These additional validations need to be replicated within the TPVS and LTS test environments in order to provide a test service that allows developers to generate and process all of the errors that could be returned from the production environment.

The Accounts Office Reference supplied within the <AORef> field (for the Internet channel) should to be used to trigger the simulated “level 3” validations within the TPVS and LTS test services.

This is a mandatory 13-character field with the pattern:

[0-9]{3}P[A-Z][0-9]{7}[0-9X]

For the purposes of this behaviour, characters 1 to 5 and 10 to 13 should be ignored as long as the entire 13 character string is schema-compliant.

The value of characters 6 to 9 should be used to trigger the simulated validation within TPVS.

nnnPa**7801**nnnz to trigger error condition 7801:

nnnPa**7802**nnnz to trigger error condition 7802:

nnnPa**7803**nnnz to trigger error condition 7803:

nnnPa**7804**nnnz to trigger error condition 7804:

nnnPa**7805**nnnz to trigger error condition 7805:

*(n = numeric (0-9); P = the letter P; a = alpha (A-Z); z = alpha (0-9) or X)*

This pattern will be used to test any future additions to the Non-form validation type error responses.

### **Document Submission Protocol**

When you submit a return to the Government Gateway, whether to the “live” service or to VSIPS, a “conversation” should take place between your application and the Gateway. This is covered in detail in the UK Online Document Submission Protocol.

The steps in this process are as follows:

- (1) You send the submission to the Gateway using the **submit\_request** message
- (2) The gateway issues a **submit\_acknowledgement** message containing a unique CorrelationID, this is confirmation that your submission was received and accepted by the Gateway. The Gateway then automatically forwards the submission to HMRC to be validated.
- (3) You then use the CorrelationID to enquire to the Gateway about the status of the submission using a **submit\_poll** message
- (4) You should continue to issue **submit\_poll** messages to the Gateway until the Gateway is able to generate either a **submit\_response** or **submit\_error** message. You may have to send this message a number of times before you receive a reply if the file is large or if the system is busy.
- (5) If the return is successfully validated you will receive an XML **submit\_response** message – it is important that you view and understand the information in this message.
- (6) If the submission is rejected a **submit\_error** message will be generated, advising of the reason for the rejection
- (7) If a **submit\_response** or **submit\_error** message is not received after a reasonable length of time, you should consider temporarily ending the conversation and re-starting at a later time using the same CorrelationID

- (8) Once a **submit\_response** or **submit\_error** message has been returned, a **delete\_request** message should be issued to confirm that the Gateway “conversation” can be closed. Issuing a delete\_request does **NOT** prevent the original submission from being sent to the HMRC system

### **RTI Local Test Service (LTS)**

LTS allows users to select a file, run the rules against that XML file and produce the same XML result as it would in live, including all errors found. Developers can self serve to check the standard of their products locally, without having to access the TPVS service. LTS can also be used during your development work as it supplements the TPVS and VSIPS services.

The Local Test Service Update Manager (LTSUM) allows developers to access the latest available version of the RTI RIM artefacts for validation purposes within LTS. Full details can be found via the installation guide included within the technical pack.

## **Other important information**

### **Live Service URL**

The URL for **live submissions** to the Internet Service for PAYE is:

<https://secure.gateway.gov.uk/submission>

### **Digital Certificates**

Although the test services do not provide the facility to test for Digital Certificates, these can be incorporated into your product for use in the Live Service. Full details can be found on the Government Gateway website at <http://www.gateway.gov.uk>.

### **Technical Pack Updates**

All Developers who have registered with the SDS Team will be advised by email of any updates to the technical packs. However, please check the “What’s New” Page regularly to ensure that you are working to the most up to date versions. Where possible, the version numbers and version dates are shown on each document.

**Please note** - To assist in your development we strongly recommend that you use a commercially available XML Editing and Validation tool.

### **Future Dates – test service only**

RTI submissions have the facility to overwrite the TPVS/LTS system clock to enable developers to test start/leaving dates in the future.

Normally a test submission is validated against the date on which it was submitted to the test service. Any date-sensitive rules would therefore use "today" as the date. If, however, a valid XML dateTime value is provided by the application in the GovTalk envelope's <Timestamp> element in the <ChannelRouting> structure, then the validation engine will set the date (and time) to this value and perform any date-sensitive validations as if this was the real date (and time). This option will only be available in the test services. The live service will not support this mechanism and any value in the <Timestamp> element will be ignored.

For example: to test whether a leaving date of 15th April 2014 is valid when a submission is made on 20th March 2014, the <Timestamp> value should be set to an XML dateTime representing 20th March 2014 (e.g. 2014-03-20T12:00:00). With this setting the leaving date will validate correctly. Without it the leaving date will be validated with respect to the date on which the test is performed, and will fail validation if the test is performed on any date prior to 16th March 2014. The mechanism will ensure that in subsequent years future dates are treated properly.

### **Contact points and level of support provided**

The SDS Team is your main point of contact within HMRC during the development and testing of your product. We provide the following services to software developers:

- issuing vendor IDs and testing credentials
- dealing with enquiries relating to the schema and validation rules and
- providing feedback/advice during testing

We can be contacted Monday to Friday 09:00 – 17:00. Our contact details can be found at <http://www.hmrc.gov.uk/softwaredevelopers/contactus.htm>.

General customer and user enquiries relating to the live Internet services should be directed to the [Online Services Helpdesk](#).

### **Changes**

V1.2 to 1.3 - References to LTS not supporting compressed files removed.  
V1.3 to 1.4 - Instructions for EYU added. Removed references to one schema being used for FPS, EPS & NVR.  
V1.4 to 1.5 - Several wording changes for increased clarity.  
V1.5 to 1.6 – 'Summary of messages' table added. Updated with reference to Generic Notifications. Minor wording and presentation changes for clarity.