

QuoteEngine.API

Public documentation for BlackFin's 'Quote Engine' API for calculating insurance premiums in New Zealand.

- [Introduction](#)
- [Authentication](#)
- [Quote Setup](#)
 - [Providers](#)
 - [QuoteConfig](#)
- [Calculation](#)
 - [Quote Request](#)
 - [Quote Results](#)
- [Supported Providers](#)
- [Supported Benefits](#)
- [Version History](#)

Introduction

Developed by BlackFin Technology Pte Ltd in partnership with the New Zealand Financial Services Group (NZFSG), the 'Quote Engine' API provides efficient and accurate premium calculation/comparison for personal risk and health insurance products from seven of New Zealand's insurance [providers](#).

API Reference

The Quote Engine API is a RESTful web service where requests are made over HTTPS using the `GET` and `POST` methods. Payloads use JSON format object schemas. The API is comprised of three endpoints:

- **Quote Setup**

- `GET` [Providers](#) - returns a list of the insurance providers supported by the Quote Engine, along with the benefits and products that they offer. The object IDs used in this data-set are essential for making a quote calculation request.
- `GET` [QuoteConfig](#) - returns a list of input parameters and accepted option values for each of the benefits supported by the Quote Engine. This config data may be useful for rendering interfaces for data capture during the quote setup stage.

- **Calculation**

- `POST` [Quote](#) - the main calculation endpoint, this returns a set of calculated insurance premiums based on the details of the clients, their chosen benefits, and the providers and products that were included in the request.

API Key

The Quote Engine uses an API Key to authenticate all requests. This key is unique to you as a customer and will be provided to you directly by BlackFin. See [Authentication](#) for more details.

Environments

The Quote Engine API is provisioned in two environments with the following base URLs:

- TEST - <https://quote-engine-test.blackfin.tools>
- PROD - <https://quote-engine.blackfin.tools>

Hosted on Firebase - Google Cloud Platform - each endpoint is referenced by its unique function name which is passed as a path after the base URL.

Pricing Updates

BlackFin maintains the Quote Engine with the latest rates and calculation updates from the insurers whose premiums are calculated by the API*. Where sufficient notice of these updates has been provided in advance by the insurer, BlackFin will publish these changes in accordance with the insurer's own launch date.

** AIA and Fidelity are exempt from this because the Quote Engine integrates with their own calculation APIs, ensuring that rate updates happen automatically.*

See [Version History](#) for a list of updates.

Authentication

All requests to the Quote Engine are authenticated via an API key. If a request does not contain a valid key, the Quote Engine will return a `403` error. Requests must be sent over HTTPS.

Request Headers

Your `userToken` API key should be included in the header of all requests:

Key	Value
<code>userToken</code>	<code>{apiKey}</code>

Environments

Your `userToken` API key is the same for both the `TEST` and `PROD` environments.

Quote Setup

API specifications for the two Quote Setup endpoints which can be optionally used to assist with the configuration of quotes and/or integration of the API.

Providers

Returns a list of the [insurance providers](#) supported by the API, along with the benefits and products that they offer. This data will only change a few times per year, depending on any renaming or addition/removal of products by the insurers.

Request

- Type: `GET`
 - Path: `/providers`
-

Authentication

A `userToken` API key is required to authenticate the request source. This should be included in the header of the request. See [Authentication](#) for more details.

Response

Success

200: Success

JSON Schema

```
{
  "type": "object",
  "properties": {
    "providerId": {
      "type": "integer",
      "description": "The API's internal ID for the current provider. <br /><br />\r\nThis ID is used within the payload of the request of the `/quote` endpoint when requesting the calculation of a premium from this provider.",
      "format": "int32"
    }
  }
}
```

```
},
"providerName": {
  "type": "string",
  "description": "The display name of the current provider",
  "nullable": true
},
"hexColor": {
  "type": "string",
  "description": "A hex color value representing the dominant colour from the provider's
logo that can be incorporated into the design of the UI if desired.",
  "nullable": true
},
"logoUrl": {
  "type": "string",
  "description": "The URL of the provider's logo image (hosted by BlackFin) that can be
displayed with the UI if desired.",
  "nullable": true
},
"benefits": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "benefitId": {
        "type": "integer",
        "description": "The API's internal ID for the current benefit. <br /><br
/>\r\nThis ID is used within the payload of the request of the `/quote` endpoint when
requesting the calculation of a premium for this benefit.",
        "format": "int32"
      },
      "benefitName": {
        "type": "string",
        "description": "The display name of the current benefit",
        "nullable": true
      },
      "products": {
        "type": "array",
        "items": {
          "type": "object",
          "properties": {
```

```

        "productId": {
            "type": "integer",
            "description": "The API's internal ID for the current product. <br /><br
/>\r\nThis ID is used within the payload of the request of the '/quote' endpoint when
requesting the calculation of a premium for this product.\\"",
            "format": "int32"
        },
        "productName": {
            "type": "string",
            "description": "The display name of the current product",
            "nullable": true
        }
    },
    "additionalProperties": false
},
    "description": "An array of one or more objects detailing the product(s) which the
current provider offers under this benefit.",
    "nullable": true
}
},
    "additionalProperties": false
},
    "description": "An array of benefit objects detailing which benefits the current
provider offers.",
    "nullable": true
}
},
    "additionalProperties": false
}

```

Examples

Success Response

```

{
  "providerId": 0,
  "providerName": "string",
  "hexColor": "string",

```

```
"logoUrl": "string",
"benefits": [
  {
    "benefitId": 0,
    "benefitName": "string",
    "products": [
      {
        "productId": 0,
        "productName": "string"
      }
    ]
  }
]
}
```

Error

403: `userToken` is invalid or no longer valid

QuoteConfig

Returns a list of input parameters that are used when configuring the different benefits within the [/quote calculation request](#). The returned input parameters are defined by their `type` (eg. dropdown list) and their accepted option `values`, and are grouped by the benefits they are relevant for. This data could be used to render UI elements for data capture during the configuration of a quote.

Request

- Type: `GET`
 - Path: `/quoteConfig`
-

Authentication

A `userToken` API key is required to authenticate the request source. This should be included in the header of the request. See [Authentication](#) for more details.

Response

Success

200: Success

JSON Schema

```
{
  "type": "object",
  "properties": {
    "quoteConfig": {
      "type": "object",
      "properties": {
        "benefits": {
          "type": "array",
```

```

"items": {
  "type": "object",
  "properties": {
    "benefitId": {
      "type": "integer",
      "description": "The API's internal ID for the current benefit. <br /><br
/>\r\nThis ID is used within the payload of the request of the `/quote` endpoint when
requesting the calculation of a premium for this benefit.",
      "format": "int32"
    },
    "benefitName": {
      "type": "string",
      "description": "The display name of the current benefit",
      "nullable": true
    },
    "inputs": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "inputId": {
            "type": "string",
            "description": "The underlying name of the input. Each of these values
matches to an equivalent property in the payload schema of the `/quote` request.\r\nFor
example `calcPeriod` or `coverAmount`",
            "nullable": true
          },
          "inputLabel": {
            "type": "string",
            "description": "The human-friendly name of the input. This can be
displayed as the field label in the UI.",
            "nullable": true
          },
          "inputType": {
            "type": "string",
            "description": "Defines the type of field that could be used to capture
the input. The possible values are: <br /><br />\r\n`checkbox` – a true/false boolean input
<br />\r\n`currency` – a number representing a monetary value in NZD <br />\r\n`dropdown` – an
input with pre-defined set of options(see below) <br />\r\n`number` – a quantity of
something(non-currency)",

```

```

        "nullable": true
    },
    "inputOptions": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "name": {
                    "type": "string",
                    "description": "The human-friendly name of the option which can be
displayed in the dropdown in the UI.",
                    "nullable": true
                },
                "value": {
                    "type": "string",
                    "description": "The underlying value of the option. This value
(for the chosen option) should be included in the `/quote` request payload",
                    "nullable": true
                }
            },
            "additionalProperties": false
        },
        "description": "An array of pre-defined values for `dropdown` type
inputs",
        "nullable": true
    }
},
"additionalProperties": false
},
"description": "An array of objects detailing the data capture inputs that are
relevant for the current benefit. \r\nThe list of inputs varies for each type of benefit,
although there is some crossover between most benefits.",
"nullable": true
}
},
"additionalProperties": false
},
"description": "An array of insurance benefits which are supported for quoting via
the Quote Engine API.",
"nullable": true

```

```
    }
  },
  "additionalProperties": false
}
},
"additionalProperties": false
}
```

Examples

Success Response

```
{
  "quoteConfig": {
    "benefits": [
      {
        "benefitId": 0,
        "benefitName": "string",
        "inputs": [
          {
            "inputId": "string",
            "inputLabel": "string",
            "inputType": "string",
            "inputOptions": [
              {
                "name": "string",
                "value": "string"
              }
            ]
          }
        ]
      }
    ]
  }
}
```

Error

403: `userToken` is invalid or no longer valid

Calculation

API specification for the Quote calculation endpoint

Quote Request

The **Quote** endpoint returns a list of quote results containing premiums that have been calculated based on details provided in the request. These details must include client demographics, chosen benefit options, and the providers and products they are interested in.

