

Inland Revenue

## Build Pack: Return Service— Employment Information

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## 1 Overview

### 1.1 This solution

Inland Revenue has a suite of digital services available for consumption by our service providers that support efficient, electronic business interactions with Inland Revenue. The Employment Information (EI) Return Service described in this build pack document forms part of a suite of Gateway Services.

This is a stand-alone document intended to provide the technical details required to support the end-to-end onboarding of Gateway Services. It describes the architecture of the technical solution, schemas, end points, sample payloads to use in non-production environments, and also its interaction with other build packs that cover different aspects of Gateway Services.

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Before you continue, please be sure to consult  
<https://www.ird.govt.nz/software-providers/>  
for business-level context, relevant policy and legislation, use cases  
and information on how to engage with IR, including registration.

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### 1.2 Intended audience

The solution outlined in this document is intended to be used by technical teams and development staff. It describes the technical interactions, including responses, provided by the EI Return Service.

The reader is assumed to have a suitable level of technical knowledge in order to comprehend the information provided. A range of technical terms and abbreviations are used throughout this document, and while most of these will be understood by the intended readers, a [glossary](#) is provided at the end.

### 1.3 Related build packs

The following Gateway Services build packs complement this one.

#### 1.3.1 Identity and Access Services build pack

The Identity and Access Services (IAS) build pack describes the operations provided under Identity and Access Services, which is another part of the Gateway Services suite. These services are used to authenticate access. This build pack can be found here:

<https://github.com/InlandRevenue/Gateway-Services/tree/master/Service%20-%20Identity%20and%20Access/Latest>

## 1.4 Prerequisites

Party	Requirement	Description
<b>Service provider</b>	Acquire a X.509 certificate from a competent authority for the Test and Production environments	This is required when using mutual TLS with cloud-based service providers.

### 1.4.1 Mutual Transport Layer Security and certificates

Mutual Transport Layer Security (TLS) is implemented for the EI Return Service. This requires the use of a publicly-issued X509 certificate from one of the trusted Certificate Authorities. Inland Revenue does not issue certificates to external vendors for web service security implementations.

Inland Revenue has the following minimum requirements for accepting public X509 keys:

1. Minimum Key Length: 2048
2. Signature Algorithm: SHA256[RSA]
3. Self-signed certificates are not accepted
4. Certificates issued by a private/internal Certificate Authority are not accepted

In general, shorter-lived certificates offer a better security posture since the impact of key compromise is less severe but there is no minimum requirement for certificate expiry periods.

Below is a list for examples of Certificate Authority providers with no recommendations or rankings incorporated. It is recommended that a business researches which Certificate Authority meets their requirements.

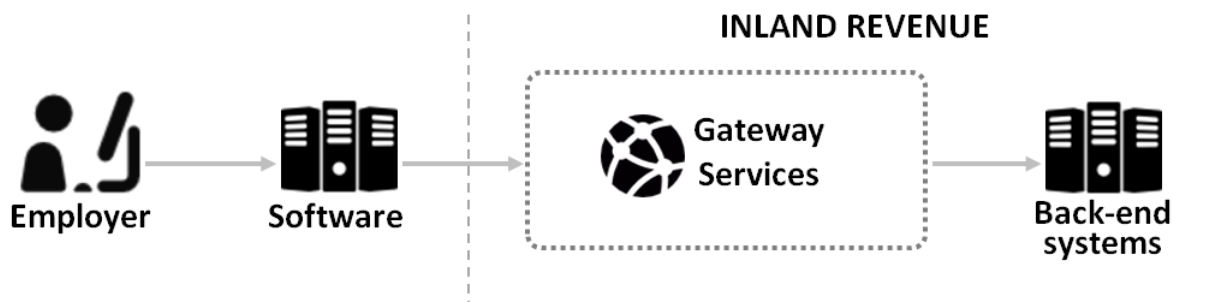
- [Comodo](#)
- [GeoTrust](#)
- [DigiCert](#)
- [GlobalSign](#)
- [Symantec](#)
- [Thawte](#)
- [IdenTrust](#)
- [Entrust](#)
- [Network Solutions](#)
- [RapidSSL](#)
- [Entrust Datacard](#)
- [GoDaddy](#).

## 2 Solution design

### 2.1 Architecture

Inland Revenue is offering a suite of web services to facilitate interactions with Inland Revenue via software packages. The Gateway Services suite will be used by approved software vendors to facilitate everything from registration activities, filing returns, making payments and other service offerings in order to allow customers to interact with Inland Revenue.

The diagram below illustrates the flow of data from the employer to Inland Revenue.



The WSDLs for the Gateway Services define an 'any' XML request and response structure, which then relies on a group of XSDs to define the data structure of those requests and responses. Each request and response type will define a lower, 'wrapper' element.

Any malformed XML will instantly be rejected by the Gateway Services prior to any schema validation.

### 2.2 Service scope

The EI Return Service supports the following operations:

- **File:** This service is used to submit a return to Inland Revenue for a customer.
- **Prepop:** This service is used by software to provide figures to assist in the calculation and display of return information prior to submission.
- **RetrieveStatus:** This service is used by software to return a status for a particular return.
- **RetrieveReturn:** This service retrieves a previously submitted return and the values associated to that return.

### 2.3 Messaging

All SOAP messages require a SOAP header containing **To:** and **Action:** parameters, as well as a SOAP body containing a structured XML payload. Please refer to the WSDL for the correct addresses.

The Gateway Services allow the consumption of any structured XML payload but will be validated against the Inland Revenue-published XSDs.

This is a late binding validation, performed after authentication has been reviewed. The message structure of these services is a simple request/response. The XML request will be

checked for well-formed XML before the schema validation. Responses to these requests will be in XML format as well and will be defined in the same schemas that define the requests.

Any XML submissions in the SOAP body that do not meet the provided schemas will not be accepted by the Gateway Services. Incorrect namespaces will also fail validation against the published schemas.

### Example SOAP request structure

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
  xmlns:ret="https://services.ird.govt.nz/GWS>Returns/"
  xmlns:prep="https://services.ird.govt.nz/GWS>Returns/:types/PrepopRequest"
  xmlns:a="http://www.w3.org/2005/08/addressing">
  <soap:Header>
    <a:To>https://services.ird.govt.nz/Gateway/GWS>Returns</a:To>
    <a:Action>https://services.ird.govt.nz/GWS>Returns/Return/Operation</a:Action>
  </soap:Header>
  <soap:Body>
    <ret:Prepop>
      <ret:ReturnPrepopRequestMsg>
        <prep:PrepopRequestWrapper>
          <rc:formInfoRequest xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
            xmlns:rc="https://services.ird.govt.nz/GWS>Returns/:types/PrepopRequest"
            xsi:type="rc:formInfoRequest">
            <...PrepopFields...>
          </rc:formInfoRequest>
        </prep:PrepopRequestWrapper>
      </ret:ReturnPrepopRequestMsg>
    </ret:Prepop>
  </soap:Body>
</soap:Envelope>
```

### Example SOAP response structure

