

Fast Interface for New Issuance (FINI)

Application Programming Interface (API) Guide [For market-wide testing]



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1 Introduction

The FINI API Gateway offers a range of RESTful JSON endpoints for market participants to automate different types of IPO workflows, including obtaining IPO reference data, managing EIPO subscriptions and validating EIPO funding.

This version is being released to market participants in preparation of FINI's market-wide testing, and may be further refined during market rehearsal and before FINI's roll-out.

For further information on the FINI platform and testing phases, please visit the FINI website at: <https://www.hkex.com.hk/fini>, or via the QR code below:



2 Connectivity Setup

- To access the FINI API Gateway, market participants are required to create an Agent profile and at most 2 Machine profiles under their Company profile in the User Management section of Client Connect.
- After the Agent profile and Machine profile(s) have been created, FINI API users, as OAUTH client, have to pass 2 JSON Web Tokens (JWTs¹): Agent Profile JWT (G1) and Machine Profile JWT (G2), to the Client Connect Access Management (AM) server for authentication.
- If authentication is successful, the AM server will return a FINI API JWT access token to API users. FINI API users have to pass this FINI API access token in the calling FINI APIs. The integrity and validity of FINI API JWT access token will be verified at the FINI API Gateway.
- FINI API Gateway and Client Connect Access Management (AM) server are assessed via Internet and TLS V1.2 will be used for encryption.

2.1 Create Agent Profile

- Each company can create at most one Agent profile for FINI API access.
- To create an Agent Profile in Client Connect, FINI API users have to generate JSON Web Key (JWK²) with an expiry date. To enhance security, each agent key must be renewed every year. Therefore, the expiry date must not be more than one year from registration time.
- The following parameters are suggested for JWK generation:

| Parameter | Value |
|-------------|---|
| Key Type | RSA |
| Key Size | 2048 |
| Key Use | Signature |
| Algorithm | RS256 |
| Key ID | SHA-256 hash ³ value of JWK |
| Expiry Date | Key expiration time, in Epoch time format |

An example of JWK public key is shown below:

```
{
  "keys": [
    {
      "kty": "RSA",
      "e": "AQAB",
      "use": "sig",
      "kid": "eNL6Vj7vwaxjtwL+5QM=",
      "alg": "RS256",
      "n": "i4atD3PYe8YW7v8m....",
      "exp": 1618307105
    }
  ]
}
```

- To facilitate key renewal, API users can register at most 2 public keys for each Agent profile so that API users can renew and register a new public key before the existing key expires. Afterwards, API users can change their system to rotate to the new JWK in generating the G1 JWT with their own plan before the existing key expires.

¹ Refer to RFC 7519 at <https://tools.ietf.org/html/rfc7519>.

² Refer to RFC 7517 at <https://datatracker.ietf.org/doc/html/rfc7517>.

³ Refer to RFC 7638 at <https://datatracker.ietf.org/doc/html/rfc7638>.

- Please refer to the User Management section of the Client Connect User Manual for detailed steps of agent profile maintenance.

2.2 Create Machine Profile

- Each company can create at most 2 Machine profiles for FINI API access. As such, API users can set up 2 machines submitting API requests to FINI concurrently for their company.
- To create a Machine Profile in Client Connect, FINI API users have to generate JSON Web Key (JWK) with an expiry date. To enhance security, each machine key must be renewed every year. Therefore, the expiry date must not be more than one year from registration time.
- The following parameters are suggested for JWK generation:

| Parameter | Value |
|-------------|---|
| Key Type | RSA |
| Key Size | 2048 |
| Key Use | Signature |
| Algorithm | RS256 |
| Key ID | SHA-256 hash value of JWK |
| Expiry Date | Key expiration time, in Epoch time format |

An example of JWK public key is shown below:

```
{
  "keys": [
    {
      "kty": "RSA",
      "e": "AQAB",
      "use": "sig",
      "kid": "eNL6Vj7vwaxjtwL+5QM=",
      "alg": "RS256",
      "n": "i4atD3PYe8YW7v8m....",
      "exp": 1618307105
    }
  ]
}
```

- To facilitate key renewal, API users can register at most 2 public keys for each Machine profile so that API users can renew and register a new public key before the existing key expires. Afterwards, API users can change their system to rotate to the new JWK in generating the G2 JWT with their own plan before the existing key expires.

2.2.1 Grant API Function to Machine Profile

- Each machine profile must be granted the appropriate identities and API roles for invoking the corresponding FINI API(s). The following FINI API Roles can be granted to a machine profile:

| FINI Identity | FINI API Role | Available API Category |
|-----------------------|---|---|
| FINICP | <ul style="list-style-type: none">EU_finilPORefDataAPIEU_finIPOSubAPI | <ul style="list-style-type: none">IPO Reference DataEIPO Subscriptions |
| FINDB | <ul style="list-style-type: none">EU_finilPORefDataAPIEU_finIPOFundAPI | <ul style="list-style-type: none">IPO Reference DataEIPO Funding |
| Other FINI identities | <ul style="list-style-type: none">EU_finilPORefDataAPI | <ul style="list-style-type: none">IPO Reference Data |

- Please refer to the User Management section of the Client Connect User Manual for detailed steps of agent profile maintenance.

