Inland Revenue

Build Pack: Account API

Date: 18/06/2024

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Inland Revenue
Te Tari Taake

1 Overview

1.1 This solution

Inland Revenue has a suite of digital services available for consumption by our service providers that supports efficient, electronic business interactions with Inland Revenue. The application programming interface (API) described in this build pack document provides current account information as held by Inland Revenue.

Before continuing, please consult
www.ird.govt.nz/digital-service-providers/services-catalogue
for business-level context, use cases and links to relevant policy.
The information available here explains how to integrate with Inland Revenue's services.

1.2 Intended audience

Access to the API end point is open to any software provider that has been on-boarded to the API (referred to throughout the remainder of this document as 'Digital Service Providers'). Access to the account data is open to any logon that currently has access to these resources on eServices. This includes tax intermediaries (such as tax agents and bookkeepers) and to customers using software on their own behalf.

The solution outlined in this document is intended to be used by technical teams and development staff, as it describes the technical interactions provided by this service. The reader is assumed to have a suitable level of technical knowledge to comprehend the information provided.

1.3 Related services

The following application programming interfaces (APIs) complement this Gateway Service. Instructions on where to find the build packs for these APIs can be found in section 3 of this document.

1.3.1 Identity and Access Services (required)

The Identity and Access Services (IAS) are used to authenticate access. Authentication tokens will need to be retrieved via IAS prior to making calls to this API.

2 Solution design

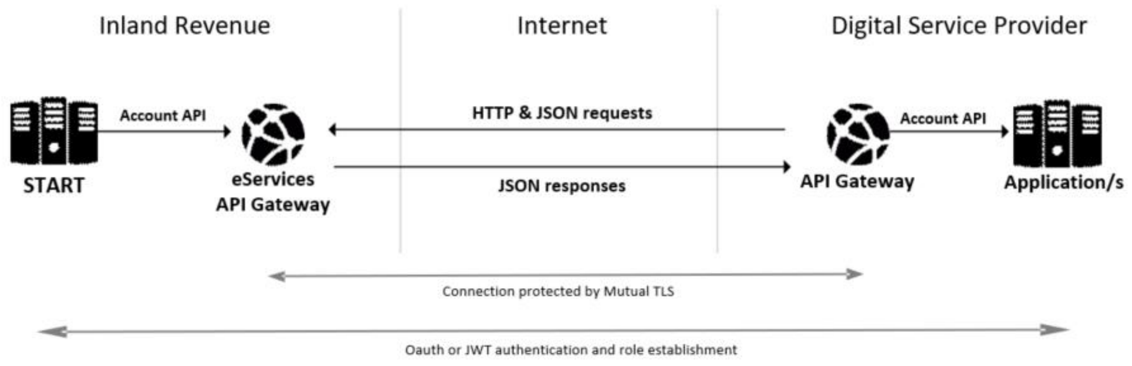
2.1 Architecture

Inland Revenue offers a suite of web applications in order to facilitate interactions via software packages.

This API will be used by approved organisations to retrieve account information from Inland Revenue.

The diagram below illustrates the flow of data from Inland Revenue to the Digital Service Providers.