```
<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
  xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action s:mustUnderstand="1">
      https://services.ird.govt.nz/GWS>Returns/Return/FileResponse
    </a:Action>
  </s:Header>
  <s:Body>
    <FileResponse xmlns="https://services.ird.govt.nz/GWS>Returns/">
      <FileResult xmlns:b="https://services.ird.govt.nz/GWS>Returns/:types/FileResponse"
        xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
        <b:FileResponseWrapper>
          <fileResponse xmlns="urn:www.ird.govt.nz/GWS:types/Common.v1">
            <statusMessage>
              <statusCode>0</statusCode>
              <errorMessage/>
            </statusMessage>
          </fileResponse>
        </b:FileResponseWrapper>
      </FileResult>
    </FileResponse>
  </s:Body>
</s:Envelope>
```

## 2.4 Security

Gateway Services requests are access-controlled using an OAuth token that identifies the user making the request. Users will authenticate using their Inland Revenue myIR credentials. For instructions on how to acquire an OAuth token, review the IAS build pack. For TDS Real Time web service requests, an OAuth access token is required in the HTTP header.

Authorisation for using the Gateway Services is defined in the permissions set in myIR. Permissions will reflect those granted in myIR. For example, if a user does not have permission to file a return online, they will not be able to file a return via Gateway Services either. This applies to users who are granted access as staff inside an organisation or as staff in a tax agency.

The Gateway Services use an HTTPS transport layer, with HTTP1.1 transport protocol supported.

The Gateway Services also use the SOAP version 1.2 protocol.

The SOAP Service contract is published using WSDL version 1.1.

Transport layer encryption is mandatory, and Gateway Services generally use the TLS version 1.2 specification.

Inland Revenue requires the following ciphers and key strengths to be used:

<b>Encryption:</b>	Advanced Encryption Standard (AES)	FIPS 197	256-bit key
<b>Hashing:</b>	Secure Hash Algorithm (SHA-2)	FIPS 180-3	SHA-256

There will be two end points, which are summarised in the bullet points below (the table immediately afterwards provides more detail):

1. There is an end point to which service providers' centralised **cloud** locations can connect. This will involve mutual TLS certificates that need to be exchanged during the onboarding phase. On the cloud end point Inland Revenue has controls to shield service providers from issues caused by heavy usage from other providers.
2. For service providers connecting from **desktops**, there is a separate end point that does not use mutual TLS. For this service, certificates do not need to be exchanged during onboarding. On the desktop end point Inland Revenue has less ability to shield consumers of the service from heavy usage by others.

	End point for cloud-based connections	End point for desktop connections
<b>Purpose</b>	<ul style="list-style-type: none"> <li>Primary preferred end point to connect to from service providers for Gateway Services</li> </ul>	<ul style="list-style-type: none"> <li>Additional transitory end point provided to facilitate connecting from desktops which might be high volumes of sources addresses, transient DHCP addresses, not realistically associated with client-side TLS certificates, not individually onboarded to setup certificate trust</li> </ul>
<b>Client application type</b>	<ul style="list-style-type: none"> <li>Cloud applications</li> </ul>	<ul style="list-style-type: none"> <li>Desktop/native applications</li> <li>For connecting from multiple decentralised clients</li> </ul>
<b>Constraints</b>	<ul style="list-style-type: none"> <li>Only for source locations with client-side TLS certificates</li> <li>On the cloud end point Inland Revenue has controls to shield service providers from issues caused by heavy usage from other providers</li> </ul>	<ul style="list-style-type: none"> <li>Less scalable</li> <li>Subject to tighter security controls</li> <li>On the desktop end point Inland Revenue has less ability to shield consumers of the Service from heavy usage by others</li> <li>OAuth2 refresh tokens will not be offered to desktop clients</li> </ul>
<b>Mutual TLS</b>	<ul style="list-style-type: none"> <li>Inland Revenue explicitly trusts the certificate the service provider associates with the TLS connection as client for Mutual TLS connections and uses it to identify the service provider in conjunction with the web service identification below</li> </ul>	<ul style="list-style-type: none"> <li>Server-side certificates only</li> </ul>
<b>Minimum TLS version</b>	<ul style="list-style-type: none"> <li>1.2</li> </ul>	<ul style="list-style-type: none"> <li>1.2</li> </ul>
<b>URL</b>	<ul style="list-style-type: none"> <li>Contains ../gateway/..</li> </ul>	<ul style="list-style-type: none"> <li>Contains ../gateway2/..</li> </ul>
<b>Port</b>	<ul style="list-style-type: none"> <li>4046</li> </ul>	<ul style="list-style-type: none"> <li>443 (Default https port)</li> </ul>
<b>Web service consumer identification</b>	<ul style="list-style-type: none"> <li>To be identified in web service calls—each cloud application will be given client_id/client_secret credentials during onboarding to allow it to call this end point</li> </ul>	<ul style="list-style-type: none"> <li>Desktop clients will be given different client_id/client_secret credentials to cloud application clients</li> </ul>



	End point for cloud-based connections	End point for desktop connections
<b>Firewalling in production</b>	<ul style="list-style-type: none"> <li>No IP address restrictions</li> <li>Access limited by certificate enrolment</li> </ul>	<ul style="list-style-type: none"> <li>No IP address restrictions</li> </ul>
<b>Firewalling in non-production environments</b>	<ul style="list-style-type: none"> <li>No IP address restrictions</li> <li>Access limited by certificate enrolment</li> </ul>	<ul style="list-style-type: none"> <li>Firewalled—IP whitelisting needed</li> </ul>

**Delegated permissions:** The services will allow one to retrieve all of the data for a customer that the calling user (as represented by the OAuth token) has access to. There may be additional accounts this identity does not have access to, those will not be mentioned. If an account or data in it is targeted by the request parameters but the user does not have permission an error will be returned. This access will depend on delegation permissions set up in myIR. If the token represents a user in a tax agency or other intermediary, then the agent-client linking is also considered.

### 3 Operations

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**IMPORTANT**

The end points, schemas and WSDLs listed here are subject to change.  
For the authoritative definitions, please visit  
<https://www.ird.govt.nz/software-providers/>

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The structures of all Gateway Service operations are intended to produce the most efficient requests and responses. Any common structures and fields will be used across many schemas and tax types through an intentional inheritance method. The section below describes the structure of each operation and the scenarios in which certain fields will be used in XML requests and responses.

This section contains schema aliases:

- Cmn: Common.xsd
- Rc: ReturnCommon.xsd
- R: returnSpecific.xsd (for example ReturnEI.xsd)

NOTE: Some requests and responses live in ReturnCommon.xsd but can still be generated from an inheriting return-specific XSD. This could mean the schemaLocation could be different, depending on where the payload was generated from. Any method of generating these payloads is accepted. This applies to the fileResponse XML directly below.

The response structure for all File requests will use the two default service response fields: **statusCode** and **errorMessage**. The identifier for this XML is fileResponse in the ReturnCommon namespace.

The response structure for all File requests will have the **gatewayId** field populated. The gatewayId is a unique identifier passed back in the responseBody, assuming the response code for the request is zero (refer to [Chapter 5 Responses](#)). The gatewayId should be recorded and can be used by technical teams for troubleshooting. The gatewayId will not appear in search results when searching myIR. The gatewayId is also not available to Inland Revenue front-line staff (such as in the telephone contact centre) to search on.

For example:

```
<fileResponse xmlns="urn:www.ird.govt.nz/GWS:types/ReturnCommon.v1">
  <StatusMessage xmlns="urn:www.ird.govt.nz/GWS:types/Common.v1">
    <statusCode>0</statusCode>
    <errorMessage></errorMessage>
  </StatusMessage>
  <responseBody>
    <gatewayId>0000 002J ZJ5N 6</gatewayId>
  </responseBody>
</fileResponse>
```

All operations for the Return Service will contain two standard header fields: **softwareProviderData** and **identifier**.

The **identifier** field is common across all Gateway Services but refers to different parties in different services. In all cases it is the party with delegated permissions to whom an OAuth token is provided. If the value cannot be resolved to a known context, or if it can but the provided OAuth token does not have the necessary delegated permissions then the error code 4 "unauthorised delegation" is returned. Please refer to individual operations for the nature of the identifier expected in this parameter in any given context.

For example:

```
<cmn:softwareProviderData>
  <cmn:softwareProvider>SoftwareProvider</cmn:softwareProvider>
  <cmn:softwarePlatform>SoftwarePlatform</cmn:softwarePlatform>
  <cmn:softwareRelease>v1</cmn:softwareRelease>
</cmn:softwareProviderData>
<cmn:identifier IdentifierValueType="ACCIRD">012345678</cmn:identifier>
<cmn:accountType>EMP</cmn:accountType>
```

Field	Description
<b>softwareProvider</b>	The company that developed the software
<b>softwarePlatform</b>	The field value will be provided by Inland Revenue during the onboarding process
<b>softwareRelease</b>	The version of the software package
<b>IdentifierValueType</b>	The ID type being submitted. This can be ACCIRD or ACCID. The value submitted for this field should contain only digits, with no dashes. IRD Numbers that are eight digits must be padded with a leading zero.
<b>identifier</b>	The value submitted for this field should contain only digits, with no dashes. IRD Numbers that are eight digits must be padded with a leading zero.
<b>accountType</b>	The account type being submitted (EMP)

Proper use:

- The only softwareProviderData fields users will be able to input are the ones that were provided to Inland Revenue at the time of on-boarding.
- The identifier is that of the tax payer on whose behalf the operations are being performed.

Example scenario:

- Third party with IRD 898989898 submits for client IRD 121212121
  - Third party calls /Returns/File/ with  
 <cmn:identifier IdentifierValueType="ACCIRD">121212121</cmn:identifier>

### 3.1 File

The File operation will be used to submit all EI returns.

Base structure:

```
<r:fileRequest namespaces...>
  <rc:fileHeader>...</rc:fileHeader>
  <rc:fileBody>
    <rc:standardFields>
      <rc:formFields xsi:type="r:FormFieldsType">
        <...tax specific fields...>
      </rc:formFields>
    </rc:fileBody>
  </r:fileRequest>
```

Field	Description
<b>fileHeader</b>	The standard header for File requests
<b>fileBody</b>	The standard body structure for File requests
<b>standardFields</b>	A group of standard fields
<b>formFields</b>	A wrapper that will contain tax form-specific fields

**<FileHeader>** structure:

```
<r:fileRequest namespaces...>
  <rc:fileHeader>
    <cmn:softwareProviderData>
      <cmn:softwareProvider>Software1</cmn:softwareProvider>
      <cmn:softwarePlatform>Software1Package</cmn:softwarePlatform>
      <cmn:softwareRelease>v1</cmn:softwareRelease>
    </cmn:softwareProviderData>
    <cmn:identifier IdentifierValueType="ACCIRD">012345678</cmn:identifier>
    <cmn:accountType>EMP</cmn:accountType>
    <rc:periodEndDate>2017-03-31</rc:periodEndDate>
    <rc:majorFormType>EI</rc:majorFormType>
  </rc:fileHeader>
  <rc:fileBody>
    <rc:standardFields>
      <rc:formFields xsi:type="r:FormFieldsType">
        <...tax specific fields...>
      </rc:formFields>
    </rc:fileBody>
  </r:fileRequest>
```

Field	Requirement	Description
<b>periodEndDate</b>	Required	Last day of the pay date month
<b>majorFormType</b>	Required	The form type (EI)

## Example scenario:

- Attempting to submit an EI return for the 2018-January period.  
 <cmn:accountType>EMP</cmn:accountType>  
 <rc:periodEndDate>2018-01-31</rc:periodEndDate>  
 <rc:majorFormType>EI</rc:majorFormType>

## <FileBody> structure:

```
<r:fileRequest namespaces...>
  <rc:fileHeader>...</rc:fileHeader>
  <rc:fileBody>
    <rc:standardFields>
    <rc:formFields xsi:type="r:FormFieldsType">
      <...tax specific fields...>
    </rc:formFields>
  </rc:fileBody>
</r:fileRequest>
```

FileBody is simply the wrapper of standardFields and formFields.

## <StandardFields> structure:

```
<r:fileRequest namespaces...>
  <rc:fileHeader>...</rc:fileHeader>
  <rc:fileBody>
    <rc:standardFields>
      <rc:isNilReturn>>false</rc:isNilReturn>
      <rc:isFinalReturn>>false</rc:isFinalReturn>
      <rc:amendmentRequest>
        <rc:isAmended>>false</rc:isAmended>
        <rc:amendReason></rc:amendReason>
        <rc:amendDetails></rc:amendReason>
      </rc:amendmentRequest>
      <rc:creditTransferRequest>
        <rc:transferIRD></rc:transferIRD>
        <rc:transferAccountType></rc:transferAccountType>
        <rc:transferFilingPeriod></rc:transferFilingPeriod>
        <rc:associatedCustomer></rc:associatedCustomer>
        <rc:transferAmount></rc:transferAmount>
      </rc:creditTransferRequest>
    </rc:standardFields>
    <rc:formFields xsi:type="r:FormFieldsType">
      <...tax specific fields...>
    </rc:formFields>
  </rc:fileBody>
</r:fileRequest>
```

Field	Requirement	Description
<b>isNilReturn</b>	Required	This allows for a nil return to be submitted
<b>isFinalReturn</b>	Optional	This field notes that the account is ready to be closed after this filing period

Field	Requirement	Description
<b>isAmended</b>	Required	This allows for a return to be filed as an amendment. NOTE: If isAmended=true then amendReason and amendDetails are required.
<b>amendReason</b>	Optional	This is attached to the amendmentRequest as the reason for the amendment. This can be either KEY (incorrect amount), MATH (calculation error), OTHER, or TRNSPO (transposition error).
<b>amendDetails</b>	Optional	This allows for any further details on the amendmentRequest.
<b>creditTransferRequest</b>	Optional	These fields can be added to transfer the refund to another START account. Any number of credit transfers from 0 to 10 can be submitted for every file operation.

Proper uses:

- Most standard submissions will require isNilReturn to be *false*, isFinalReturn to be *false*, and isAmended to be *false*.

Example scenario:

- Attempting to amend a EI return due to lack of information from client.

```
<rc:isNilReturn>>false</rc:isNilReturn>
<rc:isFinalReturn>>false</rc:isFinalReturn>
<rc:isAmended>>true</rc:isAmended>
<rc:amendReason>KEY</rc:amendReason>
<rc:amendDetails>Client updated pay information</rc:amendDetails>
```

Multiple EI returns can be submitted for each payDayDate.

Note that an employer cannot commence payday filing part way through a month—payday filing must start with the very first payday in the month.

**<FormFields>** structure (for EI):

```
<r:fileRequest xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:cmn="urn:www.ird.govt.nz/GWS:types/Common.v1"
  xmlns:rc="urn:www.ird.govt.nz/GWS:types/ReturnCommon.v1"
  xmlns:r="urn:www.ird.govt.nz/GWS:types/ReturnEI.v1"
  xsi:schemaLocation="urn:www.ird.govt.nz/GWS:types/ReturnEI.v1">
  <rc:fileHeader>...</rc:fileHeader>
  <rc:fileBody>
    <rc:standardFields>...</rc:standardFields>
    <rc:formFields xsi:type="r:FormFieldsType">
      <r:submissionKey/>
      <r:isReverseReplace/>
      <r:payDayDate/>
      <r:piIrdNumber/>
      <r:contactName/>
      <r:contactPhoneNumber/>
      <r:contactEmail/>
      <r:employeeFields>
        <r:employee>
```

```

    <r:lineNumber/>
    <r:referenceId/>
    <r:irdNumber/>
    <r:employeeName/>
    <r:taxCode/>
    <r:payPeriodStartDate/>
    <r:payPeriodEndDate/>
    <r:employmentStartDate/>
    <r:employmentFinishDate/>
    <r:employeePayFrequency/>
    <r:grossEarnings/>
    <r:earningsNotLiableACC/>
    <r:lumpSumIndicator/>
    <r:payeSchedularTaxDeductions/>
    <r:childSupportCode/>
    <r:childSupportDeductions/>
    <r:studentLoansDeductions/>
    <r:kiwisaverEmployerContributions/>
    <r:kiwisaverDeductions/>
    <r:taxCreditPayrollDonations/>
    <r:esctDeducted/>
    <r:familyTaxCredits/>
  </r:employee>
</r:employeeFields>
<r:totalGrossEarnings/>
<r:totalEarningsNotLiableACC/>
<r:totalPAYESchedularTaxDeductions/>
<r:totalChildSupportDeductions/>
<r:totalStudentLoansDeductions/>
<r:totalKiwisaverEmployerContributions/>
<r:totalKiwisaverDeductions/>
<r:totalTaxCreditPayrollDonations/>
<r:totalESCTDeducted/>
<r:totalFamilyTaxCredits/>
<r:totalAmountPayable/>
</rc:formFields>
</rc:fileBody>
</r:fileRequest>

```

Fields	Requirement	Description
<b>submissionKey</b>	Optional	This field only be used when amending EI returns
<b>isReverseReplace</b>	Optional	This field is required on amendments. Signifies if amendment method is reverse/replace.
<b>payDayDate</b>	Required	Payday means the day on which an employer makes a PAYE income payment to an employee. Note: The payday date must be within the same month as the period end date.
<b>piIrdNumber</b>	Optional	PAYE Intermediary IRD Number
<b>contactName</b>	Optional	Name of payroll contact person
<b>contactPhoneNumber</b>	Optional	Payroll contact phone number

Fields	Requirement	Description
<b>contactEmail</b>	Optional	Payroll contact email
<b>lineNumber</b>	Optional	IR-generated unique line item identifier. This field should only be used when amending EI returns.
<b>referenceId</b>	Optional	Unique employee reference field created by the software provider. Can be submitted on initial file, then used as the unique line item identifier for amended lines instead of using the IR-generated lineNumber.
<b>irdNumber</b>	Required	IRD number of the employee—it can be zeros if IRD number not known
<b>employeeName</b>	Required	Name of the employee
<b>taxCode</b>	Required	The tax code of the employee (see table below for list of acceptable values)
<b>employmentStartDate</b>	Optional	Employee start date
<b>employmentFinishDate</b>	Optional	Employee end date Note: field not to be supplied if there is no end date
<b>payPeriodStartDate</b>	Required	The first day of the pay period for which the employee was paid. Note: The pay period start date cannot be after the pay period end date, otherwise a 104 error will be returned.
<b>payPeriodEndDate</b>	Required	The last day of the pay period on which the employee was paid
<b>employeePayFrequency</b>	Optional	Pay frequency/cycle for employee (see table below for list of acceptable values)
<b>grossEarnings</b>	Optional	Gross earnings/schedular payments
<b>earningsNotLiableACC</b>	Optional	Earnings not liable for ACC earner's levy
<b>lumpSumIndicator</b>	Optional	Boolean for indicating lump sum
<b>payeSchedularTaxDeductions</b>	Optional	PAYE/schedular tax deductions
<b>childSupportCode</b>	Optional	Child support code (see table below for list of acceptable values)
<b>childSupportDeductions</b>	Optional	Child support deductions (sequenced with child support code)



Fields	Requirement	Description
<b>studentLoansDeductions</b>	Optional	Student loan deductions
<b>kiwisaverEmployerContributions</b>	Optional	Net KiwiSaver employer contributions
<b>kiwisaverDeductions</b>	Optional	KiwiSaver employee deductions
<b>taxCreditPayrollDonations</b>	Optional	Tax credits for payroll donations
<b>esctDeducted</b>	Optional	Employer superannuation contribution tax
<b>familyTaxCredits</b>	Optional—to be filled in by MSD ONLY	Family tax credits
<b>totalGrossEarnings</b>	Compulsory	Total gross earnings
<b>totalEarningsNotLiableACC</b>	Compulsory	Total earnings not liable for ACC Earner's Levy
<b>totalPAYESchedularTaxDeductions</b>	Compulsory	Total PAYE (inc. tax on schedular payments)
<b>totalChildSupportDeductions</b>	Compulsory	Total child support deductions
<b>totalStudentLoanDeductions</b>	Compulsory	Total student loan deductions
<b>totalKiwisaverEmployerContributions</b>	Compulsory	Total net KiwiSaver employer contributions
<b>totalKiwisaverDeductions</b>	Compulsory	Total KiwiSaver deductions
<b>totalTaxCreditPayrollDonations</b>	Compulsory	Tax credit payroll donations total
<b>totalESCTDeductions</b>	Compulsory	Total ESCT deducted
<b>totalFamilyTaxCredits</b>	Compulsory	Total Family Tax Credits
<b>totalAmountPayable</b>	Optional	Total amount payable

Tax codes		
<b>CAE</b>	<b>EDW</b>	<b>ESS</b>
<b>MESL</b>	<b>MSL</b>	<b>ND</b>
<b>SB</b>	<b>SBSL</b>	<b>SH</b>
<b>SLCIR</b>	<b>SSL</b>	<b>ST</b>
<b>WT</b>	<b>M</b>	<b>ME</b>
<b>NSW</b>	<b>S</b>	<b>SHSL</b>
<b>SLBOR</b>	<b>STC</b>	<b>STSL</b>

Child support code	Description
<b>C</b>	Ceased Employment

Employee pay frequency	Description
<b>WK</b>	Weekly

<b>A</b>	Advanced Payment
<b>P</b>	Protected Earnings
<b>S</b>	Short Term Absence
<b>D</b>	Deducted Previously
<b>O</b>	Other

<b>4W</b>	Four-weekly
<b>FT</b>	Fortnightly
<b>MT</b>	Monthly
<b>DA</b>	Daily
<b>AH</b>	Ad hoc/Irregular
<b>HM</b>	Half-monthly (twice a month)

A submissionKey will be provided on file operations of EI returns. This submissionKey will be used to identify the specific EI return on a given filing period for amendment, status and retrieve return requests.

### 3.1.1 Amendment methods

There are three ways to amend an EI return. All three necessitate populating submissionKey, setting isAmended to true, and filling out amendReason/amendDetails.

1. **lineNumber method:** lineNumbers must be provided for amended lines, which are obtained by the retrieveReturn operation. Only lines that require amendments should be provided. New line items should not include line numbers.
2. **referenceId method:** referenceId must be provided for amended lines, referenceId field are submitted with the initial return. referenceId is then used to uniquely identify individual line items. Only lines that require amendments should be provided. New line items can be submitted using a new referenceId. There is no way to amend the referenceId itself with this method. If a new referenceId is submitted in an attempt to amend a previously submitted referenceId, that line will be treated as new. If both lineNumber and referenceId are submitted for the same line, referenceId will take priority.
3. **Reverse/Replace method:** isReverseReplace must be set to true. The previous return on file for the specified submissionKey will be replaced with this return. Rules work exactly as if it were a new submission. All line items, not just lines that require amendments, must be provided. lineNumbers should not be provided and referenceId is optional.

Sample response on successful EI file operations:

```
<fileResponse xmlns="urn:www.ird.govt.nz/GWS:types/ReturnCommon.v1">
  <StatusMessage xmlns="urn:www.ird.govt.nz/GWS:types/Common.v1">
    <statusCode>0</statusCode>
    <errorMessage></errorMessage>
  </StatusMessage>
  <responseBody>
    <gatewayId>0000 002J ZJ5N 6</gatewayId>
    <submissionKey>1829404672</submissionKey>
  </responseBody>
</fileResponse>
```

### 3.2 Prepop

The Prepop operation will be used to acquire a specific subset of fields for a given return. All retrieve operations for EI use <retrieveEIRequest> instead of the standard <retrieveFormInfoRequest>. retrieveEIRequest contains the payDayDate and submissionKey fields that are used to identify a return.

<retrieveEIRequest> structure:

```
<r:retrieveEIRequest xmlns:cmn="urn:www.ird.govt.nz/GWS:types/Common.v1"
  xmlns:rc="urn:www.ird.govt.nz/GWS:types/ReturnCommon.v1"
  xmlns:r="urn:www.ird.govt.nz/GWS:types/ReturnEI.v1"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="urn:www.ird.govt.nz/GWS:types/ReturnEI.v1">
  <cmn:softwareProviderData>
    <cmn:softwareProvider>SoftwareCompany</cmn:softwareProvider>
    <cmn:softwarePlatform>SoftwarePlatform</cmn:softwarePlatform>
    <cmn:softwareRelease>V1.1</cmn:softwareRelease>
  </cmn:softwareProviderData>
  <cmn:identifier IdentifierValueType="ACCIRD">123456789</cmn:identifier>
  <cmn:accountType>EMP</cmn:accountType>
  <rc:periodEndDate>2018-01-31</rc:periodEndDate>
  <rc:majorFormType>EI</rc:majorFormType>
  <r:payDayDate>2018-01-01</r:payDayDate>
</r:retrieveEIRequest>
```

Field	Requirement	Description
<b>payDayDate</b>	Required	Payday means the day on which an employer makes a PAYE income payment to an employee

<prepopResponse> structure:

```
<prepopResponse xmlns="urn:www.ird.govt.nz/GWS:types/ReturnCommon.v1">
  <statusMessage xmlns="urn:www.ird.govt.nz/GWS:types/Common.v1">
    <statusCode>0</statusCode>
    <errorMessage>Success</errorMessage>
  </statusMessage>
  <responseBody xmlns:r="urn:www.ird.govt.nz/GWS:types/ReturnEI.v1"
    xsi:type="r:PrepopResponseBodyType">
    <r:accountId>123456798EMP001</r:accountId>
    <r:employee>
      <r:irdNumber>123456789</r:irdNumber>
      <r:employeeName>MarkTwain</r:name>
      <r:taxCode>M</r:taxCode>
      <r:employmentStartDate></r:employmentStartDate>
      <r:employmentFinishDate></r:employmentEndDate>
    </r:employee>
    <r:employee>
      <r:irdNumber>123456789</r:irdNumber>
      <r:employeeName>SamualClemens</r:name>
      <r:taxCode>M</r:taxCode>
    </r:employee>
  </r:responseBody>
</r:prepopResponse>
```

Field	Description
<b>irdNumber</b>	The IRD number of the employee—if no IRD number is available, 000000000 will be returned
<b>employeeName</b>	The name of the employee is known as on the EI (20 characters )
<b>taxCode</b>	The tax code under which the employee falls
<b>employmentStartDate</b>	The start date of the employment (if date is not known, nothing will be returned)
<b>employmentFinishDate</b>	The cease date of the employment (if employment is still on-going, nothing will be returned)

### 3.3 RetrieveStatus

The RetrieveStatus operation will allow the status of a given return to be queried.

**<retrieveEIRequest>** structure:

```
<r:retrieveEIRequest xmlns:cmn="urn:www.ird.govt.nz/GWS:types/Common.v1"
  xmlns:rc="urn:www.ird.govt.nz/GWS:types/ReturnCommon.v1"
  xmlns:r="urn:www.ird.govt.nz/GWS:types/ReturnEI.v1"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="urn:www.ird.govt.nz/GWS:types/ReturnEI.v1">
  <cmn:softwareProviderData>
    <cmn:softwareProvider>SoftwareCompany</cmn:softwareProvider>
    <cmn:softwarePlatform>SoftwarePlatform</cmn:softwarePlatform>
    <cmn:softwareRelease>V1.1</cmn:softwareRelease>
  </cmn:softwareProviderData>
  <cmn:identifier IdentifierValueType="ACCIRD">123456789</cmn:identifier>
  <cmn:accountType>EMP</cmn:accountType>
  <rc:periodEndDate>2018-01-31</rc:periodEndDate>
  <rc:majorFormType>EI</rc:majorFormType>
  <r:payDayDate>2018-01-12</r:payDayDate>
  <r:submissionKey>12345678</r:submissionKey>
</r:retrieveEIRequest>
```

Field	Requirement	Description
<b>submissionKey</b>	Required	A unique identifier used to target a specific return

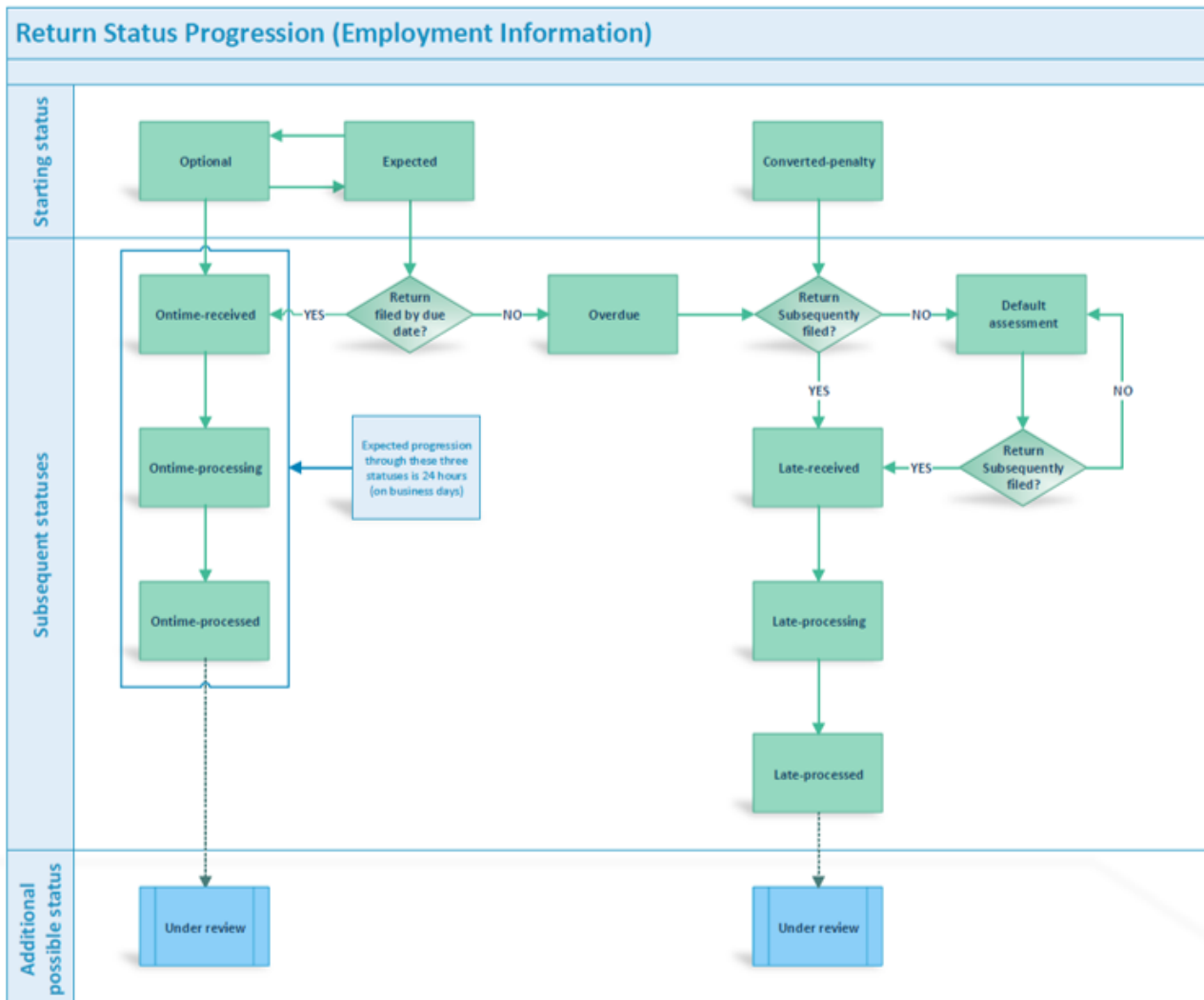
**<retrieveStatusResponse>** structure:

```
<retrieveStatusResponse xmlns="urn:www.ird.govt.nz/GWS:types/ReturnCommon.v1">
  <statusMessage xmlns="urn:www.ird.govt.nz/GWS:types/Common.v1">
    <statusCode>0</statusCode>
    <errorMessage>Success</errorMessage>
  </statusMessage>
  <responseBody>
    <status>Processed</status>
  </responseBody>
</statusResponse>
```

Status	Description
<b>Amended</b>	This status is displayed when the return is amended
<b>Under review</b>	This status is displayed when the return is included in audit
<b>Default assessment</b>	This status is displayed when the return is a default assessment
<b>Converted-penalty</b>	This status is displayed when the return was not filed but created in the conversion process to house a late file penalty
<b>Expected</b>	This status is displayed when the return has generated return expectation
<b>Processing</b>	This status is displayed when the return is processing
<b>Late-processing</b>	This status is displayed when the return is received late and processing
<b>Late-processed</b>	This status is displayed when the return is processed late
<b>Late-received</b>	This status is displayed when the return is received late
<b>New</b>	This status is displayed when the return is not processed
<b>Optional</b>	This status is displayed when the return is not required to be filed, but the customer may choose to file anyway
<b>Ontime-processing</b>	This status is displayed when the return is received on time and processing
<b>Ontime-processed</b>	This status is displayed when the return is processed on time
<b>Ontime-received</b>	This status is displayed when the return is received on time
<b>Overdue</b>	This status is displayed when the return is overdue
<b>Submission received</b>	This status is displayed when the EI return has been received and initial processing has completed. During co-existence, the EI return will be held and forwarded for further processing at the end of the period.
<b>Submitted</b>	This status is displayed when the return is submitted by the customer
<b>Posted</b>	This status is displayed when the return is posted
<b>Processed</b>	This status is displayed when the return is processed

NOTE: Once a return has been filed it can take up to 24 hours for the status to change from 'submitted'.

This diagram outlines the process flow of the statuses listed in the table on the previous page:



All retrieve operations for EI use <retrieveEIRequest> instead of the standard <retrieveFormInfoRequest>. retrieveEIRequest contains the payDayDate and submissionKey fields that are used to identify a return.

<retrieveEIRequest> structure:

```

<r:retrieveEIRequest xmlns:cmn="urn:www.ird.govt.nz/GWS:types/Common.v1"
  xmlns:rc="urn:www.ird.govt.nz/GWS:types/ReturnCommon.v1"
  xmlns:r="urn:www.ird.govt.nz/GWS:types/ReturnEI.v1"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="urn:www.ird.govt.nz/GWS:types/ReturnEI.v1">
  <cmn:softwareProviderData>
    <cmn:softwareProvider>SoftwareCompany</cmn:softwareProvider>
    <cmn:softwarePlatform>SoftwarePlatform</cmn:softwarePlatform>
    <cmn:softwareRelease>V1.1</cmn:softwareRelease>
  </cmn:softwareProviderData>
  <cmn:identifier IdentifierValueType="ACCIRD">123456789</cmn:identifier>
  <cmn:accountType>EMP</cmn:accountType>
  <rc:periodEndDate>2018-01-31</rc:periodEndDate>
  <rc:majorFormType>EI</rc:majorFormType>
  <r:payDayDate>2018-01-01</r:payDayDate>
  <r:submissionKey>34534523</r:submissionKey>
</r:retrieveEIRequest>
  
```

Field	Requirement	Description
<b>payDayDate</b>	Required	The pay day period of the return
<b>submissionKey</b>	Required	The submissionKey is required for the retrieveStatus operation. Only the status of the return with the corresponding submissionKey will be displayed.

### 3.4 RetrieveReturn

The retrieveReturn operation allows for any previously-submitted return to be viewed.

All retrieve operations for EI use <retrieveEIRequest> instead of the standard <retrieveFormInfoRequest>. retrieveEIRequest contains the payDayDate and submissionKey fields that are used to identify a return.

<retrieveEIRequest> structure:

```
<r:retrieveEIRequest xmlns:cmn="urn:www.ird.govt.nz/GWS:types/Common.v1"
  xmlns:rc="urn:www.ird.govt.nz/GWS:types/ReturnCommon.v1"
  xmlns:r="urn:www.ird.govt.nz/GWS:types/ReturnEI.v1"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="urn:www.ird.govt.nz/GWS:types/ReturnEI.v1">
  <cmn:softwareProviderData>
    <cmn:softwareProvider>SoftwareCompany</cmn:softwareProvider>
    <cmn:softwarePlatform>SoftwarePlatform</cmn:softwarePlatform>
    <cmn:softwareRelease>V1.1</cmn:softwareRelease>
  </cmn:softwareProviderData>
  <cmn:identifier IdentifierValueType="ACCIRD">123456789</cmn:identifier>
  <cmn:accountType>EMP</cmn:accountType>
  <rc:periodEndDate>2018-01-31</rc:periodEndDate>
  <rc:majorFormType>EI</rc:majorFormType>
  <r:payDayDate>2018-01-01</r:payDayDate>
  <r:submissionKey>34534523</r:submissionKey>
</r:retrieveEIRequest>
```

Field	Requirement	Description
<b>payDayDate</b>	Required	The pay day period of the return
<b>submissionKey</b>	Optional	If submissionKey is provided, only the return with that submission key will be displayed. If only a payDayDate is provided, all returns with the corresponding payDayDate will be provided.

---

**<retrieveReturnResponse>** structure:

```
<retrieveReturnResponse xmlns="urn:www.ird.govt.nz/GWS:types/ReturnCommon.v1">
  <statusMessage xmlns="urn:www.ird.govt.nz/GWS:types/Common.v1">
    <statusCode>0</statusCode>
    <errorMessage>Success</errorMessage>
  </statusMessage>
  <responseBody xmlns:r="urn:www.ird.govt.nz/GWS:types/ReturnEI.v1"
    xsi:type="r:RetrieveReturnResponseBodyType">
    <r:standardFields>
      <isNilReturn xmlns="urn:www.ird.govt.nz/GWS:types/ReturnCommon.v1"/>
    </r:standardFields>
    <r:formFields>
      <r:employeeFields>
        <r:employee>
          <r:irdNumber></r:irdNumber>
          <r:employeeName></r:employeeName>
          <r:taxCode></r:taxCode>
          <r:payPeriodStartDate></r:payPeriodStartDate>
          <r:payPeriodEndDate></r:payPeriodEndDate>
        </r:employee>
        <r:employee>
          <r:irdNumber></r:irdNumber>
          <r:employeeName></r:employeeName>
          <r:taxCode></r:taxCode>
          <r:payPeriodStartDate></r:payPeriodStartDate>
          <r:payPeriodEndDate></r:payPeriodEndDate>
        </r:employee>
      </r:employeeFields>
    </r:formFields>
  </r:responseBody>
</r:retrieveReturnResponse>
```



---

## 4 End points, schemas and WSDLs

---

### IMPORTANT

The end points, schemas and WSDLs listed here are subject to change.  
For the authoritative definitions, please visit  
<https://www.ird.govt.nz/software-providers/>

---

### 4.1 End points

Onboarding instructions are available at <https://www.ird.govt.nz/software-providers/>.

### 4.2 Schemas

All schemas for the EI Return Service import a common.xsd which has some data types specific to Inland Revenue. This common.xsd will be used in other Gateway Services outside of the /Returns/ namespace so it must be kept up-to-date, without numerous redundant versions remaining.

The ReturnCommon.xsd imports the Common.xsd and creates data types to be used across all tax types and return types. ReturnCommon.xsd also includes two request elements and two response elements. These requests are retrieveFormInfoRequest and retrieveFilingObligationsRequest, while the responses are retrieveFilingObligationsResponse and retrieveStatusResponse.

The reason for adding root-level elements in the ReturnCommon.xsd is due to the fact that these request and response structures will never change, regardless of the tax type. This allows Inland Revenue to keep a uniform request and response structure across all current and future tax types.

Importing from ReturnCommon.xsd will be schemas that require more fine-grained detail. These will primarily define the request for the File operation, the response for RetrieveReturn and the response for Prepop.

---

### 4.3 WSDLs

The Returns Gateway Service has one WSDL, which has a target namespace of <https://services.ird.govt.nz/GWS>Returns> and can be found at <https://services.ird.govt.nz:4046/gateway/GWS>Returns/?singleWsdI>

**Note:** The production URL above will not work until you have onboarded with Inland Revenue.

All WSDL messages follow this naming convention:

```
Return_<operation>_InputMessage or Return_<operation>_OutputMessage.
```

```
<wsdl:portType name="Return">
  <wsdl:operation name="File">
    <wsdl:operation name="Prepop">
      <wsdl:operation name="RetrieveStatus">
        <wsdl:operation name="RetrieveFilingObligations">
          <wsdl:operation name="RetrieveReturn">
<wsdl:service name="Return">
```

A development version of the WSDL is provided with this build pack. For easier WSDL consumption, the `<xs:any>` structure has been replaced with a reference to the corresponding element in the `Employment.xsd`. This will allow any tools that consume the WSDL to automatically pull in the data structures from the XSD. To use this, ensure the WSDL provided by Inland Revenue is in the same directory as `Common.xsd` and `Employment.xsd`.

**Note:** The WSDL hosted at the end point above will not contain these XSD references, only the static WSDL provided at <https://www.ird.govt.nz/software-providers/>.

## 5 Responses

The response message from the Gateway Services will always include a status code and status message. These values will describe the successes or failures of your web service call. Following the status message will be the responseBody, which will return the data for the given operation.

### 5.1 Generic gateway response codes

The following response codes are common to all Gateway Service calls. The operations on the Return Service all have framework security validation applied at Account level and that is reflected in the descriptions of the codes below:

Standard codes	Standard message	Description
<b>-1</b>	An unknown error has occurred	This error will be logged by the Gateway Services and evaluated the next business day
<b>0</b>		0 indicates a successful web service call. Note: 0 does not display a standard message.
<b>1</b>	Authentication failure	Authentication failure means the token provided is not a valid token
<b>2</b>	Missing authentication token(s)	No OAuth token in HTTP header
<b>3</b>	Unauthorised access	The logon making the call does not have access to make the request on behalf of the client or agency
<b>4</b>	Unauthorised delegation	Access is not permitted for the requester to perform this operation for the submitted identifier. This code will be returned in any of these situations: <ul style="list-style-type: none"> <li>The submitted cmn:identifier has an invalid value.</li> <li>The identifier type (IdentifierValueType attribute on cmn:identifier) supplied is invalid.</li> <li>The AccountType supplied does not exist for that identifier.</li> <li>All the values above are valid, but the provided OAuth token does not have delegated access to that Customer or Account.</li> </ul>
<b>5</b>	Unauthorised vendor	The vendor provided is not authorised to use these suite of services
<b>6</b>	Authentication expired	Token authentication has expired and needs to be refreshed, this will only occur if a token has already been used and expires on the same business day as it is used.

Standard codes	Standard message	Description
<b>7</b>	Account type not supported	This code will be returned for queries on account types not supported in any Gateway Services web services. For April 2018 this will be any account type other than AIL, AIP, BPA, MPO, CRS, DWT, FAT, FBT, GMD, GSD, GST, INC, IPS, NRT, PIE, PRS, PSO, EMP, RLT, RWT.
<b>20</b>	Unrecognised XML request	The XML submitted is not recognisable and no schema can be determined
<b>21</b>	XML request failed validation	The XML structure did not meet the definition laid out by the schemas published by Inland Revenue
<b>(none)</b>	(non xml)	In some scenarios where the request message does not have a well-formed XML structure or is not valid or does not adhere to the SOAP protocol formats, the framework generates a parsing exception that is not wrapped in XML nor has a response status code.
<b>(none)</b>	(SOAP fault) UnAuthorised	When maximum concurrency has been exceeded by the service provider this SOAP Fault will be returned

## 5.2 Generic returns response codes

The following response codes are specific to Returns Gateway Service calls:

Standard codes	Standard message	Description
<b>100</b>	Invalid request data	Could not extract data from XML payload
<b>101</b>	Unable to file return	An error has occurred while filing return. This may be due to invalid information in the specific return form fields.
<b>102</b>	ID/Account type not valid	The account type / ID submitted does not exist
<b>103</b>	No return found	No return exists on the selected filing period
<b>104</b>	Invalid filing period	Error can be returned for the following reasons: <ul style="list-style-type: none"> <li>Filing period does not exist (eg attempting to file for a filing period such as 17-Feb-2019)</li> <li>Filing period does not yet exist / has not yet been generated (eg attempting to file too far into the future)</li> <li>Attempting to file for a filing period that already has a processed non-payday return (employee schedule IR348)</li> <li>Payday date is outside of the filing period being filed for</li> <li>At least one of the line items on the schedule contains a &lt;payPeriodStartDate&gt; that is after</li> </ul>

Standard codes	Standard message	Description
		its corresponding <payPeriodEndDate>.
<b>105</b>	No filing obligations found	No valid filing obligations were found. This could be completely acceptable if they were not expecting to have any filing obligations.
<b>106</b>	Operation not available for major form type	The operation performed does not exist for the major form type submitted.
<b>107</b>	Duplicate return	There is already a return for this period/paydate (for EI). An amendment to a return that has already been submitted must be submitted with isAmended as true.

### 5.3 EI-specific response codes

The following response codes are specific to EI Return Service calls:

Standard codes	Standard message	Description
<b>131</b>	Duplicate line items	There were two line items with the same number in the same submission
<b>132</b>	Reverse/replace can only be used for an amendment	Customer tried to reverse/replace a return without amending the return

## 6 Glossary

Acronym/term	Definition
<b>ACC</b>	Accident Compensation Corporation
<b>ACCID</b>	Account ID
<b>ACCIRD</b>	Account IRD
<b>AIL</b>	Approved Issue Levy
<b>Authentication</b>	The process that verifies the identity of the party attempting to access Inland Revenue
<b>Authorisation</b>	The process of determining whether a party is entitled to perform the function or access a resource
<b>DHCP</b>	Dynamic Host Configuration Protocol ( <b>DHCP</b> )— a client/server protocol that automatically provides an IP host with its IP address and other related configuration information such as the default gateway.
<b>DWT</b>	Dividend Withholding Tax
<b>EI</b>	Employment Information
<b>End points</b>	A term used to describe a web service that has been implemented
<b>ESCT</b>	Employer Superannuation Contribution Tax—one of the many deductions that come from payroll
<b>FIPS</b>	Federal Information Processing Standard—a suite of IT standards from the US Federal Government
<b>Gateway</b>	Inland Revenue's web services gateway
<b>GWS</b>	Gateway Services—the brand name for the suite of web services that Inland Revenue is providing. The EI Return Service is a Gateway Service.
<b>HTTP, HTTPS</b>	Hyper Text Transmission Protocol (Secure)—the protocol by which web browsers and servers interact with each other. When implemented over TLS1.2 HTTP becomes HTTPS.
<b>IAMS</b>	Identity and Access Management—a logical component that performs authentication and authorisation. Physically it is a set of discrete hardware and software products, plug-ins and protocols. Usually implemented as separate External IAMS (XIAMS) and Internal IAMS.
<b>IAS</b>	Identity and Access
<b>INC</b>	Inland Revenue's abbreviation for Income Tax
<b>IP</b>	Internet Protocol—the principal communication protocol in the Internet protocol suite for relaying datagrams across networks
<b>IPS</b>	Interest Pay-as-you-earn
<b>IRD</b>	Inland Revenue Department
<b>MSD</b>	NZ Ministry of Social Development
<b>OAuth</b>	An HTTPS based protocol for authorising access to a resource, currently at version 2

Acronym/term	Definition
<b>PAYE</b>	Pay As You Earn
<b>Payloads</b>	This refers to the data contained within the messages that are exchanged when a web service is invoked. Messages consist of a header and a payload.
<b>Schemas</b>	An XML schema defines the syntax of an XML document, in particular of a payload. The schema specifies what a valid payload (such as an EI return) must/can contain, as well as validating the payload.
<b>SHA</b>	Secure Hashing Algorithm. There is a family of them that provide different strengths. SHA-2 is currently favoured over SHA-1, which has been compromised.
<b>SOAP</b>	Simple Object Access Protocol—a set of standards for specifying web services. GWS uses SOAP version 1.2
<b>SSL</b>	Secure Sockets Layer certificates—used to establish an encrypted connection between a browser or user’s computer and a service or website
<b>START</b>	Simplified Taxation and Revenue Technology—Inland Revenue’s new core tax processing application. It is an implementation of the GenTax product from FAST Enterprises.
<b>TLS1.2</b>	Transport Layer Security version 1.2—the protocol that is observed between adjacent servers for encrypting the data that they exchange. Prior versions of TLS and all versions of SSL have been compromised and are superseded by TLS1.2.
<b>URL</b>	Universal Resource Locator—also known as a web address
<b>WSDL</b>	Web Service Definition Language—an XML definition of a web service interface
<b>X.509 certificate</b>	An international standard for encoding and describing a digital certificate. In isolation a public key is just a very large number, the X.509 certificate to which it is bound identifies whose key it is, who issued it, when it expires etc. When a counterparty’s X.509 digital certificate is received, the recipient takes their public key out of it and store the key in their own keystore. The recipient can then use this key to encrypt and sign the messages that they exchange with this counterparty.
<b>XIAMS</b>	External IAMS—an instance of IAMS that authenticates and authorises access by external parties, for example customers, trading partners etc, as opposed to internal parties such as staff
<b>XML</b>	Extensible Mark-up Language—a language used to define a set of rules used for encoding documents in a format that can be read by humans and machines
<b>XSD</b>	XML Schema Definition—the current standard schema language for all XML data and documents

## 7 Change log

This table lists all changes that have been made to this build pack document since 06/10/2017 (most recent changes listed first).

Version	Date of change	Document section	Description
N/A	14/03/19	5.2 Generic Returns response codes	Expanded description of error code 104
		3.1 File	Note added to description of payDayDate
		3.1 File	Note added to description of payPeriodStartDate
	13/03/19	3.1 File	"<r:isReverseReplace/> added to <FormFields> structure (for EI) sample
	26/02/19	3 Operations	Description of <b>softwarePlatform</b> in table removed: <i>The software package that is making the request.</i>  Replaced with new description: <i>The field value will be provided by Inland Revenue during the onboarding process.</i>
		3.1 File	Description of <b>periodEndDate</b> removed: <i>The period in which a return exists or the period for which it is being submitted.</i>  Replaced with new description: <i>Last day of the pay date month</i>
			Description of <b>payPeriodStartDate</b> removed: <i>Period start date for this employee's submission</i>  Replaced with new description: <i>The first day of the pay period for which the employee was paid</i>
			Description of <b>payPeriodEndDate</b> removed: <i>Period end date for this employee's submission</i>  Replaced with new description: <i>The last day of the pay period on which the employee was paid</i>
			Description of <b>payDayDate</b> removed: <i>Pay day date for return submission</i>  Replaced with new description: <i>Payday means the day on which an employer makes a PAYE income payment to an employee</i>
			Description of <b>payDayDate</b> removed: <i>The pay day period of the return</i>  Replaced with new description:
		3.2 Prepop	Description of <b>payDayDate</b> removed: <i>The pay day period of the return</i>  Replaced with new description:



Version	Date of change	Document section	Description
			<i>Payday means the day on which an employer makes a PAYE income payment to an employee</i>
	18/02/19	3.1	<b>&lt;FormFields&gt;</b> structure payload reordered to have 'referenceId' positioned after 'lineNumber' and before 'irdNumber'.

Version	Return type	Date of change	Document section	Description
		21/12/18	ENTIRE DOCUMENT	AIM AND GST REFERENCES REMOVED TO MAKE THIS BUILD PACK PURELY EI-CENTRIC
			1.4.1	Section added to cover Mutual TLS
		5/09/18	<a href="#">2.4 Security</a>	Disclaimer removed as no longer current:  <b>IMPORTANT:</b> <i>Please note that only the end points for cloud-based connections are currently available.</i>