Each request generates a new quote. Whilst the Quote Engine does log all requests for analytics and troubleshooting purposes, quotes are not saved by the API and it does not provide methods to retrieve, modify, or delete previous quotes.

Request

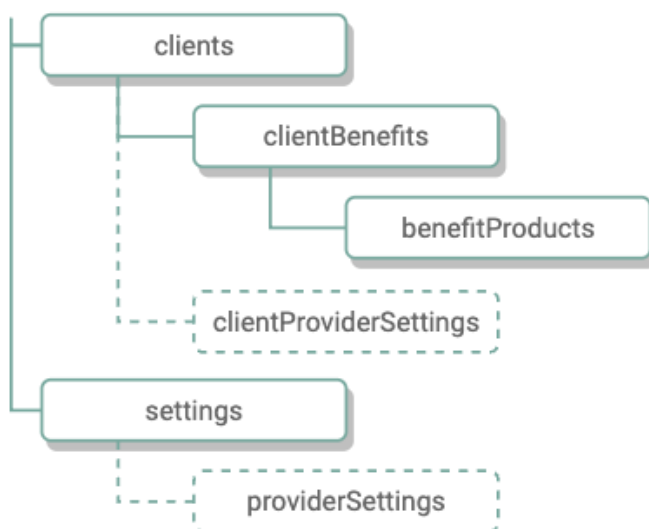
- Type: `POST`
- Path: `/quote`

Authentication

A `userToken` API key is required to authenticate the request source. This should be included in the header of the request. See [Authentication](#) for more details.

Payload Structure

The data in the Quote request payload is structured as follows:



- **Clients** – A quote must contain one or more `client` objects, detailing the persons to be insured.
- **ClientBenefits** – Each client must contain at least one `clientBenefit` object which details the [benefit](#) (type of insurance) that is being requested for that client. The required properties for this object vary depending on the type of benefit. See [JSON Schema](#) below for more details. Benefit types are defined using a `benefitId`.
- **BenefitProducts** – Under each client benefit is a `benefitProducts` array that defines which providers (insurers) and products to be quoted. These are defined as a pair of `providerId` and `productId` keys. Supported products can be queried from the [/providers endpoint](#).
- **ClientProviderSettings** – This is an optional array of provider-specific settings for each client - *for example, whether the client is eligible for Chubb's 'Lifetime Reward' discount.*
- **Settings** – Each request must contain a `settings` object that defines the settings for the quote, such as the `paymentFrequency`.
- **ProviderSettings** – This is an optional array of provider-specific settings that should be applied to the whole quote - *for example, whether all clients wish to join AIA's 'Vitality' programme.*

JSON Schema

The request payload is sent as HTTP JSON body using the following schema:

```
{
  "$schema": "http://json-schema.org/draft-07/schema#",
  "$defs": {
    "Benefit.benefitId": {
      "type": "integer",
      "description": "The id of the benefit to be quoted. See [supported benefits](https://docs.blackfin.tools/books/quoteengineapi/page/supported-benefits)",
      "format": "int32"
    },
    "Benefit.clientBenefitId": {
      "type": "string",
      "description": "Optional custom identifier provided by the requestor. This is returned with the result in the response.",
      "nullable": true
    }
  }
}
```

```

},
"Benefit.loading": {
  "type": "number",
  "description": "Optional loading multiplier for the current benefit, for example: <br
/><br /> \r\n          `1.0` – no additional loading <br /> \r\n          `1.5` – 50%
additional loading <br /> \r\n          `2.0` – 100% additional loading",
  "format": "double",
  "default": 1
},
"Benefit.indexed": {
  "type": "boolean",
  "description": "Toggle CPI Indexation on and off for the current benefit: <br /><br />
\r\n          `false` – no indexation <br /> \r\n          `true` – apply CPI indexation",
  "default": true
},
"Benefit.benefitProducts": {
  "type": "array",
  "items": {
    "required": [
      "productId",
      "providerId"
    ],
    "type": "object",
    "properties": {
      "providerId": {
        "type": "integer",
        "description": "The id of the provider whose product is being quoted.",
        "format": "int32"
      },
      "productId": {
        "type": "integer",
        "description": "The id of the product being quoted.",
        "format": "int32"
      }
    }
  },
  "additionalProperties": false
},
"description": "An array of one or more Product objects containing the details of the
providers and products to be quoted for the current benefit."
}

```

```

},
"required": [
  "clients",
  "settings"
],
"type": "object",
"properties": {
  "clients": {
    "type": "array",
    "items": {
      "required": [
        "age",
        "clientBenefits",
        "employedStatus",
        "gender",
        "occupationId",
        "smoker"
      ],
      "type": "object",
      "properties": {
        "firstName": {
          "type": "string",
          "description": "First name of the individual to be insured",
          "nullable": true
        },
        "lastName": {
          "type": "string",
          "description": "Last name of the individual to be insured",
          "nullable": true
        },
        "age": {
          "type": "integer",
          "description": "Current age of the individual to be insured",
          "format": "int32"
        },
        "gender": {
          "type": "string",
          "description": "Gender of the individual to be insured: <br /><br />\r\n`F` -
Female <br />\r\n`M` - Male"
        }
      }
    }
  }
}

```

```

"smoker": {
  "type": "boolean",
  "description": "Indicates whether the individual to be insured is a smoker: <br
/><br />\r\n`false` - Non-smoker <br />\r\n`true` - Smoker <br />"
},
"employedStatus": {
  "type": "string",
  "description": "The employment status of the individual to be insured: <br /><br
/>\r\n      `Employed` <br />\r\n      `Self-employed` <br />\r\n
`Self-employed < 3 Years` <br />\r\n      `Non-earner` <br /><br />\r\n      This
property is not required when quoting for Health Cover, Life Cover, Family Protection, and
Trauma Cover",
  "default": "Employed"
},
"occupationId": {
  "type": "integer",
  "description": "The occupation class of the individual to be insured: <br /><br
/>\r\n`1` - Class 1 <br />\r\n`2` - Class 2 <br />\r\n`3` - Class 3 <br />\r\n`4` - Class 4
<br />\r\n`5` - Class 5 <br /><br />\r\nThis property is not required when quoting for Health
Cover, Life Cover, Family Protection, or Trauma Cover.",
  "format": "int32"
},
"isChild": {
  "type": "boolean",
  "description": "Indicates whether the individual to be insured is a child /
dependent: <br /><br />\r\n      `false` - adult <br />\r\n      `true` - child /
dependent",
  "default": false
},
"clientId": {
  "type": "string",
  "description": "Optional custom identifier provided by the requestor. This is
returned with the result in the response.",
  "nullable": true
},
"clientBenefits": {
  "type": "array",
  "items": {
    "anyOf": [
      {

```

```

    "title": "1 – Health Cover",
    "description": "An array of one or more Benefit objects containing the
details of the insurance benefit(s) to be quoted for the current client. Not all properties
are relevant for every benefit. <br /><br />\r\nSelect each `benefitId` from the dropdown
above to see the relevant properties.",
    "required": [
        "benefitId",
        "benefitProducts"
    ],
    "properties": {
        "benefitId": {
            "$ref": "#/$defs/Benefit.benefitId"
        },
        "clientBenefitId": {
            "$ref": "#/$defs/Benefit.clientBenefitId"
        },
        "excess": {
            "type": "integer",
            "description": "Defines the excess amount (in NZD) payable by the client
under Health Cover, for example: <br /><br />\r\n`0` – nil excess <br />\r\n`250` – $250
excess <br />\r\n`500` – $500 excess etc",
            "format": "int32",
            "default": 0,
            "nullable": true
        },
        "gpPrescriptions": {
            "type": "boolean",
            "description": "Toggle the optional GP & Prescriptions benefit (under
Health Cover) on and off : <br /><br />\r\n`false` – not included <br />\r\n`true` – include
GP & Prescriptions",
            "default": false,
            "nullable": true
        },
        "specialistsTest": {
            "type": "boolean",
            "description": "Toggle the optional Specialists & Tests benefit (under
Health Cover) on and off : <br /><br />\r\n`false` – not included <br
/>\r\n`true` – include Specialists & Tests",
            "default": false,
            "nullable": true
        }
    }