2.3 Obtain FINI API JWT Access Token

- Before invoking FINI API, API users must call an API to obtain a FINI API JWT Access Token from Client Connect Access Management (AM) server by passing the G1 and G2 JWT tokens. If authentication is successful, AM server will return a FINI API JWT access token to API users.
- API users have to generate the G1 and G2 JWT tokens according to their formats described as follows:

2.3.1 Prepare Agent Profile JWT (G1)

2.3.1.1 Header

| # | Parameter | Type | Description |
|---|-----------|-------|--|
| 1 | alg | RS256 | RS256 should be used for algorithm to encrypt JWT. |
| 2 | typ | JWT | |

Sample Agent Profile JWT Header:

```
{
  "alg": "RS256",
  "typ": "JWT"
}
```

2.3.1.2 Payload

| # | Parameter | Sample | Description |
|---|-----------|--|--|
| 1 | aud | https://<CCAM>/openam/oauth2/eu/access_token | Value of the <CCAM> may be different for production and test environments. |
| 2 | iss | <issuer> | Agent JWT Issuer value as registered in Agent Profile in Client Connect. |
| 3 | exp | 1610440800 | Specifies the expiration time. This is the Unix epoch time. Must be less than 30 minutes from current system time |
| 4 | sub | CP123456 | The user's Company ID in Client Connect. |

Sample of Agent Profile JWT Payload:

```
{
  "aud": "https://<fr am>/openam/oauth2/eu/access_token",
  "iss": "https://www.finibroker.com/jwtissuer",
  "exp": 1610440800,
  "sub": "CP123456"
}
```

2.3.1.3 Sign Agent Profile JWT (G1)

- Agent Profile JWT will be signed by private Agent JWK key. This value will be expected in “assertion” field in Authentication request parameter.

2.3.2 Prepare Machine Profile JWT (G2)

2.3.2.1 Header

| # | Parameter | Type | Description |
|---|-----------|-------|--|
| 1 | alg | RS256 | RS256 should be used for algorithm to encrypt JWT. |
| 2 | typ | JWT | |

Sample Machine Profile JWT Header:

```
{
  "alg": "RS256",
  "typ": "JWT"
}
```

2.3.2.2 Payload

| # | Parameter | Sample | Description |
|---|-----------|--|--|
| 1 | aud | https://<CCAM>/openam/oauth2/eu/access_token | Value of the <CCAM > may be different for production and test environments. |
| 2 | iss | 0fd68f99-e64d-4544-b4d6-bcc1d7c12c1e | Machine Profile UUID. Machine Profile UUID is system generated ID of Machine profile in Client Connect. |
| 3 | exp | 1610440800 | Specifies the expiration time. This is the Unix epoch time. Must be less than 30 minutes from current system time |
| 4 | sub | 0fd68f99-e64d-4544-b4d6-bcc1d7c12c1e | Machine Profile UUID. Machine Profile UUID is system generated ID of Machine profile. |

Sample of Machine Profile JWT:

```
{
  "aud": "https://<fr am>/openam/oauth2/access_token",
  "iss": "0fd68f99-e64d-4544-b4d6-bcc1d7c12c1e",
  "exp": 1610440800,
  "sub": "0fd68f99-e64d-4544-b4d6-bcc1d7c12c1e"
}
```


2.3.2.3 Sign Agent Profile JWT (G2)

- Machine Profile JWT will be signed by private Machine JWK key. Public JWK will be imputed by user in CC IDP while create Machine profile. This value will be expected in "client_assertion" field in request parameter.

2.3.3 Call FINI API JWT Access Token API

- API users must call an API to obtain a FINI API JWT Access Token from Client Connect Access Management (AM) server by passing the G1 (Agent profile) and G2 (Machine profile) JWT tokens being prepared as described above. AM server will decrypt and verify the G1 JWT and G2 JWT by the using the registered Agent public key and Machine public key respectively.
- AM server will return a valid FINI API JWT access token after the G1 JWT and G2 JWT are verified.