Flow of data from Inland Revenue to Digital Service Providers

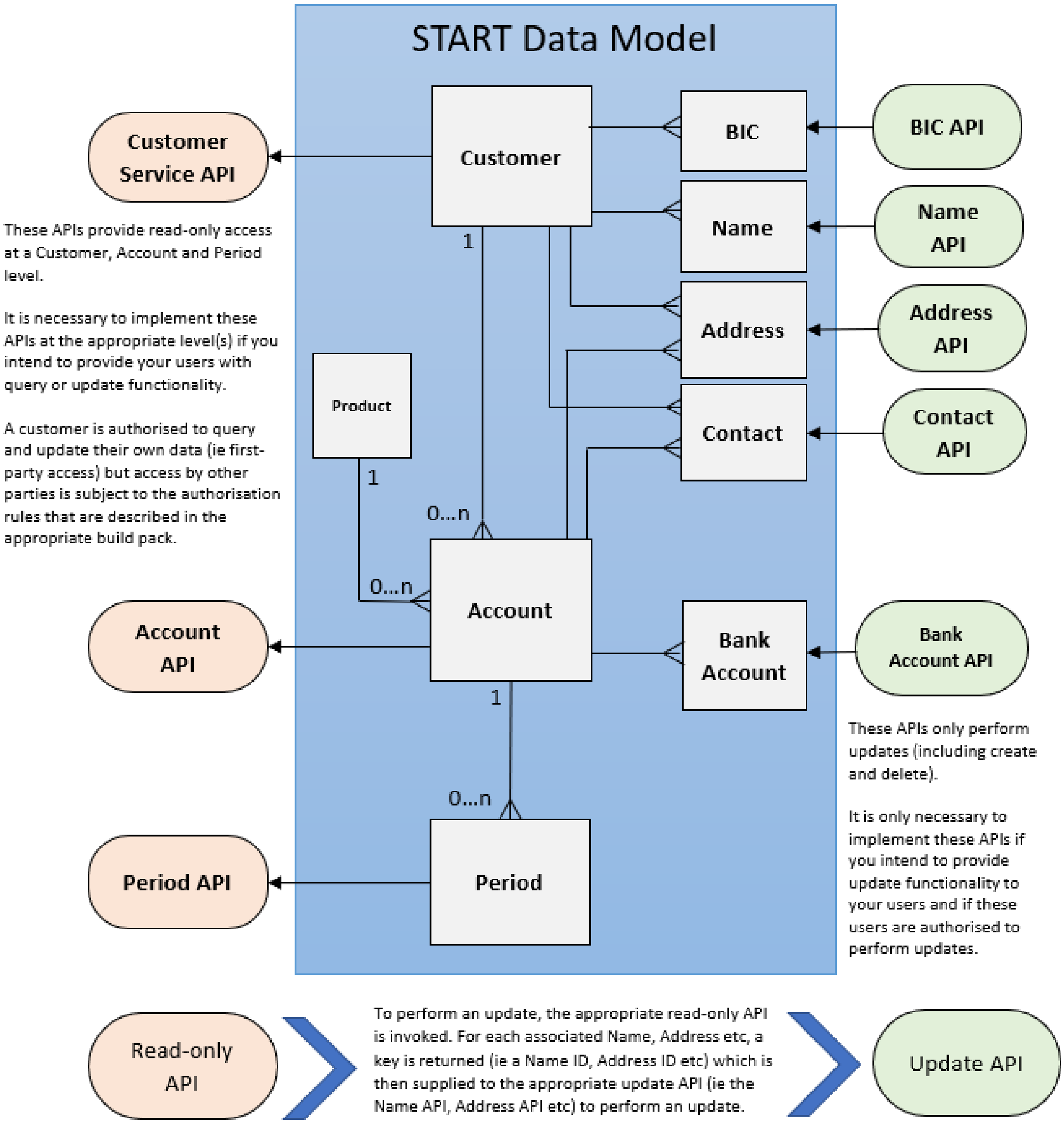


1. START makes read-only account information available to the eServices API Gateway.
2. The consumer of this API calls the Account API to request account information. The Oauth or JWT token and request date range are used to determine the scope of account information available to the consumer.
3. The eServices API Gateway responds with the full set of JSON account information that meets the criteria above.
4. Account information is consumed by the caller application.

2.1.1 Dependencies between the customer services APIs

This API is one of eight 'customer service' APIs designed to be used together—Account, Address, Bank, BIC, Contact, Customer, Name and Period. It is important to understand the dependencies between these when deciding which ones to implement, how to correctly sequence their adoption, how authorisation rules impact access, and how to use them in general.

These APIs align to START's data model as depicted below:



2.2 Messaging

This service only supports the POST HTTP method and will not allow any updates. This service has two operations that use the POST HTTP method:

- **Account Retrieve:** Retrieves details about an account
- **Account List:** Retrieves a list of accounts for the customer.

2.2.1 Account Retrieve

This operation is used by the consumer to retrieve information about a specific account. This includes information that is unique to certain account types and may not always be present in a response.

2.2.1.1 Request payload

Field	Requirement	Description
AccountID	Mandatory	Unique ID to identify an account
AccountIDType	Mandatory	Type of ID submitted in Account ID field

2.2.1.2 Response payload

Note that the requirement status of each field is provided in the accompanying YAML file (see section 3).