```

```

    },
    "specialistsTestExcess": {
      "type": "integer",
      "description": "Defines the excess amount (in NZD) payable by the client
under the Specialists & Tests benefit, if applicable. For example: <br /><br />\r\n`0` – nil
excess <br />\r\n`250` – $250 excess <br /><br />\r\nIf not provided, the primary `Excess`
value will be used.",
      "format": "int32",
      "nullable": true
    },
    "dentalOptical": {
      "type": "boolean",
      "description": "Toggle the optional Dental & Optical benefit (under
Health Cover) on and off : <br /><br />\r\n          `false` – not included <br
/>\r\n          `true` – include Dental & Optical",
      "default": false,
      "nullable": true
    },
    "loading": {
      "$ref": "#/$defs/Benefit.loading"
    },
    "benefitProducts": {
      "$ref": "#/$defs/Benefit.benefitProducts"
    }
  }
},
{
  "title": "2 – Life Cover",
  "type": "object",
  "description": "An array of one or more Benefit objects containing the
details of the insurance benefit(s) to be quoted for the current client. Not all properties
are relevant for every benefit. <br /><br />\r\nSelect each `benefitId` from the dropdown
above to see the relevant properties.",
  "required": [
    "benefitId",
    "benefitProducts",
    "calcPeriod",
    "coverAmount"
  ],
  "properties": {

```

```

"benefitId": {
  "$ref": "#/$defs/Benefit.benefitId"
},
"clientBenefitId": {
  "$ref": "#/$defs/Benefit.clientBenefitId"
},
"coverAmount": {
  "type": "number",
  "description": "Amount of cover / sum insured, in New Zealand Dollars (NZD). Value is treated as: <br />\r\n* <b>Lump Sum</b> amount for Life, Trauma, TPD <br />\r\n* <b>Annual</b> cover for Income Protection <br />\r\n* <b>Monthly</b> amount/cover for Family Protection, Mortgage, Redundancy, Special Injury",
  "format": "double"
},
"calcPeriod": {
  "type": "number",
  "description": "The premium review term for the benefit: <br /><br />\r\n      `1` – Yearly Renewable (Stepped) <br />\r\n      `5`, `10`, `15` – Level for specified number of years <br />\r\n      `50`, `60`, `65`, `70` etc – Level to specified age",
  "format": "double",
  "default": 1
},
"futureInsurability": {
  "type": "boolean",
  "description": "Toggle the optional Future Insurability benefit (under Life Cover) on and off : <br /><br />\r\n      `false` – not included <br />\r\n      `true` – include Future Insurability",
  "default": false,
  "nullable": true
},
"indexed": {
  "$ref": "#/$defs/Benefit.indexed"
},
"loading": {
  "$ref": "#/$defs/Benefit.loading"
},
"benefitProducts": {
  "$ref": "#/$defs/Benefit.benefitProducts"
}

```

```

    }
  },
  {
    "title": "3 – Family Protection (Life Income)",
    "type": "object",
    "description": "An array of one or more Benefit objects containing the
details of the insurance benefit(s) to be quoted for the current client. Not all properties
are relevant for every benefit. <br /><br />\r\nSelect each `benefitId` from the dropdown
above to see the relevant properties.",
    "required": [
      "benefitId",
      "benefitProducts",
      "benefitPeriod",
      "benefitPeriodType",
      "coverAmount"
    ],
    "properties": {
      "benefitId": {
        "$ref": "#/$defs/Benefit.benefitId"
      },
      "clientBenefitId": {
        "$ref": "#/$defs/Benefit.clientBenefitId"
      },
      "coverAmount": {
        "type": "number",
        "description": "Amount of cover / sum insured, in New Zealand Dollars
(NZD). Value is treated as: <br />\r\n* <b>Lump Sum</b> amount for Life, Trauma, TPD <br
/>\r\n* <b>Annual</b> cover for Income Protection <br />\r\n* <b>Monthly</b> amount/cover for
Family Protection, Mortgage, Redundancy, Special Injury",
        "format": "double"
      },
      "benefitPeriod": {
        "type": "integer",
        "description": "Specifies the period of time for which the benefit will
be payable – either as a specific number of years (eg. '5' years) or to a specific age (eg.
age '65'). <br /><br /> See `benefitPeriodType` for definition.",
        "format": "int32"
      },
      "benefitPeriodType": {
        "type": "string",

```

"description": "Defines whether the `benefitPeriod` number is expressed as:

\r\n`age` – to a specific age
\r\n`term` – a fixed term (specific number of years)
"

```
    },
    "indexed": {
      "$ref": "#/$defs/Benefit.indexed"
    },
    "loading": {
      "$ref": "#/$defs/Benefit.loading"
    },
    "benefitProducts": {
      "$ref": "#/$defs/Benefit.benefitProducts"
    }
  }
}
```

```
},
```

```
{
```

```
  "title": "4 – Trauma Cover",
```

```
  "type": "object",
```

"description": "An array of one or more Benefit objects containing the details of the insurance benefit(s) to be quoted for the current client. Not all properties are relevant for every benefit.

\r\nSelect each `benefitId` from the dropdown above to see the relevant properties.",

```
  "required": [
    "benefitId",
    "benefitProducts",
    "calcPeriod",
    "coverAmount"
```

```
],
```

```
  "properties": {
```

```
    "benefitId": {
      "$ref": "#/$defs/Benefit.benefitId"
```

```
    },
```

```
    "clientBenefitId": {
      "$ref": "#/$defs/Benefit.clientBenefitId"
```

```
    },
```

```
    "coverAmount": {
      "type": "number",
```

"description": "Amount of cover / sum insured, in New Zealand Dollars (NZD). Value is treated as:

\r\n* **Lump Sum** amount for Life, Trauma, TPD
>\r\n* **Annual** cover for Income Protection
>\r\n* **Monthly** amount/cover for

```

Family Protection, Mortgage, Redundancy, Special Injury",
    "format": "double"
  },
  "calcPeriod": {
    "type": "number",
    "description": "The premium review term for the benefit: <br /><br
/>\r\n    `1` – Yearly Renewable (Stepped) <br />\r\n    `5`, `10`, `15` –
Level for specified number of years <br />\r\n    `50`, `60`, `65`, `70` etc – Level
to specified age",
    "format": "double",
    "default": 1
  },
  "accelerated": {
    "type": "boolean",
    "description": "Toggle acceleration on and off for Trauma Cover: <br
/><br />\r\n    `false` – standalone <br />\r\n    `true` – accelerated <br
/><br />\r\n    Quote must also include a Life Cover benefit for the same client, in
order to accelerate the Trauma Cover",
    "default": false,
    "nullable": true
  },
  "traumaBuyback": {
    "type": "boolean",
    "description": "Toggle the optional Trauma BuyBack benefit (under
Trauma) on and off : <br /><br />\r\n    `false` – not included <br
/>\r\n    `true` – include Trauma BuyBack",
    "default": false,
    "nullable": true
  },
  "traumaBuybackType": {
    "type": "string",
    "description": "Defines the type of Trauma Buyback benefit to be quoted.
Not all providers offer both options: <br /><br />\r\n    `deferred` – cover continues after a
stand-down period (usually 12 months) following a claim <br />\r\n    `instant` – cover continues
immediately following a claim <br /><br />\r\n    This setting is ignored unless `traumaBuyback =
true`,
    "default": "deferred",
    "nullable": true
  },
  "lifeBuyback": {