| | | | | |
|-----------------------|--|----------|--|--|
| Host Name | https://openam.connect.hkex.com.hk | | | |
| URI | /openam/oauth2/eu/access_token | | | |
| Method | POST | | | |
| Request Header | | | | |
| Parameter | Type | Required | Sample Value | Description |
| Content-Type | String | Y | application/x-www-form-urlencoded | |
| Request Parameter | | | | |
| Parameter | Type | Required | Sample Value | Description |
| grant_type | String | Y | urn:ietf:params:oauth:grant-type:jwt-bearer | This specifies the Agent Profile assertion grant type. |
| assertion | String | Y | eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9.eyJhdWQiOiJodH..' | This specifies the signed Agent Profile (G1) JWT. |
| client_assertion_type | String | Y | urn:ietf:params:oauth:client-assertion-type:jwt-bearer | This specifies the Machine Profile client assertion type. |
| client_assertion | String | Y | eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9.eyJhdWQiOiJodHRwOi8vd3d3LmdhbWVtdGVjaC5jb206OTA4MC9zc28vb2F1dGgyL2FjY2Vzc190b2tlbilsImlzcyI6InRlc3Rv... | This specifies the signed Machine Profile (G2) JWT. |
| Response Body | | | | |
| Parameter | Type | Required | Sample Value | Description |
| access_token | String | Y | BNwWkbMD690HKLXhh0MOaQ0o3Hc | This is a JWT Access Token. This access token will be passed while calling FINI API. |
| scope | String | Y | CP00001 | Company Id will be return as scope value. |
| token_type | String | Y | Bearer | This specify the Access Token type. |
| expires_in | Number | Y | 30 | This specify expiration of JWT Access Token in seconds. |
| HTTP Status Code | ForgeRock Reference link here | | | |
| Error Messages | | | | |
| Error | Error Description | | | Action |
| invalid_grant | JWT assertion is expired or invalid | | | Agent JWT (G1) expired |
| invalid_client | JWT has expired | | | Machine Profile JWT(G2) expired |
| invalid_request | JWT expiration time is unreasonable | | | Agent/Machine Profile JWT time is over 30 minutes |
| invalid_grant | JWT assertion is not valid | | | Agent Profile JWT found invalid or not able to parse |
| server_error | Failed to parse json: Unexpected end-of-input in field name\n at [...] | | | Machine Profile JWT could not parse |


```
{  
  "error_description": "Client authentication failed",  
  "error": "invalid_client"  
}
```

Sample 7: When grant_type value is not valid

```
{  
  "error_description": "Unknown Grant Type, urn:iETF:params:oauth:grant-type:jwt-beare",  
  "error": "unsupported_grant_type"  
}
```

2.3.4 FINI API JWT Access Token

- If authentication is successful, AM server will return a FINI API JWT access token to API users. Each FINI API JWT access token has a validity of 30 seconds. Therefore, API users can reuse the same JWT access token to invoke FINI API's continuously until the access token expires. After the JWT access token expires, API users have to obtain a new access token from AM server again.
- The structure of the FINI API JWT access token is as follows:

2.3.4.1 Header

| # | Name | Type | Sample Value | Description |
|--|------|--------|------------------------------|---|
| 1 | typ | String | JWT | This specify the type of JWT. |
| 2 | kid | String | wU3iflIaLOUAReRB/FG6eM1P1QM= | The kid of server's public key signing the Access Token. |
| 3 | alg | String | RS256 | This specifies the algorithm used for signing the Access Token. |
| Sample Access Token Header Example | | | | |
| <pre>{ "typ": "JWT", "kid": "wU3iflIaLOUAReRB/FG6eM1P1QM=", "alg": "RS256" }</pre> | | | | |

2.3.4.2 Payload

Attributes defined in the FINI API JWT Access Token Payload:

| # | Name | Type | Sample Value | Description |
|----|-----------------|----------|---|---|
| 1 | sub | String | CP123456 | This specify "sub" field of agent JWT. |
| 2 | cts | String | OAuth2_STATELESS_GRANT | This specify the core token service. |
| 3 | auditTrackingId | String | 123e724e-68e1-45dd-bc9c-7757b048bc6e-3351 | This specify the Audit tracking id. |
| 4 | iss | String | https://openam.connect.hkex.com.hk/openam/oauth2/eu | This specify Agent issuer.Default value of "iss" will be like below. http://<CCAM >/openam/oauth2/eu |
| 5 | tokenName | String | access_token | This specify the token name. |
| 6 | token_type | String | Bearer | This specify the return token type. |
| 7 | authGrantId | String | 30nsq6cTJZwcJ-MGKYBwCSGSRcg | This specify the authentication grant id. |
| 8 | aud | String | <Machine-UUID> | This specify subject of Machine profile JWT. |
| 9 | nbf | Number | 1618307105 | The "nbf" (not before) claim identifies the time before which the JWT MUST NOT be accepted for processing. |
| 10 | grant_type | String | urn:ietf:params:oauth:grant-type:jwt-bearer | This specify the Agent profile grant type. |
| 11 | scope | String[] | ["CP00001"] | This specify scope associated with respective Machine profile. Company Id will be set as scope value. |
| 12 | auth_time | Number | -1 | Time when the authentication has been performed. |
| 13 | realm | String | / | This specify the realm path. |
| 15 | exp | Number | 1618310705 | The "exp" (expiration time) claim identifies the expiration time on or after which the JWT MUST NOT be accepted for processing. |

| | | | | |
|----|------------|--------|-----------------------------|---|
| 16 | iat | Number | 1618307105 | The "iat" (issued at) claim identifies the time at which the JWT was issued. |
| 17 | expires_in | Number | 30 | This specify maximum time (Seconds) that the access token will be valid for use within the application. |
| 18 | jti | String | QbmfS_qm04ITprLHUtS8mVxw1Po | This specify JWT id. Each Access Token has unique jti. |