Field	Description
ID	The account ID
IDType	The type of ID submitted in the ID field
Status	Shows the status of the account
AccountType	The type of account
FilingFrequency	The frequency with which the customer can file for this account
FilingChannel	The method with which the customer most recently filed a return for this account
Commence	Commencement day of the account
Cease	Cessation date of the account
BankAccount	The refund bank account for the account
NameOnBankAccount	The name used with the refund bank account
Address.AddressID	Unique ID for address
Address.Type	Type of address (mailing or physical)
Address.Formatted	Formatted, single-line address
Address.Street	Street address line 1
Address.Street2	Street address line 2
Address.Unit	Unit identifier

Field	Description
Address.UnitType	Unit type
Address.City	City name
Address.County	County name
Address.State	State name
Address.PostCode	Postal code
Address.Country	ISO 2 digit standard (New Zealand is NZ)
Address.Attention	The person to whom the correspondence is addressed
Address.Urbanisation	Urbanisation (See address notes below)
Address.District	District type (See address notes below)
Address.SubDistrict	District identifier (See address notes below)
Address.SubProvince	SubProvince name (See address notes below)
Address.Updated	Date on which address was last updated
Contact.ContactID	Unique ID for contact
Contact.ContactType	Contact type (ie primary, secondary)
Contact.Name	Name of contact
Contact.Updated	Date on which contact was last updated
Contact.Phone.PhoneID	Unique ID for phone
Contact.Phone.PhoneType	Mobile, home and/or business phone
Contact.Phone.Country	Country for phone—used to determine country code
Contact.Phone.AreaCode	Area code portion of phone number
Contact.Phone.PhoneNumber	Phone number, without country code
Contact.Phone.Extension	Extension number
INC.BalanceDate	The balance date of an income tax account for a non-individual
INC.ExemptionReason	The reason for an exemption for an income tax account for a non-individual
INC.ProvTaxMethod	The provisional tax method (AIM, Estimation, Ratio, Standard)
INC.ProvTaxRatio	The provisional tax ratio if the method is 'ratio'
INC.GroupMember	Boolean indicating that the income tax account is part of an income group
INC.GroupRepresentative	Boolean indicating that the income tax account is the representative of an income group
INC.ICAGroup	Boolean indicating that the income tax account is a Nominated Company of an ICA group

Field	Description
INC.ICAMember	Boolean indicating that the income tax account is part of an ICA group
INC.TransTasman	Boolean indicating that the customer is a trans-Tasman customer
INC.AgentNonResidentInsurer	Boolean indicating that the customer is an agent non-resident insurer
WFFTC.PaymentFrequency	The frequency with which a Working for Families customer gets paid
WFFTC.CurrentPayer	The agency that pays the Working for Families Tax Credit (MSD or IRD)
GST.AccountingBasis	The accounting basis for a GST account
GST.GroupMember	If the GST account belongs to a GST group as a member
GST.GroupRepresentative	If the GST account belongs to a GST group as a representative

2.2.1.3 Address notes

The following fields contain different data depending on the country of the address:

Field	Region	Data
Urbanisation	New Zealand	Suburb/Rural
	Australia	Suburb/Place
	Europe	Distribution
District	New Zealand	Floor type
	Australia	Floor type
	Finland	Entrance
	Poland	Post Office
SubDistrict	New Zealand	Floor number
	Australia	Floor number
SubProvince	New Zealand	Building
	Australia	Building
Unit	Caribbean	PO Box

2.2.2 Account List

These are used by the consumer to retrieve a list of accounts associated with a customer ID.

2.2.2.1 Request payload

Field	Description
CustomerID	ID of the customer for which the account list should be retrieved
CustomerIDType	Type of ID provided

A list of the valid values for **CustomerIDtype** can be found in the YAML file (see section 3).

2.2.2.2 Response payload

Field	Description
ID	An account identifier for an account belonging to the customer
IDType	An account ID type for an account belonging to the customer

2.3 Security

2.3.1 Information classification

The information exchanged via this API has an information classification of "**IN CONFIDENCE**". The following security standards therefore apply.

2.3.2 Transport layer security and certificates

Mutual Transport Layer Security (TLS) is implemented for this service. This requires the use of a publicly-issued X.509 certificate from one of the trusted certificate authorities. Please refer to the Identity and Access Services build pack for more details.

2.3.3 Ciphers

Inland Revenue currently supports TSL1.2 and TLS1.3. Please refer to Identity and Access Services build pack for supported ciphers.

2.3.4 Inland Revenue currently supports TSL1.2 and TLS1.3. Please refer to Identity and Access Services build pack for supported ciphers.Authentication options

This design will use JSON Web Tokens (JWT) or OAuth2.0 tokens and protocol to establish the calling party's identity. The OAuth2.0 method requires a myIR user to logon, while JWT is a machine-to-machine credential.

This API will require a unique identifier in order to establish the calling party's identity and to allow the access model to authenticate.

Refer to the Identity and Access Services build pack for more information.