```

```

        "type": "boolean",
        "description": "Toggle the optional Life BuyBack benefit (under Accelerated Trauma) on and off : <br /><br />\r\n                `false` – not included <br />\r\n                `true` – include Life BuyBack <br /> <br />\r\n                Only applicable if `accelerated = true`",
        "default": false,
        "nullable": true
    },
    "tpdAddon": {
        "type": "boolean",
        "description": "<br /> Toggle the optional TPD Add-On benefit (under Trauma) on and off : <br /><br />\r\n                `false` – not included(default value) <br />\r\n                `true` – include TPD Add-On <br /><br />\r\n                The `occupationType` property is required if including the TPD Add-On (see below)",
        "default": false,
        "nullable": true
    },
    "occupationType": {
        "type": "string",
        "description": "Defines whether the TPD Add-On benefit covers the individual's inability to work in their current (own) occupation: <br /><br />\r\n`own` – own occupation <br />\r\n`any` – any occupation <br /><br />\r\n This setting is only required if `tpdAddon = true`",
        "nullable": true
    },
    "seriousTrauma": {
        "type": "boolean",
        "description": "Toggle the optional Serious Trauma benefit (under Trauma) on and off : <br /><br />\r\n                `false` – not included <br />\r\n                `true` – include Serious Trauma <br /><br />\r\n                The `seriousTraumaCoverAmount` is required if including the Serious Trauma benefit (see below)",
        "default": false,
        "nullable": true
    },
    "seriousTraumaCoverAmount": {
        "type": "number",
        "description": "Amount of cover (in New Zealand Dollars) for the optional Serious Trauma benefit. <br />\r\nOnly required if `seriousTrauma = true`",
        "format": "double",
        "nullable": true
    }

```

```

    },
    "indexed": {
      "$ref": "#/$defs/Benefit.indexed"
    },
    "loading": {
      "$ref": "#/$defs/Benefit.loading"
    },
    "benefitProducts": {
      "$ref": "#/$defs/Benefit.benefitProducts"
    }
  }
},
{

```

```

  "title": "5 – Total & Permanent Disability",
  "type": "object",
  "description": "An array of one or more Benefit objects containing the
details of the insurance benefit(s) to be quoted for the current client. Not all properties
are relevant for every benefit. <br /><br />\r\nSelect each `benefitId` from the dropdown
above to see the relevant properties.",

```

```

  "required": [
    "benefitId",
    "benefitProducts",
    "calcPeriod",
    "coverAmount",
    "occupationType"
  ],

```

```

  "properties": {
    "benefitId": {
      "$ref": "#/$defs/Benefit.benefitId"
    },
    "clientBenefitId": {
      "$ref": "#/$defs/Benefit.clientBenefitId"
    },

```

```

    "coverAmount": {
      "type": "number",
      "description": "Amount of cover / sum insured, in New Zealand Dollars
(NZD). Value is treated as: <br />\r\n* <b>Lump Sum</b> amount for Life, Trauma, TPD <br
/>\r\n* <b>Annual</b> cover for Income Protection <br />\r\n* <b>Monthly</b> amount/cover for
Family Protection, Mortgage, Redundancy, Special Injury",
      "format": "double"
    }
  }
}

```

```

    },
    "calcPeriod": {
      "type": "number",
      "description": "The premium review term for the benefit: <br /><br
/>\r\n      `1` – Yearly Renewable <br />\r\n      `5`, `10`, `15` – Level for
specified number of years <br />\r\n      `50`, `60`, `65`, `70` etc – Level to
specified age",
      "format": "double",
      "default": 1
    },
    },
    "accelerated": {
      "type": "boolean",
      "description": "Toggle acceleration on and off for TPD: <br /><br
/>\r\n      `false` – standalone <br />\r\n      `true` – accelerated <br /><br
/>\r\n      Quote must also include a Life Cover benefit for the same client, in order
to accelerate the TPD",
      "default": false,
      "nullable": true
    },
    },
    "occupationType": {
      "type": "string",
      "description": "Defines whether the TPD benefit covers the individual's
inability to work in their current (own) occupation: <br /><br />\r\n`own` – own occupation
<br />\r\n`any` – any occupation <br />",
      "nullable": true
    },
    },
    "indexed": {
      "$ref": "#/$defs/Benefit.indexed"
    },
    },
    "loading": {
      "$ref": "#/$defs/Benefit.loading"
    },
    },
    "benefitProducts": {
      "$ref": "#/$defs/Benefit.benefitProducts"
    }
  }
},
{
  "title": "6 – Income Protection",
  "type": "object",

```

```

    "description": "An array of one or more Benefit objects containing the
details of the insurance benefit(s) to be quoted for the current client. Not all properties
are relevant for every benefit. <br /><br />\r\nSelect each `benefitId` from the dropdown
above to see the relevant properties.",
    "required": [
        "benefitId",
        "benefitProducts",
        "benefitPeriod",
        "benefitPeriodType",
        "coverAmount",
        "weekWaitPeriod"
    ],
    "properties": {
        "benefitId": {
            "$ref": "#/$defs/Benefit.benefitId"
        },
        "clientBenefitId": {
            "$ref": "#/$defs/Benefit.clientBenefitId"
        },
        "coverAmount": {
            "type": "number",
            "description": "Amount of cover / sum insured, in New Zealand Dollars
(NZD). Value is treated as: <br />\r\n* <b>Lump Sum</b> amount for Life, Trauma, TPD <br
/>\r\n* <b>Annual</b> cover for Income Protection <br />\r\n* <b>Monthly</b> amount/cover for
Family Protection, Mortgage, Redundancy, Special Injury",
            "format": "double"
        },
        "benefitPeriod": {
            "type": "integer",
            "description": "Specifies the period of time for which the benefit will
be payable – either as a specific number of years (eg. '5' years) or to a specific age (eg.
age '65'). <br /><br /> See `benefitPeriodType` for definition.",
            "format": "int32"
        },
        "benefitPeriodType": {
            "type": "string",
            "description": "Defines whether the `benefitPeriod` number is expressed
as: <br /><br />\r\n`age` – to a specific age <br />\r\n`term` – a fixed term (specific number
of years) <br />"
        }
    },

```

```

    "weekWaitPeriod": {
      "type": "number",
      "description": "Specifies the number of weeks after which the benefit
will start to be paid",
      "format": "double"
    },
    "booster": {
      "type": "boolean",
      "description": "Toggle the optional Booster benefit (under Income
Protection) on and off : <br /><br />\r\n          `false` – not included <br
/>\r\n          `true` – include Booster <br />",
      "default": false,
      "nullable": true
    },
    "indexed": {
      "$ref": "#/$defs/Benefit.indexed"
    },
    "loading": {
      "$ref": "#/$defs/Benefit.loading"
    },
    "benefitProducts": {
      "$ref": "#/$defs/Benefit.benefitProducts"
    }
  }
},
{
  "title": "7 – Mortgage Repayment Cover",
  "type": "object",
  "description": "An array of one or more Benefit objects containing the
details of the insurance benefit(s) to be quoted for the current client. Not all properties
are relevant for every benefit. <br /><br />\r\nSelect each `benefitId` from the dropdown
above to see the relevant properties.",
  "required": [
    "benefitId",
    "benefitProducts",
    "benefitPeriod",
    "benefitPeriodType",
    "coverAmount",
    "weekWaitPeriod"
  ],

```

```

"properties": {
  "benefitId": {
    "$ref": "#/$defs/Benefit.benefitId"
  },
  "clientBenefitId": {
    "$ref": "#/$defs/Benefit.clientBenefitId"
  },
  "coverAmount": {
    "type": "number",
    "description": "Amount of cover / sum insured, in New Zealand Dollars (NZD). Value is treated as: <br />\r\n* <b>Lump Sum</b> amount for Life, Trauma, TPD <br />\r\n* <b>Annual</b> cover for Income Protection <br />\r\n* <b>Monthly</b> amount/cover for Family Protection, Mortgage, Redundancy, Special Injury",
    "format": "double"
  },
  "benefitPeriod": {
    "type": "integer",
    "description": "Specifies the period of time for which the benefit will be payable – either as a specific number of years (eg. '5' years) or to a specific age (eg. age '65'). <br /><br /> See `benefitPeriodType` for definition.",
    "format": "int32"
  },
  "benefitPeriodType": {
    "type": "string",
    "description": "Defines whether the `benefitPeriod` number is expressed as: <br /><br />\r\n`age` – to a specific age <br />\r\n`term` – a fixed term (specific number of years) <br />"
  },
  "weekWaitPeriod": {
    "type": "number",
    "description": "Specifies the number of weeks after which the benefit will start to be paid",
    "format": "double"
  },
  "indexed": {
    "$ref": "#/$defs/Benefit.indexed"
  },
  "loading": {
    "$ref": "#/$defs/Benefit.loading"
  },
}