Sample Access Token (decoded) Example

```
{
  "sub": "CP123456",
  "cts": "OAUTH2_STATELESS_GRANT",
  "auditTrackingId": "123e724e-68e1-45dd-bc9c-7757b048bc6e-3351",
  "iss": "https://openam.connect.hkex.com.hk/openam/oauth2",
  "tokenName": "access_token",
  "token_type": "Bearer",
  "authGrantId": "30nsq6cTJZwcJ-MGKYBwCSGSRcg",
  "aud": "0fd68f99-e64d-4544-b4d6-bcc1d7c12c1e",
  "nbf": 1618307105,
  "grant_type": "urn:ietf:params:oauth:grant-type:jwt-bearer",
  "scope": [
    "CP00001"
  ],
  "auth_time": -1,
  "realm": "/",
  "exp": 1618310705,
  "iat": 1618307105,
  "expires_in": 30,
  "jti": "QbmfS_qm04ITprLHUtS8mVxw1Po"
}
```

2.4 Invoke FINI APIs

2.4.1 HTTP Request

- To invoke FINI APIs, API user must send a valid and active FINI API JWT access token in the “Authorization” request header as bearer token.
- API users must not modify the contents of the access token when passing it to invoke a FINI API.
- Sample of FINI API JWT access token:

Bearer BNwWkbMD690HKLXhh0MOaQ0o3Hc

- The HTTP Request Headers are required to be set as follows:

| Name | Description | Sample Value |
|-----------------|--------------------------------|--|
| Method | HTTP Method of the API request | GET or POST |
| Accept | Content type | application/json |
| Accept-Language | Client language | en-US |
| Authorization | FINI API JWT access token | Bearer eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJzdWUiOiIxMjM0NTY3ODkwIiwibmFtZSI6IkpvaG4gRG9lIiwiaWF0IjoiYjZlNTc2YyIsImh0bCI6MTYxNDA0OTg1MSwiZXhwIjoxNjE0MDUzNDUxQXQ.rogk6lSIjCMDIQBBf4fd5CvTL1odneLj6LKSgHqXm8c |

- The production domain name of FINI API endpoints will be provided in the next iteration.

2.4.2 HTTP Status Code

- FINI API Gateway will return one of the following HTTP status code after an API request is invoked:

| Status Code | Status | Description |
|-------------|-----------------------|---|
| 200 | OK | The request has succeeded |
| 400 | Bad Request | Invalid request |
| 401 | Unauthorized | The FINI API JWT access token is invalid |
| 403 | Forbidden | The client does not have access rights to the content |
| 404 | Not Found | The server cannot find the requested resource |
| 429 | Too Many Requests | Rate limiting |
| 500 | Internal Server Error | Internal Server Error |
| 503 | Service Unavailable | API Service is not available |
| 504 | Gateway Timeout | Timeout at the API Gateway |

3 End-to-End Encryption

API endpoints with Personal Identifiable Information (PII) must adopt end-to-end encryption for both request and responses on a data field level. The endpoints include:

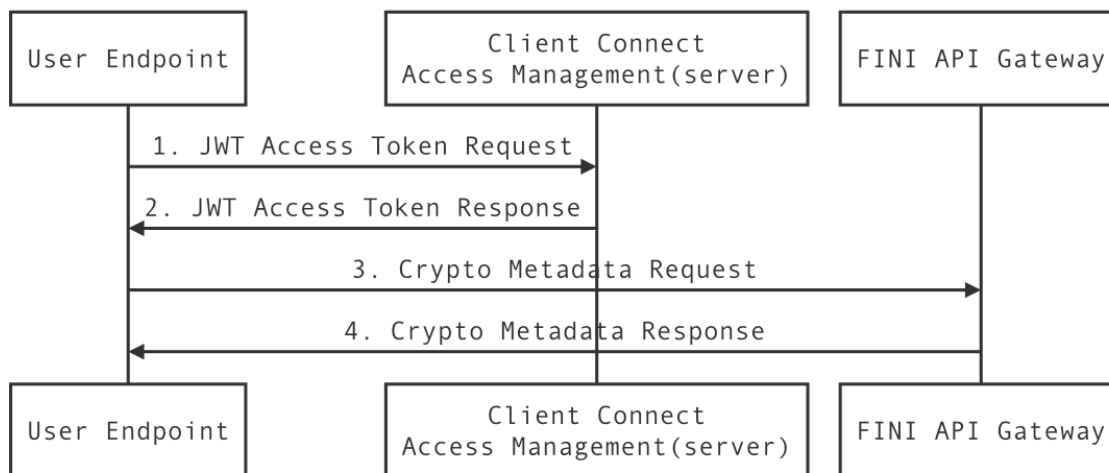
- Add EIPO Subscription Entries (see [Section 7.1](#));
- Change EIPO Subscription Entries (see [Section 7.2](#));
- Invalidate EIPO Subscription Entries (see [Section 7.3](#)); and
- Enquire EIPO Subscription Entries (see [Section 7.4](#)).