2.3.4.1 OAuth

When using OAuth, the interaction with Inland Revenue is transacted under the identity of a myIR user. OAuth requires the presence of a myIR user, as this person must be available to supply their user ID, password and consent at run-time in order to be authenticated. OAuth is especially suited to cloud-based applications where the transacting parties are application users rather than providers.

HTTP headers intended for OAuth access services will be have the JWT prefixed with "Bearer ":

HTTP header	Example value
Authorization	Bearer {JWTAccessToken}

2.3.4.2 JWT

The alternative to OAuth is JWT, which does not require the presence of a myIR user. Authentication is based on the verification of a digital signature that (provably) belongs to a customer. In order to digitally sign their messages, the customer must acquire a digital certificate from a trusted certificate authority, or generate a self-signed certificate, and supply it to Inland Revenue during the on-boarding process. JWT is therefore appropriate when the following conditions apply:

- The interaction with Inland Revenue is conducted under the identity of an organisation, as opposed to a person AND
- The organisation has the technical and operational capability to securely obtain and manage digital certificates AND
- The organisation's interactions with Inland Revenue can occur in the absence of specific people due to staffing issues such as out-of-hours non-availability, staff turnover and absence from work.

These factors tend to limit the use JWT to larger corporations and public sector organisations. It is not suitable for cloud-based applications as it requires all application users to have their own digital certificates—this is administratively burdensome and requires these users to lodge their private keys with their application provider, which is insecure.

Gateway Services will use this token in the HTTP header of a message in the same manner that an OAuth token has been used, namely:

HTTP header	Example value
Authorization	{JWTAccessToken}

2.3.4.2.1. startLogon

A myIR logon can be provided in order to use the myIR delegation model for identifying customers for whom account information should be retrieved. If the myIR logon is provided, then account information will only be shown for accounts the logon can access. If a myIR logon is not used, the field should be included with a value of null, and the subject will determine the account information shown.

2.3.4.2.2. sub

A subject must be provided, which is the thumbprint of the signing certificate, and can be used to determine which account information should be retrieved. The subject will always be used to validate the signature of the JWT but will only be used for determining which account information to retrieve when a value for **startLogon** is not provided. The subject can be used for access when the subject is a tax preparer—account information will be returned for accounts currently linked to the tax preparer.

3 Additional development resources

Current environment information for this service—including the end points for each environment—is available within the relevant Software Development Kit (SDK).

To access the SDK, do one of the following:

- Go to https://github.com/InlandRevenue and select this service
- Go to https://developerportal.ird.govt.nz and click the link to the SDK within the Gateway Service documentation (please register first).

3.1 OpenAPI specifications

An OpenAPI file allows for the description of the entire API, end points, operations on each end point, and operation parameters. The included .yaml file can be used along with an OpenAPI editor such as editor.swagger.io to view technical specifications for this operation and generate example client code.

To access the latest OpenAPI definition for this service, please do the following:

- Login to the developer portal at https://developerportal.ird.govt.nz (register first)
- Download and view the OpenAPI definition within the Gateway Service documentation.

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4 Change log

This table lists all material changes that have been made to this build pack document (most recent changes listed first). It does not encompass non-material changes, such as to formatting etc.

Date of change	Document section	Description
18/06/2024	2.3.2, 2.3.3	Removed details of supported certificate and ciphers from this document and replaced with the link to latest Identity and Access services build pack for the most current details
29/03/22	N/A	YAML updated to include COVID-19 Support Payments (CSP) account type
17/09/21		October 2021 release changes
		New YAML file issued
	2.1.1	List and diagram of customer service APIs expanded to include new BIC API
	1.3	'Prerequisites' section removed and absorbed into new 'Security' section (2.3)
	1.3	'Related services' section added
	1	'Mutual Transport Layer security and certificates' section updated and moved into section 2.3.2
	1	'Authentication options' section modified and moved into section 2.3.4
	2.1	Diagram updated to include JWT
	2.1.1	'Dependencies between the customer services APIs' section moved here
	2.2	• Heading changed from 'Supported HTTP methods' to 'Messaging' • 'Account API' heading changed to 'Account retrieve'
	2.3	'Bill item and provisional tax information' heading removed
	2.3	Security section upgraded: • 'Information classification' section added • 'Transport layer security and certificates' updated • 'Ciphers' section added • 'Authentication options' section modified
	3	'End points and OpenAPI specifications' section renamed 'Additional development resources'
	4	• Glossary removed
18/02/21		New YAML file issued

Date of change	Document section	Description
30/09/20		V1 released