```

```

    "benefitProducts": {
      "$ref": "#/$defs/Benefit.benefitProducts"
    }
  },
  {
    "title": "8 – Redundancy Cover",
    "type": "object",
    "description": "An array of one or more Benefit objects containing the
details of the insurance benefit(s) to be quoted for the current client. Not all properties
are relevant for every benefit. <br /><br />\r\nSelect each `benefitId` from the dropdown
above to see the relevant properties.",
    "required": [
      "benefitId",
      "benefitProducts",
      "coverAmount"
    ],
    "properties": {
      "benefitId": {
        "$ref": "#/$defs/Benefit.benefitId"
      },
      "clientBenefitId": {
        "$ref": "#/$defs/Benefit.clientBenefitId"
      },
      "coverAmount": {
        "type": "number",
        "description": "Amount of cover / sum insured, in New Zealand Dollars
(NZD). Value is treated as: <br />\r\n* <b>Lump Sum</b> amount for Life, Trauma, TPD <br
/>\r\n* <b>Annual</b> cover for Income Protection <br />\r\n* <b>Monthly</b> amount/cover for
Family Protection, Mortgage, Redundancy, Special Injury",
        "format": "double"
      },
      "indexed": {
        "$ref": "#/$defs/Benefit.indexed"
      },
      "loading": {
        "$ref": "#/$defs/Benefit.loading"
      },
      "benefitProducts": {
        "$ref": "#/$defs/Benefit.benefitProducts"
      }
    }
  }

```

```

    }
  }
},
{
  "title": "9 - Waiver of Premium",
  "type": "object",
  "description": "An array of one or more Benefit objects containing the
details of the insurance benefit(s) to be quoted for the current client. Not all properties
are relevant for every benefit. <br /><br />\r\nSelect each `benefitId` from the dropdown
above to see the relevant properties.",
  "required": [
    "benefitId",
    "benefitProducts",
    "weekWaitPeriod"
  ],
  "properties": {
    "benefitId": {
      "$ref": "#/$defs/Benefit.benefitId"
    },
    "clientBenefitId": {
      "$ref": "#/$defs/Benefit.clientBenefitId"
    },
    "weekWaitPeriod": {
      "type": "number",
      "description": "Specifies the number of weeks after which the benefit
will start to be paid",
      "format": "double",
      "nullable": true
    },
    "loading": {
      "$ref": "#/$defs/Benefit.loading"
    },
    "benefitProducts": {
      "$ref": "#/$defs/Benefit.benefitProducts"
    }
  }
},
{
  "title": "10 - Special Injury",
  "type": "object",

```

"description": "An array of one or more Benefit objects containing the details of the insurance benefit(s) to be quoted for the current client. Not all properties are relevant for every benefit.

\r\nSelect each `benefitId` from the dropdown above to see the relevant properties.",

```

    "required": [
      "benefitId",
      "benefitProducts",
      "coverAmount"
    ],
    "properties": {
      "benefitId": {
        "$ref": "#/$defs/Benefit.benefitId"
      },
      "clientBenefitId": {
        "$ref": "#/$defs/Benefit.clientBenefitId"
      },
      "coverAmount": {
        "type": "number",
        "description": "Amount of cover / sum insured, in New Zealand Dollars (NZD). Value is treated as: <br />\r\n* <b>Lump Sum</b> amount for Life, Trauma, TPD <br />\r\n* <b>Annual</b> cover for Income Protection <br />\r\n* <b>Monthly</b> amount/cover for Family Protection, Mortgage, Redundancy, Special Injury",
        "format": "double"
      },
      "loading": {
        "$ref": "#/$defs/Benefit.loading"
      },
      "benefitProducts": {
        "$ref": "#/$defs/Benefit.benefitProducts"
      }
    }
  }
}
]
}
},
"clientProviderSettings": {
  "type": "array",
  "description": "Optional array of provider-specific settings to be applied to the current client.",
  "nullable": true,

```

```

    "items": {
      "required": [
        "providerId"
      ],
      "type": "object",
      "properties": {
        "providerId": {
          "type": "integer",
          "description": "The id of the provider for which settings are being applied.
<br /><br />\r\nNote: at the current time, only the provider Chubb Life (id=8) has any
applicable settings here.",
          "format": "int32"
        },
        "lifetimeRewardSelected": {
          "type": "boolean",
          "description": "Toggle the Chubb Life 'Lifetime Reward' discount on and off
for the current client. Eligible clients receive a lifetime discount on certain benefits: <br
/><br />\r\n`false` – client not eligible for Lifetime Reward <br />\r\n`true` – client is
eligible for Lifetime Reward",
          "default": false,
          "nullable": true
        }
      },
      "additionalProperties": false
    }
  },
  "additionalProperties": false
},
"description": "An array of Client objects containing the details of the individuals to
be insured"
},
"settings": {
  "required": [
    "paymentFrequency"
  ],
  "type": "object",
  "properties": {
    "paymentFrequency": {
      "type": "integer",

```

```

    "description": "The desired frequency for premium payments: <br /><br />\r\n`1` -
Annually <br />\r\n`12` - Monthly <br />\r\n`26` - Fortnightly",
    "format": "int32"
  },
  "calcDate": {
    "type": "string",
    "description": "Optional parameter that can be used to request calculation of
premiums for a certain date (eg. historical or upcoming) where possible. Note: this is not
supported for all providers so should not be heavily relied upon.",
    "format": "YYYY-MM-DD",
    "default": "{currentDate}",
    "nullable": true
  },
  "providerSettings": {
    "type": "array",
    "items": {
      "required": [
        "providerId"
      ],
      "type": "object",
      "properties": {
        "providerId": {
          "type": "integer",
          "description": "The id of the provider for which settings are being applied.
<br /><br />\r\nNote: at the current time, only the provider AIA (id=11) has any applicable
settings here.",
          "format": "int32"
        },
        "vitalityDiscountSelected": {
          "type": "boolean",
          "description": "Toggle the AIA Vitality scheme membership on and off for all
clients. Members of AIA's Vitality scheme receive a discount on their insurance premium: <br
/><br />\r\n`false` - clients do not wish to join AIA Vitality <br />\r\n`true` - clients wish
to join (or are already members of) AIA Vitality <br /><br />\r\n See related
`vitalityFeeSelected` property below",
          "default": false,
          "nullable": true
        },
        "vitalityFeeSelected": {
          "type": "boolean",

```

```

        "description": "Toggle the applicability of the AIA Vitality fee, based on
whether the client(s) are already members of the scheme: <br /><br />\r\n`false` – clients are
already paying AIA Vitality fee(existing members) <br />\r\n`true` – clients are not existing
Vitality members, therefore the fee is applicable",
        "nullable": true
    }
},
    "additionalProperties": false
},
    "description": "An optional array of provider-specific settings. <br /><br />\r\nNot
all providers have applicable settings(see below) however this may change in future.",
    "nullable": true
}
},
    "additionalProperties": false,
    "description": "Quote Settings object. The settings entered here will be defined to the
overall quote (ie. all clients and benefits)"
},
    "comboQuoteId": {
        "type": "string",
        "nullable": true,
        "description": "Optional user-provided ID to indicate that the request is one of
multiple requests sent to calculate a 'Combo Quote', allowing BlackFin to group these requests
together for analytics purposes."
    }
},
    "additionalProperties": false
}

```

Examples

Example request payload:

JSON Request Body

```

{
  "clients": [

```

```
{
  "firstName": "John",
  "lastName": "Smith",
  "age": 35,
  "gender": "M",
  "smoker": false,
  "employedStatus": "Employed",
  "occupationId": 2,
  "isChild": false,
  "clientId": "YourClientId1",
  "clientBenefits": [
    {
      "benefitId": 1,
      "clientBenefitId": "YourClientId1.Health",
      "excess": 250,
      "gpPrescriptions": false,
      "specialistsTest": true,
      "specialistsTestExcess": 250,
      "dentalOptical": false,
      "loading": 1,
      "benefitProducts": [
        {
          "providerId": 1,
          "productId": 105
        },
        {
          "providerId": 7,
          "productId": 12
        },
        {
          "providerId": 9,
          "productId": 10
        },
        {
          "providerId": 11,
          "productId": 11
        }
      ]
    }
  ],
}
```

```
{
  "benefitId": 2,
  "clientBenefitId": "YourClientId1.Life",
  "coverAmount": 500000,
  "calcPeriod": 1,
  "futureInsurability": false,
  "indexed": true,
  "loading": 1,
  "benefitProducts": [
    {
      "providerId": 5,
      "productId": 6
    },
    {
      "providerId": 6,
      "productId": 7
    },
    {
      "providerId": 8,
      "productId": 3
    },
    {
      "providerId": 9,
      "productId": 2
    },
    {
      "providerId": 11,
      "productId": 4
    }
  ]
},
"clientProviderSettings": [
  {
    "providerId": 8,
    "lifetimeRewardSelected": true
  }
],
},
```

```
{
  "firstName": "Jane",
  "lastName": "Smith",
  "age": 30,
  "gender": "F",
  "smoker": true,
  "employedStatus": "Self-employed",
  "occupationId": 1,
  "isChild": false,
  "clientId": "YourClientId2",
  "clientBenefits": [
    {
      "benefitId": 4,
      "clientBenefitId": "YourClientId2.Trauma",
      "coverAmount": 350000,
      "calcPeriod": 65,
      "accelerated": false,
      "traumaBuyback": true,
      "traumaBuybackType": "deferred",
      "lifeBuyback": false,
      "tpdAddon": false,
      "occupationType": null,
      "seriousTrauma": false,
      "seriousTraumaCoverAmount": null,
      "indexed": true,
      "loading": 1,
      "benefitProducts": [
        {
          "providerId": 5,
          "productId": 26
        },
        {
          "providerId": 6,
          "productId": 28
        },
        {
          "providerId": 8,
          "productId": 22
        },
      ],
    }
  ],
}
```

```
{
  "providerId": 9,
  "productId": 21
},
{
  "providerId": 11,
  "productId": 24
}
]
},
{
  "benefitId": 6,
  "clientBenefitId": "YourClientId2.Income",
  "coverAmount": 75000,
  "benefitPeriod": 65,
  "benefitPeriodType": "age",
  "weekWaitPeriod": 4,
  "booster": false,
  "indexed": true,
  "loading": 1,
  "benefitProducts": [
    {
      "providerId": 5,
      "productId": 108
    },
    {
      "providerId": 6,
      "productId": 69
    },
    {
      "providerId": 8,
      "productId": 58
    },
    {
      "providerId": 9,
      "productId": 49
    },
    {
      "providerId": 11,
```

```
        "productId": 46
      }
    ]
  },
  "clientProviderSettings": null
},
],
"settings": {
  "paymentFrequency": 12,
  "calcDate": null,
  "providerSettings": [
    {
      "providerId": 11,
      "vitalityDiscountSelected": true,
      "vitalityFeeSelected": true
    }
  ]
},
"comboQuoteId": null
}
```

Response

See [Quote Results](#) for a detailed explanation of this endpoint's response.

Response Codes

200: Success

400: Request body is null or invalid

403: `userToken` is invalid or no longer valid

Quote Results

This page details the response from the `/quote` calculation endpoint. See [Quote Request](#) for details about how to make a request to this endpoint.

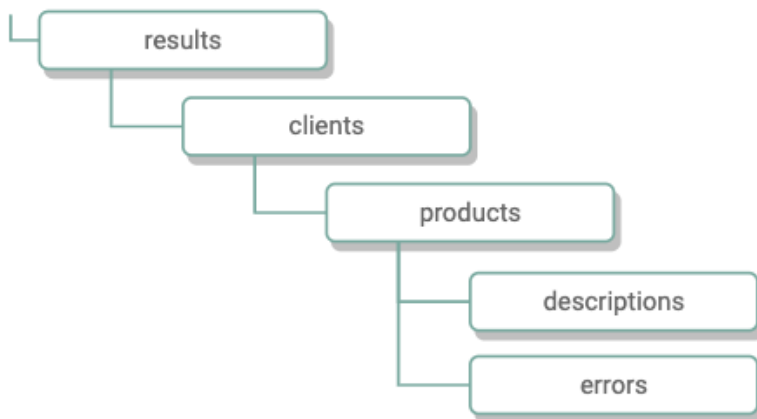
Response

Success

200: Success

Payload Structure

The data in the Quote response payload is structured as follows:



- **Results** - A successful response will contain one or more `result` objects. Each result relates to a specific provider (insurer) as defined by its `providerId`. This object contains the overall `totalPremium` for that provider, along with any applicable fees.
- **Clients** - Each result is split out by the `client` object(s) contained within it, as provided during the [request](#).

- **Products** – Under each client is an array of `product` objects, based on the `benefitId` and `productId` values included in the [request](#). This contains the itemised `premium` that has been calculated for that product.
- **Descriptions** – This is an array of description strings that summarises the key attributes of the product that was calculated – *for example, the cover amount, any optional add-ons that were included, and any discounts that were applied.*
- **Errors** – Any products which were unable to be calculated will contain one or more `errors` detailing the reason for failure – *for example, where an optional add-on or requested setting is not supported by the provider.*

JSON Schema

The response payload is received as HTTP JSON body using the following schema:

```
{
  "type": "object",
  "properties": {
    "results": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "providerId": {
            "type": "integer",
            "description": "The ID of the provider for the current result.",
            "format": "int32"
          },
          "providerName": {
            "type": "string",
            "description": "The name of the provider for the current result.",
            "nullable": true
          },
          "providerLogoUrl": {
            "type": "string",
            "description": "The URL of the provider's logo image (hosted by BlackFin) that can be displayed with the result if desired.",
            "nullable": true
          },

```

```
"hexColor": {
  "type": "string",
  "description": "A hex color value representing the dominant colour from the
provider's logo that can be incorporated into the design of the displayed result if desired.",
  "nullable": true
},
"hasErrors": {
  "type": "boolean",
  "description": "Identifies whether the result is fully formed or whether there are
errors within some products in the result. <br /><br />\r\n`false` – premiums have been
successfully calculated for all products <br />\r\n`true` – at least one product contain
errors <br /><br />\r\nIf `true` there will be at least one `error` message included within
the products below."
},
"policyFee": {
  "type": "number",
  "description": "The amount of the applicable Policy Fee in New Zealand Dollars
[NZD]",
  "format": "double"
},
"vitalityFee": {
  "type": "number",
  "description": "The amount of the Vitality Fee (AIA only) in New Zealand Dollars
[NZD], if applicable.",
  "format": "double",
  "nullable": true
},
"totalPremium": {
  "type": "number",
  "description": "The sum total of all individual product premiums (for all clients)
in the current result - plus any applicable fees - in New Zealand Dollars [NZD].",
  "format": "double"
},
"clients": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "clientId": {
        "type": "string",
```

```
    "description": "Returns the optional 'clientId' from the request, if one was
provided by the requestor.",
    "nullable": true
  },
  "clientName": {
    "type": "string",
    "description": "The fullname of the client for whom products have been
quoted in the result. <br /><br />\r\nIf no `firstName` and/or `lastName` were provided by the
requestor, the API will return an auto-generated name like \"Client 1\",
    "nullable": true
  },
  "products": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "clientBenefitId": {
          "type": "string",
          "description": "Returns the optional 'clientBenefitId' from the
request, if one was provided by the requestor.",
          "nullable": true
        },
        "benefitId": {
          "type": "integer",
          "description": "The ID of the benefit that has been quoted.",
          "format": "int32"
        },
        "productId": {
          "type": "integer",
          "description": "The ID of the product that has been quoted.",
          "format": "int32"
        },
        "productName": {
          "type": "string",
          "description": "The display name of the product that has been
quoted.",
          "nullable": true
        }
      },
      "descriptions": {
        "type": "array",
```

```
    "items": {
      "type": "string"
    },
    "description": "An optional array of strings containing additional
descriptions about this product result – for example, any discounts that have been applied.",
    "nullable": true
  },
  "premium": {
    "type": "number",
    "description": "The calculated premium amount for the current product
(under the current client) in New Zealand Dollars [NZD].",
    "format": "double"
  },
  "errors": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "id": {
          "type": "integer",
          "description": "Internal ID reference (from BlackFin) for the
current error.",
          "format": "int32"
        },
        "message": {
          "type": "string",
          "description": "The description of the error that was
encountered. This is a human-friendly message that can be displayed to the user. For example:
<br /><br /><i>\\"TPD Add-on is not available for your occupation class\"</i>",
          "nullable": true
        }
      },
      "additionalProperties": false
    },
    "description": "An array of one or more objects detailing any errors
encountered whilst failing to calculate a premium for the current product.",
    "nullable": true
  }
},
"additionalProperties": false
```

```
    },
    "description": "An array of one or more product objects that have been
quoted for the current client in the result.",
    "nullable": true
  }
},
"additionalProperties": false
},
"description": "An array of one or more client objects for whom products have been
quoted in the current result.",
"nullable": true
}
},
"additionalProperties": false
},
"description": "An array of quote result objects – one for every provider quoted. Each
object contains the details needed to render the provider's result in a UI.",
"nullable": true
},
"quoteId": {
  "type": "string",
  "description": "The ID of the current quote, auto-generated by the API"
},
"paymentFrequency": {
  "type": "string",
  "description": "The display name of the chosen payment frequency. The possible values
are:\r\n\r\n`Yearly` <br />\r\n`Monthly` <br />\r\n`Fortnightly`",
  "nullable": true
},
"calcTime": {
  "type": "number",
  "description": "The amount of time taken by the API (in seconds) to calculate all
premiums in the results.",
  "format": "double"
},
"apiVersion": {
  "type": "string",
  "description": "API version / last update information",
  "nullable": true
}
}
```

```
},
"additionalProperties": false
}
```