Only the following PII data fields have to be encrypted in the API request and response, while other fields should not be encrypted:

- ID Type of the applicant (idType)
- Issuing authority of the applicant's identification document (idCountryJurisdiction)
- ID number of the applicant's identification document.(idNum)
- Full English name of the applicant (fullNameEng)
- Full Chinese or non-English name of the applicant (fullNameChi)

3.1 Obtaining Crypto Metadata for Encryption

It is required to obtain Crpto Metadata, which includes FINI public key and Timestamp, for every API encryption request by calling Crypto Metadata Request API. The system sequence diagram below illustrates the data flow for obtaining crypto metadatafor encrypting API data fields:



3.1.1 Request

GET `/api/crypto/meta`

For invoking Crypto Metadata Request API, API user must obtain and send a valid and active FINI API JWT access token as described in [Section 2.3](#).

3.1.2 Response

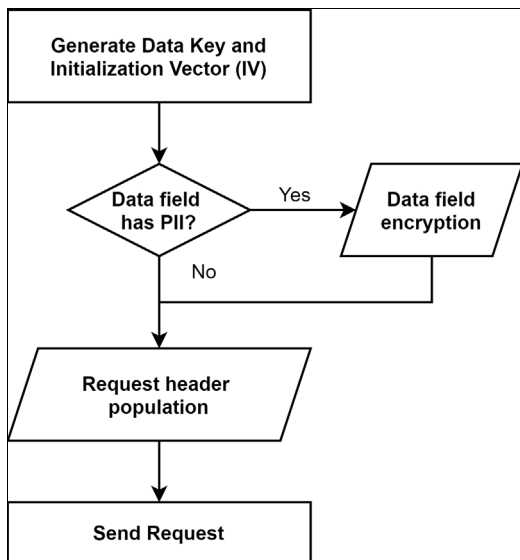
| # | Field | Type | Length | Description | Sample |
|-----|-----------------|---------|--------|---|--|
| 1 | code | String | 6 | 0 to indicate 'successful response'. | 0 |
| 2 | message | String | 100 | Empty string, i.e. "" to indicate successful response. | |
| 3 | data | Object | | The crypto metadata including the public key and timestamp | |
| 3.1 | publicKey | String | 1000 | The X.509 RSA public key to be used in FINI, encoded in base64 format | MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAuh/iUUOPQEk/2HzBNcFMprLMmp0Z/kUj69+eP2d03gkOFShOfb/wI2Nmm3m7fwl/oFfab2qQgj4+I0F4zJzL9pd+QXSU+dmeEokXMVZpeqCr1zDn4I66usFNC4NWQcP9XQpVxjmTzK6e1LOpEk3wvRyW+mGqAJqPJvmatVmYXKvpmHdaOXN9vdK15o6cYm5aEPg1+ih05+N+UI3QeEYjv3O/b7wpvExBr52w0Z6MELYeOEdWrvp7U3p8eJGaaXTLkoqemIBWKfCefxqcn/tgW4o/X6h0J38XhrQLULSGtPUBAl3B4mfH504HI3cdX7pqnsjikNnwWqfjew89z+gvFQIDAQAB |
| 3.2 | serverTimestamp | Integer | 13 | The FINI timestamp in Epoch milliseconds format | 1640070861735 |

```
{
  "code": "0",
  "message": "",
  "data": {
    "publicKey": "MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAuh/iUUOPQEk/2HzBNcFMprLMmp0Z/kUj69+eP2d03gkOFShOfb/wI2Nmm3m7fwl/oFfab2qQgj4+I0F4zJzL9pd+QXSU+dmeEokXMVZpeqCr1zDn4I66usFNC4NWQcP9XQpVxjmTzK6e1LOpEk3wvRyW+mGqAJqPJvmatVmYXKvpmHdaOXN9vdK15o6cYm5aEPg1+ih05+N+UI3QeEYjv3O/b7wpvExBr52w0Z6MELYeOEdWrvp7U3p8eJGaaXTLkoqemIBWKfCefxqcn/tgW4o/X6h0J38XhrQLULSGtPUBAl3B4mfH504HI3cdX7pqnsjikNnwWqfjew89z+gvFQIDAQAB",
    "serverTimestamp": 1640070861735
  }
}
```

Note: The **publicKey** and **time difference** (in millisecond format) between FINI server time and API machine system time should be cached in the API machine's memory. The time difference is calculated by subtracting the FINI timestamp by API machine system time (in millisecond format).