	GST	08/06/18	<a href="#">3.1.1 GST usage</a>	<ul style="list-style-type: none"> <li>Renamed field in the field in the example payload</li> <li>Placed provTaxInstalmentAmount before instalmentDueOrVoluntaryPayment</li> <li>Changed the order in the table below it.</li> </ul>
	AIM	08/06/18		<ul style="list-style-type: none"> <li>New AIM schema uploaded to GitHub</li> </ul>
	GST	30/05/18	3.1 Prov specific fields	<ul style="list-style-type: none"> <li>Changed the element voluntaryPayment to instalmentDueOrVoluntaryPayment.</li> <li>Order change of elements – provTaxInstalmentAmount moved before instalmentDueOrVoluntaryPayment.</li> </ul>
		21/05/18	<a href="#">4.1 End points</a>	<ul style="list-style-type: none"> <li>Removed asterisks from cloud-based end points and the following text: <i>*Please note that only the end points for cloud-based connections are currently available.</i></li> </ul>
<b>VERSION NUMBERS REMOVED HENCEFORTH</b>	EI, GST and AIM	17/05/18	<a href="#">3.3 RetrieveStatus</a> <a href="#">3.3.1 AIM usage</a>	Diagrams added to illustrate process flows for statuses

Version	Return type	Date of change	Document section	Description
<b>1.06</b>	EI	26/02/18	<a href="#">6.4.5 Filing a Nil EI</a>	Added use case for filing a Nil EI
	EI	26/02/18	<a href="#">3.1.3 EI usage</a>	Added note to section re employer cannot commence payday filing part way through a month.
	EI	26/02/18	<a href="#">6.4 EI-specific use cases</a>	Added new section 6.4 EI-specific use cases
	All	22/02/18	<a href="#">5.1 Generic gateway response codes</a>	<ul style="list-style-type: none"> <li>Updated the row for Standard Code 0 to reflect that a standard message does not display</li> <li>Updated descriptions for codes 4 and 6 to be more descriptive</li> <li>Added rows at end for SOAP faults and maximum concurrency exceeded</li> </ul>
	All EI	22/02/18	<a href="#">3.2 Prepop</a> <a href="#">3.2.3 EI usage</a> <a href="#">3.3 RetrieveStatus</a> <a href="#">3.3.2 EI usage</a> <a href="#">3.4 RetrieveReturn</a> <a href="#">3.4.3 EI usage</a>	All instances of <formInfoRequest> changed to <retrieveFormInfoRequest>
	EI	16/02/18	<a href="#">EI usage</a>	<ul style="list-style-type: none"> <li>Corrected Description for field totalFamilyTaxCredits as it was referring to payroll donation credits</li> <li>Updated the row for employmentFinishDate to reflect field not required if no end date</li> </ul>
<b>1.05</b>	AIM and EI	15/02/18	<a href="#">5.1 Generic gateway response codes</a> <a href="#">5.3 AIM-specific response codes</a> and <a href="#">5.4 EI-specific response codes</a>	<b>Added:</b> <ul style="list-style-type: none"> <li>Standard response code 6—'Authentication expired'—added to table of generic gateway response codes</li> <li>Standard response code 7—'Account type not supported'—added to table of generic gateway response codes</li> <li>New section (5.4) added with EI-specific response codes</li> <li>Standard response code 131—'Duplicate line items'—added to table of EI-specific</li> </ul>

Version	Return type	Date of change	Document section	Description
				<p>response codes</p> <ul style="list-style-type: none"> <li>Standard response code 132—'Reverse/replace can only be used for an amendment'—added to table of EI-specific response codes</li> </ul> <p><b>Removed:</b></p> <ul style="list-style-type: none"> <li>Standard response code 131—'Duplicate line items'—removed from table of AIM-specific response codes (and added to table of EI-specific response codes)</li> <li>Standard response code 121—'No active income year returns'—removed from table of AIM-specific response codes</li> </ul>
<b>1.04</b>		12/02/18	Entire document	Cosmetic/formatting changes
<b>1.04</b>	All	02/02/18	<a href="#">3 Operations</a>	<p>Paragraph replaced:</p> <p><b>OLD:</b> All return service file request responses will also include a <b>gatewayId</b>. The gatewayId is a unique identifier passed back in the responseBody when a request has been accepted through the gateway. The gatewayId can be provided to customers as a receipt that they have submitted a return and can be used in communications with IR to track the processing of a return.</p> <p><b>NEW:</b> The response structure for all File requests will have the <b>gatewayId</b> field populated. The gatewayId is a unique identifier passed back in the responseBody, assuming the response code for the request is zero (refer to <a href="#">Chapter 5 Responses</a>). The gatewayId should be recorded and can be used by technical teams for troubleshooting. The gatewayId will not appear in search results when searching myIR. The gatewayId is also not available to Inland Revenue front-line staff (such as in the telephone</p>

Version	Return type	Date of change	Document section	Description
				contact centre) to search on.
<b>1.03</b>	EI	31/01/18	<a href="#">3.1.3 EI usage</a> <a href="#">5 Responses</a>	Amendment information added Response wording changed and Error codes revised (added 4,6,131)
	EI	25/01/18	<a href="#">3.1.3 EI usage</a>	Added isReverseReplace to table of fields. Renamed 'employeeReferenceId' to 'referenceId'.
		13/12/17	<a href="#">4.1 End points</a>	Disclaimer added: <i>*Please note that only the end points for cloud-based connections are currently available.</i> ALSO, removed reference to sliced and unsliced data.
		13/12/17	<a href="#">2.4 Security</a>	Minimum TLS version for desktop connection end points updated: OLD: 1.0(+) NEW: 1.2 ALSO, disclaimer added: <i>IMPORTANT: Please note that only the end points for cloud-based connections are currently available.</i>
	EI	08/12/17	<a href="#">3.1.3 EI usage</a>	Added employeeReferenceId to table of fields.
				Added HM (half-monthly) code to Employee pay frequency table
				Sample response on successful EI file operations
	All	07/12/17	<a href="#">3 Operations</a>	Noted that eight digit IRD Numbers need to be padded with a leading zero.
	AIM	30/11/17	<a href="#">3.3.1 AIM usage</a>	Added the following text: Although submitted via the Return service, an AIM Statement is not a return and therefore only a subset of the available statuses apply for an AIM Statement. The following three statuses apply for checking RetrieveStatus for AIM:  Removed the following text: NOTE: The 'submitted' status indicates that the Statement of Activity has been received by Inland Revenue for processing within START. It does not indicate the

Version	Return type	Date of change	Document section	Description
				status of the processing of the customer's financial records within FIRST which will subsequently occur during the initial period of co-existence.  Also note that these statuses may change for future rollouts.
	AIM	30/11/17		AIM error codes 121, 122 and 123 added.
	AIM	27/11/17	<a href="#">1.3 Supported onboarding packs</a>	'Appendix—Policy and supporting legislation' was removed—text pasted into 1.3 instead
		27/11/17		'Appendix—Sample payloads' moved from this document and into <a href="#">GitHub</a> as a standalone file.
		27/11/17	<a href="#">3 Operations;</a> <a href="#">4 End points,</a> <a href="#">schemas and</a> <a href="#">WSDLs</a>	Disclaimer text and hyperlinks changed at start of each section:  <b>IMPORTANT:</b> <i>The end points, schemas and WSDLs listed here are subject to change. For the authoritative definitions, please refer to the information provided on the Inland Revenue Gateway Services GitHub site:</i> <a href="https://github.com/InlandRevenue/Gateway-Services">https://github.com/InlandRevenue/Gateway-Services</a>
		27/11/17		End point URLs updated
		27/11/17		Security section updated
		22/11/17	Glossary	FIRST added to glossary
	AIM	22/11/17	AIM (retrieveStatus)	Section added to cover responses
<b>1.0</b>	EI	07/11/17	<a href="#">3.1.3 EI usage</a>	payDayDate information (sentence) modified.
			<a href="#">3.2.3,</a> <a href="#">3.3.1</a> and <a href="#">3.4.3</a> (all EI usage)	<retrieveEIRequest> details added, structure added, table containing payDayDate and submissionKey details added.
			<a href="#">3.5.1 EI usage</a>	Sentence added.
<b>1.0</b>	AIM	26/10/17	<a href="#">3.1 File</a>	Text added to periodEndDate line of Field/Requirement/Description table:  <b>NEW:</b> An AIM Statement of Activity will cover a one or two month

Version	Return type	Date of change	Document section	Description
				period. The period end date for the Statement of Activity refers to the last day of the period covered by that statement. For example, for a Statement of Activity covering the two month period of April and May 2019, the period end date is 31/05/19.
			<a href="#">3.1.2 AIM usage</a>	<b>Multiple changes to text</b> in Attribute/Description table in systemAdjustedValue line and userAdjustedValue line. Also, <b>new row added</b> for shareholderProvTax.
			<a href="#">3.2.2 AIM usage</a>	First paragraph of section changed: <b>NEW:</b> When using the pre-population service for AIM, the tax type will be INC and the majorFormType will be SOA (for Statement of Account). The response body will only be populated if the customer is eligible for AIM.
			<a href="#">5.3 AIM-specific response codes</a>	'Fiscal year' <b>changed</b> to 'tax year' in standard code line 120.
<b>1.0</b>	AIM	26/10/17	<a href="#">Appendix C—Glossary</a>	Minor modifications to text in glossary entries for 'Activity Statement' and 'AIM'.
	EI	19/10/17	<a href="#">3.1.3 EI Usage</a>	Ensured section in EI didn't have reference to Total Number of Employee Lines
		19/10/17	<a href="#">Appendix B—Example scenarios</a>	Appendix created and populated with example scenarios.
	AIM	18/10/17	<a href="#">3.1.2 AIM usage</a>	Updated AIM schemas
	AIM	18/10/17	<a href="#">7.1.2 AIM payloads</a>	Updated AIM sample payloads
	GST	13/10/17	<a href="#">Appendix A—Sample payloads</a>	Changes made to sample payloads in Appendix A to reflect all changes below.
	GST	13/10/17	<a href="#">3.4.1 GST usage</a>	Changes made to <b>&lt;retrieveReturnResponse&gt;</b> structure.
	EI	13/10/17	<a href="#">3.1.3 EI usage</a>	Text added at end of section to explain changes in above row:

Version	Return type	Date of change	Document section	Description
				<p><b>NEW:</b> A submissionKey will be provided on file operations of EI returns. This submissionKey will be used to identify the specific EI return on a given filing period for amendment, status and retrieve return requests.</p> <p>On amendment requests, submissionKey and lineNumbers must be provided. lineNumbers are obtained by the retrieveReturn operation, and only lines that require amendments should be provided.</p>
	EI	13/10/17	<a href="#">3.1.3 EI usage</a>	<p>Changes to Attribute/Description table:</p> <p><b>NEW:</b> <b>submissionKey</b> and <b>lineNumber</b> fields added</p> <p>Attribute/Description table has also changed to reflect this.</p>
	AIM	13/10/17	<a href="#">3.1.2 AIM usage</a>	<p><b>NEW:</b> Table added with Statement of Activity example scenarios</p>
	AIM	13/10/17	<a href="#">3.1.2 AIM usage</a>	<p>Changes to &lt;<b>FormFields</b>&gt; structure (for AIM):</p> <p><b>OLD:</b> <b>adjustedBy</b> and <b>unadjustedValue</b></p> <p><b>NEW:</b> <b>systemAdjustedValue</b> and <b>userAdjustedValue</b></p> <p>Attribute/Description table has also changed to reflect this.</p>
	GST	13/10/17	<a href="#">3.1 File</a>	<p>Change to first line for example scenario:</p> <p><b>OLD:</b> Attempting to submit a GST103H for the 2018-January period.</p> <pre>&lt;cmn:accountType&gt;GST&lt;/rc:accountType&gt;</pre>

Version	Return type	Date of change	Document section	Description
				<pre>&lt;rc:periodEndDate&gt;2018-01-31&lt;/rc:periodEndDate&gt; &lt;rc:majorFormType&gt;GST&lt;/rc:majorFormType&gt; &lt;rc:minorFormType&gt;103H&lt;/rc:minorFormType&gt;</pre> <p><b>NEW:</b> Attempting to submit a GST103H for the 2018-January period.</p> <pre>&lt;cmn:accountType&gt;GST&lt;/cmn:accountType&gt; &lt;rc:periodEndDate&gt;2018-01-31&lt;/rc:periodEndDate&gt; &lt;rc:majorFormType&gt;GST&lt;/rc:majorFormType&gt; &lt;rc:minorFormType&gt;103H&lt;/rc:minorFormType&gt;</pre>
	All	13/10/17	<a href="#">3 Operations</a>	<p>Line added to standard header fields example:</p> <pre>&lt;cmn:accountType&gt;GST&lt;/cmn:accountType&gt;</pre> <p><b>accountType</b> Also added to Attribute/Description table</p>
	All	13/10/17	<a href="#">3 Operations</a>	<p>Lines added to default service response fields example:</p> <pre>&lt;responseBody&gt;   &lt;gatewayId&gt;0000 002J ZJ5N6&lt;/gatewayId&gt; &lt;/responseBody&gt;</pre>
<b>0.8</b>		06/10/17	<a href="#">3.5 RetrieveFilingObligation</a>	<p><b>OLD:</b> Please note that this operation does not apply to Employment Information.</p> <p><b>NEW:</b> Please note that for EI the RetrieveFilingObligations will not act the same way that it does for other tax types. For those who have already submitted a payroll for a given filing period, the current period will not be returned by this operation. Even if other payrolls with more employees are required for this account, RetrieveFilingObligations will only look to see if a payroll already exists on the period.</p>