Examples

Success Response

```
{
  "results": [
    {
      "providerId": 9,
      "providerName": "Partners Life",
      "providerLogoUrl": "https://quote-engine-
test.blackfin.tools/Docs/ProviderLogos/9.png",
      "hexColor": "#004855",
      "hasErrors": true,
      "policyFee": 0,
      "vitalityFee": null,
      "totalPremium": 0,
      "clients": [
        {
          "clientId": "YourClientId1",
          "clientName": "John Smith",
          "products": [
            {
              "clientBenefitId": "YourClientId1.Health",
              "benefitId": 1,
              "productId": 10,
              "productName": "Private Medical",
              "descriptions": [
                "Specialist & Tests"
              ],
              "premium": 0,
              "errors": []
            },
            {
              "clientBenefitId": "YourClientId1.Life",
```

```
    "benefitId": 2,
    "productId": 2,
    "productName": "Life Cover",
    "descriptions": [],
    "premium": 0,
    "errors": []
  }
]
},
{
  "clientId": "YourClientId2",
  "clientName": "Jane Smith",
  "products": [
    {
      "clientBenefitId": "YourClientId2.Trauma",
      "benefitId": 4,
      "productId": 21,
      "productName": "Level Trauma Cover",
      "descriptions": [
        "$350,000, Level to Age 65",
        "Standalone",
        "Trauma Buyback (Deferred)"
      ],
      "premium": 0,
      "errors": []
    },
    {
      "clientBenefitId": "YourClientId2.Income",
      "benefitId": 6,
      "productId": 49,
      "productName": "Agreed Value",
      "descriptions": null,
      "premium": 0,
      "errors": [
        {
          "id": 6032,
          "message": "Agreed Value is not available for Self-Employed"
        }
      ]
    }
  ]
}
```

```
    }
  ]
}
]
},
{
  "providerId": 1,
  "providerName": "Accuro",
  "providerLogoUrl": "https://quote-engine-
test.blackfin.tools/Docs/ProviderLogos/1.png",
  "hexColor": "#00aeef",
  "hasErrors": false,
  "policyFee": 0.00,
  "vitalityFee": null,
  "totalPremium": 115.87,
  "clients": [
    {
      "clientId": "YourClientId1",
      "clientName": "John Smith",
      "products": [
        {
          "clientBenefitId": "YourClientId1.Health",
          "benefitId": 1,
          "productId": 105,
          "productName": "SmartCare",
          "descriptions": [
            "Specialist & Tests"
          ],
          "premium": 115.87,
          "errors": []
        }
      ]
    }
  ]
},
{
  "providerId": 7,
  "providerName": "nib",
  "providerLogoUrl": "https://quote-engine-
```

```
test.blackfin.tools/Docs/ProviderLogos/7.png",
  "hexColor": "#144b37",
  "hasErrors": false,
  "policyFee": 6.75,
  "vitalityFee": null,
  "totalPremium": 139.02,
  "clients": [
    {
      "clientId": "YourClientId1",
      "clientName": "John Smith",
      "products": [
        {
          "clientBenefitId": "YourClientId1.Health",
          "benefitId": 1,
          "productId": 12,
          "productName": "Ultimate Health Base Cover",
          "descriptions": [
            "Specialist & Tests"
          ],
          "premium": 132.27,
          "errors": []
        }
      ]
    }
  ],
  {
    "providerId": 5,
    "providerName": "Asteron",
    "providerLogoUrl": "https://quote-engine-
test.blackfin.tools/Docs/ProviderLogos/5.png",
    "hexColor": "#0092da",
    "hasErrors": false,
    "policyFee": 0.00,
    "vitalityFee": null,
    "totalPremium": 469.30,
    "clients": [
      {
        "clientId": "YourClientId1",
```

```
"clientName": "John Smith",
"products": [
  {
    "clientBenefitId": "YourClientId1.Life",
    "benefitId": 2,
    "productId": 6,
    "productName": "Life Cover",
    "descriptions": [],
    "premium": 37.63,
    "errors": []
  }
]
},
{
  "clientId": "YourClientId2",
  "clientName": "Jane Smith",
  "products": [
    {
      "clientBenefitId": "YourClientId2.Trauma",
      "benefitId": 4,
      "productId": 26,
      "productName": "Level Trauma Cover",
      "descriptions": [
        "$350,000, Level to Age 65",
        "Standalone",
        "Trauma Buyback (Deferred)",
        "7.5% bundling discount applied"
      ],
      "premium": 236.26,
      "errors": []
    },
    {
      "clientBenefitId": "YourClientId2.Income",
      "benefitId": 6,
      "productId": 108,
      "productName": "Agreed Value",
      "descriptions": [
        "$75,000, To Age 65",
        "inclusive Waiver of Premium",
```

```
        "7.5% bundling discount applied"
      ],
      "premium": 195.41,
      "errors": []
    }
  ]
}
],
{
  "providerId": 8,
  "providerName": "Chubb Life",
  "providerLogoUrl": "https://quote-engine-
test.blackfin.tools/Docs/ProviderLogos/8.png",
  "hexColor": "#041a71",
  "hasErrors": false,
  "policyFee": 6.50,
  "vitalityFee": null,
  "totalPremium": 562.19,
  "clients": [
    {
      "clientId": "YourClientId1",
      "clientName": "John Smith",
      "products": [
        {
          "clientBenefitId": "YourClientId1.Life",
          "benefitId": 2,
          "productId": 3,
          "productName": "Life Cover",
          "descriptions": [
            "10% Lifetime Reward applied"
          ],
          "premium": 28.06,
          "errors": []
        }
      ]
    },
    {
      "clientId": "YourClientId2",
```

```
"clientName": "Jane Smith",
"products": [
  {
    "clientBenefitId": "YourClientId2.Trauma",
    "benefitId": 4,
    "productId": 22,
    "productName": "Level Trauma",
    "descriptions": [
      "$350,000, Level to Age 65",
      "Standalone",
      "Trauma Buyback (Deferred)"
    ],
    "premium": 308.05,
    "errors": []
  },
  {
    "clientBenefitId": "YourClientId2.Income",
    "benefitId": 6,
    "productId": 58,
    "productName": "Agreed Value",
    "descriptions": [
      "$75,000, To Age 65"
    ],
    "premium": 219.58,
    "errors": []
  }
]
},
{
  "providerId": 6,
  "providerName": "Fidelity Life",
  "providerLogoUrl": "https://quote-engine-
test.blackfin.tools/Docs/ProviderLogos/6.png",
  "hexColor": "#071e2b",
  "hasErrors": false,
  "policyFee": 9.75,
  "vitalityFee": null,
```

```
"totalPremium": 639.74,
"clients": [
  {
    "clientId": "YourClientId1",
    "clientName": "John Smith",
    "products": [
      {
        "clientBenefitId": "YourClientId1.Life",
        "benefitId": 2,
        "productId": 7,
        "productName": "Life Cover",
        "descriptions": null,
        "premium": 31.34,
        "errors": []
      }
    ]
  },
  {
    "clientId": "YourClientId2",
    "clientName": "Jane Smith",
    "products": [
      {
        "clientBenefitId": "YourClientId2.Trauma",
        "benefitId": 4,
        "productId": 28,
        "productName": "Level Platinum Plus Trauma",
        "descriptions": null,
        "premium": 394.85,
        "errors": []
      },
      {
        "clientBenefitId": "YourClientId2.Income",
        "benefitId": 6,
        "productId": 69,
        "productName": "Agreed Value",
        "descriptions": null,
        "premium": 203.8,
        "errors": []
      }
    ]
  }
]
```

```
    ]
  }
]
},
{
  "providerId": 11,
  "providerName": "AIA",
  "providerLogoUrl": "https://quote-engine-
test.blackfin.tools/Docs/ProviderLogos/2.png",
  "hexColor": "#d12047",
  "hasErrors": false,
  "policyFee": 15.08,
  "vitalityFee": 23,
  "totalPremium": 774.18,
  "clients": [
    {
      "clientId": "YourClientId1",
      "clientName": "John Smith",
      "products": [
        {
          "clientBenefitId": "YourClientId1.Health",
          "benefitId": 1,
          "productId": 11,
          "productName": "Private Health",
          "descriptions": [
            "Specialist & Tests",
            "Vitality Discount applied ($13.06)"
          ],
          "premium": 117.59,
          "errors": []
        },
        {
          "clientBenefitId": "YourClientId1.Life",
          "benefitId": 2,
          "productId": 4,
          "productName": "Living Life Cover",
          "descriptions": [
            "Vitality Discount applied ($3.15)"
          ],