3.2 Encrypting API Requests

The flowchart below illustrates the high-level workflow for encrypting API data fields:



A pseudorandom number generator that generates outputs from a non-deterministic source is strongly recommended for the Data Key and Initialization Vector (IV) and encryption of the data payload.

Recommended library for Java:

| Language | Library | Notes |
|----------|----------------------------|---|
| Java | java.security.SecureRandom | In Java 8 or later, use <code>SecureRandom.getInstanceStrong()</code> . Meets RFC 4086's Random Requirements for Security. |

3.2.1 Generate Data Key and Initialization Vector (IV)

A 32-byte **Data Key** ("DataKeyBase64Str") and 12-byte **IV** ("IVBase64Str") must be generated on the client side to encrypt the PII data fields in each API request and decrypt the PII data fields in the API response.

| Field | Bytes | Description | Sample |
|------------------|-------|--|--|
| DataKeyBase64Str | 32 | A Data Key that is cryptographically secure encoded in Base64 format. | lhJpZKbn9MnhWDz9UTPdNt6qllACKSWj4t1rN198QAg= |
| IVBase64Str | 12 | An IV that is cryptographically secure encoded in Base64 format. | aSdkeptMB9NXdYJx |

Java implementation sample source code

```

int ivSize = 12;
byte[] iv = new byte[ivSize];
GCMParameterSpec ivKey;
SecretKey sKey;

// create a SecureRandom object for randomness
SecureRandom random = SecureRandom.getInstanceStrong();

// create Initialization Vector
random.nextBytes(iv);
ivKey = new GCMParameterSpec(128, iv);
String ivBase64Str = Base64.getEncoder().encodeToString(ivKey.getIV());

// create a KeyGenerator object with AES algorithm
KeyGenerator keyGen = KeyGenerator.getInstance("AES");
  
```

```
// generate Data Key
keyGen.init(256, random);
dataKey = keyGen.generateKey();
byte[] keyData = dataKey.getEncoded();

String dataKeyBase64Str = Base64.getEncoder().encodeToString(keyData);
```

3.2.2 Encrypting Data Fields

The data payload should be encrypted using the Data Key / IV, based on the following settings:

| Configuration | Value |
|---------------|-----------|
| Algorithm | AES |
| Mode | GCM |
| Padding | NoPadding |

The prefix **"%enc_%"** should then be appended to the final encrypted value to indicate the value is encrypted. Empty string ("") is still required to be encrypted with the same algorithm, On the other hand, "null" data value does not need to be encrypted but will be included in generating the signed signature (X-FINI-SIGNATURE) header of the message.

Unencrypted sample request from the 7.1 Add EIPO Subscription Entries API endpoint (**red text** = to be encrypted):

```
{
  "data": [{
    "requestID": 1,
    "ipID": "1234",
    "idList": [{
      "idType": "1",
      "idCountryJurisdiction": "HKG",
      "idNum": "M011336(5)",
      "fullNameEng": "Annabelle Wang",
      "fullNameChi": "汪會夢"
    }],
    "appQuantity": "1000",
    "firmID": "00000",
    "ownRef": "f992b5c2-fd16-4e57-8387-738cb7aa75fb"
  ]
}
```


| | | | <div>348wgYfXjbfQ6iV3lwjKoeUJG O2fy15zUwTLoqhIV5cCjFA1I6 Xvko0nnQcvi4vRiUfwVQuP2II kO/6PVnXg==</div> | | | | | | | | | | | | | | |
|--|---|--|---|-----------------|-----------|-----------------|---------------|--|--|-------------------|---|-------------------|----------------------------------|------------------|---------------|--|--|
| 3 | X-FINI-REQUEST-ID | Unique ID generated under the GUID v4 standard without any hyphens. FINI will reject any duplicate Request ID in the same day. | 26219512b1da421eafc8560638ff69af | | | | | | | | | | | | | | |
| 4 | X-FINI-TIMESTAMP | Request timestamp calculated as the sum between: <ul style="list-style-type: none">Time difference in millisecond format between the local / server timestamps in the Crypto Metadata Response (Section 3.1.2)Local timestamp in millisecond format | Step-by-step construction per below: <table><tr><td>Time difference</td><td>15</td></tr><tr><td>Local timestamp</td><td>1641264153167</td></tr><tr><td>X-FINI-TIMESTAMP value</td><td>1641264153182</td></tr></table> | Time difference | 15 | Local timestamp | 1641264153167 | X-FINI-TIMESTAMP value | 1641264153182 | | | | | | | | |
| Time difference | 15 | | | | | | | | | | | | | | | | |
| Local timestamp | 1641264153167 | | | | | | | | | | | | | | | | |
| X-FINI-TIMESTAMP value | 1641264153182 | | | | | | | | | | | | | | | | |
| 5 | X-FINI-SIGNATURE | Signed signature in base64 format, as the concatenation of the following values: <ul style="list-style-type: none">String body of the encrypted fieldsX-FINI-REQUEST-IDX-FINI-TIMESTAMP <p>The signature should then be encrypted under the following configurations:</p> <table><tr><th>Configuration</th><th>Value</th></tr><tr><td>Algorithm</td><td>HMACSHA256</td></tr><tr><td>Signature Key</td><td>Data Key from Section 3.2.1</td></tr></table> | Configuration | Value | Algorithm | HMACSHA256 | Signature Key | Data Key from Section 3.2.1 | Step-by-step construction per below: <table><tr><td>Encrypted payload</td><td>{ "data": { [{ "requestID": "1", "ipolD": "1234", "idList": [{ "idType": "%enc_%eapFkonN3fzIDdSEkiD9EQg=", "idCountryJurisdiction": "%enc_%ACzvoa5ZmoiXFScyhNbRKtxUgw==", "idNum": "%enc_%BVeZ9hPEphW7EeSiE2UMP6bnM/QbkiYusbM=", "fullNameEng": "%enc_%CQnGpkKS/FHrGOMgkJROsmXZe+kEXEZ61hEcNn/P", "fullNameChi": "%enc_%rtYClbx0dZksk9K1QLpNT3zAjRi2YaZuWQ==" }] }, "appQuantity": "1000", "firmID": "00000", "ownRef": "f992b5c2-fd16-4e57-8387-738cb7aa75fb" }] }</td></tr><tr><td>X-FINI-REQUEST-ID</td><td>26219512b1da421eafc8560638ff69af</td></tr><tr><td>X-FINI-TIMESTAMP</td><td>1641264153182</td></tr><tr><td>Header value (after hasing and encryption)</td><td>JcKBK3rJwmVlqjKE7+EisQpsu4KNtHt3Mzrwtx+0Q4E=</td></tr></table> | Encrypted payload | { "data": { [{ "requestID": "1", "ipolD": "1234", "idList": [{ "idType": "%enc_%eapFkonN3fzIDdSEkiD9EQg=", "idCountryJurisdiction": "%enc_%ACzvoa5ZmoiXFScyhNbRKtxUgw==", "idNum": "%enc_%BVeZ9hPEphW7EeSiE2UMP6bnM/QbkiYusbM=", "fullNameEng": "%enc_%CQnGpkKS/FHrGOMgkJROsmXZe+kEXEZ61hEcNn/P", "fullNameChi": "%enc_%rtYClbx0dZksk9K1QLpNT3zAjRi2YaZuWQ==" }] }, "appQuantity": "1000", "firmID": "00000", "ownRef": "f992b5c2-fd16-4e57-8387-738cb7aa75fb" }] } | X-FINI-REQUEST-ID | 26219512b1da421eafc8560638ff69af | X-FINI-TIMESTAMP | 1641264153182 | Header value (after hasing and encryption) | JcKBK3rJwmVlqjKE7+EisQpsu4KNtHt3Mzrwtx+0Q4E= |
| Configuration | Value | | | | | | | | | | | | | | | | |
| Algorithm | HMACSHA256 | | | | | | | | | | | | | | | | |
| Signature Key | Data Key from Section 3.2.1 | | | | | | | | | | | | | | | | |
| Encrypted payload | { "data": { [{ "requestID": "1", "ipolD": "1234", "idList": [{ "idType": "%enc_%eapFkonN3fzIDdSEkiD9EQg=", "idCountryJurisdiction": "%enc_%ACzvoa5ZmoiXFScyhNbRKtxUgw==", "idNum": "%enc_%BVeZ9hPEphW7EeSiE2UMP6bnM/QbkiYusbM=", "fullNameEng": "%enc_%CQnGpkKS/FHrGOMgkJROsmXZe+kEXEZ61hEcNn/P", "fullNameChi": "%enc_%rtYClbx0dZksk9K1QLpNT3zAjRi2YaZuWQ==" }] }, "appQuantity": "1000", "firmID": "00000", "ownRef": "f992b5c2-fd16-4e57-8387-738cb7aa75fb" }] } | | | | | | | | | | | | | | | | |
| X-FINI-REQUEST-ID | 26219512b1da421eafc8560638ff69af | | | | | | | | | | | | | | | | |
| X-FINI-TIMESTAMP | 1641264153182 | | | | | | | | | | | | | | | | |
| Header value (after hasing and encryption) | JcKBK3rJwmVlqjKE7+EisQpsu4KNtHt3Mzrwtx+0Q4E= | | | | | | | | | | | | | | | | |
| 6 | X-FINI-ENCRYPTION-CLIENT | A field to indicate the request includes an encrypted payload. <p>If the request doesn't include an encrypted payload, the header is not required.</p> | YES | | | | | | | | | | | | | | |