```

```
    "premium": 28.39,
    "errors": []
  }
]
},
{
  "clientId": "YourClientId2",
  "clientName": "Jane Smith",
  "products": [
    {
      "clientBenefitId": "YourClientId2.Trauma",
      "benefitId": 4,
      "productId": 24,
      "productName": "Living Level Critical Conditions",
      "descriptions": [
        "$350,000, Level to Age 65",
        "Standalone",
        "Trauma Buyback",
        "Vitality Discount applied ($40.52)"
      ],
      "premium": 364.72,
      "errors": []
    },
    {
      "clientBenefitId": "YourClientId2.Income",
      "benefitId": 6,
      "productId": 46,
      "productName": "Living Income Protection Agreed Value",
      "descriptions": [
        "$75,000, To Age 65",
        "Vitality Discount applied ($25.04)"
      ],
      "premium": 225.4,
      "errors": []
    }
  ]
}
]
```

```
],
"quoteId": "UZp2HBLUpuzDf6bECC5o",
"comboQuoteId": null,
"paymentFrequency": "Monthly",
"calcTime": 7.4626,
"apiVersion": "quote-00122-hez"
}
```

Error

400: Request body is null or invalid

JSON Schema

```
{
  "type": "object",
  "properties": {
    "data": {
      "type": "object",
      "properties": {
        "response": {
          "type": "object",
          "properties": {
            "code": {
              "type": "integer",
              "format": "int32"
            },
            "message": {
              "type": "string",
              "nullable": true
            }
          }
        },
        "additionalProperties": false
      }
    },
    "additionalProperties": false
  }
}
```

```
    }  
  },  
  "additionalProperties": false  
}
```

Examples

Error Response

```
{  
  "data": {  
    "response": {  
      "code": 0,  
      "message": "string"  
    }  
  }  
}
```




403: `userToken` is invalid or no longer valid

Supported Providers

The following insurance providers are available to be quoted via the Quote Engine.

This information can be queried via a [GET /providers](#) request.

Provider	Name & ID	Available Benefits	Available Discounts
	Accuro ProviderId: 1	<ul style="list-style-type: none"> • Health Cover 	
	AIA ProviderId: 11	<ul style="list-style-type: none"> • Health Cover • Life Cover • Family Protection • Trauma Cover • Total & Permanent Disability • Income Protection • Mortgage Repayment Cover • Redundancy Cover • Waiver of Premium • Specific Injury Cover 	<ul style="list-style-type: none"> • Multi-Benefit • AIA Vitality
	Asteron Life ProviderId: 5	<ul style="list-style-type: none"> • Life Cover • Trauma Cover • Total & Permanent Disability • Income Protection • Mortgage Repayment Cover • Redundancy Cover • Waiver of Premium • Specific Injury Cover 	<ul style="list-style-type: none"> • Multi-Benefit

	<p>Chubb Life ProviderId: 8</p>	<ul style="list-style-type: none"> • Life Cover • Family Protection • Trauma Cover • Total & Permanent Disability • Income Protection • Mortgage Repayment Cover • Redundancy Cover • Waiver of Premium • Specific Injury Cover 	<ul style="list-style-type: none"> • Multi-Benefit • Lifetime Reward
	<p>Fidelity Life ProviderId: 6</p>	<ul style="list-style-type: none"> • Life Cover • Family Protection • Trauma Cover • Total & Permanent Disability • Income Protection • Mortgage Repayment Cover • Waiver of Premium 	<ul style="list-style-type: none"> • Multi-Benefit
	<p>nib ProviderId: 7</p>	<ul style="list-style-type: none"> • Health Cover 	

partners life

Partners Life

ProviderId: 9

- Health Cover
- Life Cover
- Family Protection
- Trauma Cover
- Total & Permanent Disability
- Income Protection
- Mortgage Repayment Cover
- Redundancy Cover
- Waiver of Premium

Premiums for all providers are calculated internally by BlackFin using the insurers' base rates and pricing algorithms, with the exception of AIA and Fidelity - where the Quote Engine acts as middleware between the requestor and the insurers' own quoting APIs.

Supported Benefits

The following insurance benefits are available to be quoted via the Quote Engine:

ID	Benefit	Description	Optional Add-Ons
1	Health Cover	Helps to cover the cost of the insured person's medical expenses.	<ul style="list-style-type: none">• GP & Prescriptions• Specialists & Tests• Dental & Optical
2	Life Cover	Provides a lump sum payment to the insured person's family (or beneficiaries) in the event of the insured person's death.	<ul style="list-style-type: none">• Future Insurability
3	Family Protection	Also known as 'Life Income', this is a form of Life Cover with a regular and ongoing (eg. monthly) payout instead of a one-time lump sum.	
4	Trauma Cover	Provides a lump sum payment if the insured person suffers a critical illness or injury.	<ul style="list-style-type: none">• Trauma Buyback• Life Buyback• TPD Add-On• Serious Trauma
5	Total & Permanent Disability	Provides a lump sum payment if the insured person becomes totally and permanently disabled.	
6	Income Protection	Provides financial support in the event that the insured person is unable to work (eg. due to illness).	<ul style="list-style-type: none">• Booster
7	Mortgage Repayment Cover	Covers the cost of mortgage payments in the event that the insured person is unable to pay them (eg. due to loss of income).	

8	Redundancy Cover	Provides financial support in the event that the insured person loses their job through involuntary redundancy.	
9	Waiver of Premium	Covers the cost of insurance payments in the event that the insured person is unable to pay them.	
10	Specific Injury Cover	Provides a lump sum payment if the insured person suffers a specific injury (or is diagnosed with a specific condition) from a predefined list.	

Version History

The table below details the history of updates made to the Quote Engine API:

Prod Release	Provider	Benefits	Description
<i>In testing</i>	nib	Health Cover	New rates for Health Cover nib are releasing their Q2 2024 rates for Ultimate Health, Ultimate Health Max, and optional add-ons. Effective from: 2024-04-01
<i>In testing</i>	Chubb Life		Multi-Benefit Discount campaign extended again Chubb have extended their temporary Multi-Benefit Discount campaign by a further 3 months until 30th June 2024. Effective from: 2024-04-01
<i>In testing</i>	Chubb Life	Life Cover Family Protection Trauma Cover	Added support for 'Lifetime Reward' discount On 26 June 2023, Chubb implemented a new 10% 'Lifetime Reward' discount for eligible clients who meet the following criteria: <ul style="list-style-type: none">• BMI within range 18.5 to 24.99• Non-smoker• No medical loadings To enable this on a quote, a new <code>clientProviderSettings</code> object must be included in the Quote calculation request .

2024-02-08	Asteron Life	Trauma Cover	<p>New rates for base Trauma Cover</p> <p>Asteron are releasing new rates for base Trauma Recovery (both accelerated and standalone). Rate updates apply to yearly-renewable premiums only.</p> <p>Effective from: 2024-02-11</p>
2024-01-08	Chubb Life		<p>Multi-Benefit Discount campaign extended again</p> <p>Chubb have extended their temporary Multi-Benefit Discount campaign by a further 3 months until 31st March 2024.</p> <p>Effective from: 2024-01-01</p>
2023-12-21	nib	Health Cover	<p>New rates for Health Cover</p> <p>nib are releasing their Q1 2024 rates for Ultimate Health, Ultimate Health Max, and optional add-ons.</p> <p>Effective from: 2024-01-01</p>
2023-10-18	Partners Life	Trauma Cover	<p>TPD Add-on is no longer inclusive</p> <p>Previously, the 'TPD Add-on' option under Trauma Cover was inclusive. Partners Life have now made this optional. Quotes without this option enabled will now return cheaper premiums.</p>
2023-09-29	Chubb Life		<p>Multi-Benefit Discount campaign extended</p> <p>Chubb have extended their temporary Multi-Benefit Discount campaign by 3 months until 31st December 2023.</p> <p>Effective from: 2023-10-01</p>

2023-09-29	nib	Health Cover	New rates for Health Cover nib are releasing their Q4 2023 rates for Ultimate Health, Ultimate Health Max, and optional add-ons. Effective from: 2023-10-01
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Older entries are archived and can be provided upon request.