Java implementation sample source code for generating X-FINI-ENCRYPTED-KEY header

```
//Concatenation of Data Key and IV (delimited by #), X-FINI-ENCRYPTED-KEY
String e_key_str = dataKeyBase64Str + "#" + ivBase64Str;

// Generate X-FINI-ENCRYPTED-KEY header
Cipher cipher = Cipher.getInstance("RSA");
cipher.init(Cipher.ENCRYPT_MODE, getPublicKey(publicKeyFINI));
byte[] eBytes = cipher.doFinal(e_key_str.getBytes());
String X_FINI_ENCRYPTED_KEY = Base64.getEncoder().encodeToString(eBytes);
```

Java implementation sample source code for generating X-FINI-SIGNATURE header

```
// Generate X-FINI-SIGNATURE header

String algorithm = "HMACSHA256";
byte[] keyBytes = Base64.getDecoder().decode(dataKeyBase64Str);
Key key = new SecretKeySpec(keyBytes, 0, keyBytes.length, algorithm);
Mac mac = Mac.getInstance(algorithm);
mac.init(key);

String X_FINI_SIGNATURE = Base64.getEncoder().encodeToString(mac.doFinal((payload + requestID + timestamp).getBytes()));
```


3.3 Decrypting API Responses

This section covers the step-by-step workflow for decrypting API responses containing encrypted data fields

3.3.1 Verify Signature

Before decrypting any fields, you should verify signature first. Compare **Local Signature** ("localSignature") and **Remote Signature** ("remoteSignature"), **if the 2 signatures do not match, it indicates a tampered response**.

| Field | Description | Sample |
|-----------------|---|--|
| localSignature | Computed by signing the response body using HMACSHA1, with the Data Key (Section 3.1.2) as the signature key | ij0GF6CE7RK2KDPL39UxvxBMSYdQth1M5RpCihQUImk= |
| remoteSignature | Obtain the value from response header X-FINI-SIGNATURE | ij0GF6CE7RK2KDPL39UxvxBMSYdQth1M5RpCihQUImk= |

3.3.2 Decrypt Response Body

An API response with the field **"X-FINI-ENCRYPTION-SERVER"** implies a response body with encrypted fields.

Sample response from the 7.4 Enquire EIPO Subscription Entries API endpoint (**red text** = encrypted fields):

```
{
  "code": "0",
  "message": "",
  "data": [{
    "stkCode": "9988",
    "isin": "KYG017191142",
    "status": "25",
    "subFlowStatus": "3",
    "recordID": "2462303930948573A ",
    "idList": [{
      "idType": "%enc_%eapFkonN3fzIDdSEkiD9EQg=",
      "idCountryJurisdiction": "%enc_%ACzvoa5ZmoiXFScyhNbRKtxUgw==",
      "idNum": "%enc_%CVaa9BTCphW3EeMJV/bYQyR4JnsJbluxoAl=",
      "fullNameEng": "%enc_%Cw/JqQCj8VSuddUvgb64LzNdhVcNoMVtvs2a+w==",
      "fullNameChi": "%enc_%of4bloRQdqsJKkXZ1yd4okbiVffjc4oMhg=="
    }],
    "appQuantity": "1000",
    "allotQuantity": "100",
    "firmID": "00000",
    "ownRef": null,
    "unsuccessfulReason": "0",
    "intDuplicateIndicator": "0",
    "exception": []
  ]
},
  "totalSize": 1,
  "timestamp": "2021-08-26 12:30:29",
  "nextCursor": "0",
  "exception": []
}
```

Each encrypted field should have its prefix **"%enc_%"** removed, then decrypted using the **Data Key** and **IV** ([Section 3.1.2](#)) with the following configurations:

| Configuration | Value |
|---------------|-----------|
| Algorithm | AES |
| Mode | GCM |
| Padding | NoPadding |

Worked example using the **"fullNameEng"** field (**red text** = encrypted value):

| | |
|---------------------------------|--|
| Encrypted field in API response | "fullNameEng": "%enc_%Cw/JqQCj8VSuddUvgb64LzNdhVcNoMVts2a+w==" |
| Encrypted value | Cw/JqQCj8VSuddUvgb64LzNdhVcNoMVts2a+w== |
| Decrypted Value | Chan Tai Man |

Java implementation sample source code

```
// Decrypt data field
SecretKeySpec secretKeySpec = new SecretKeySpec(dataKey.getEncoded(), "AES");

Cipher cipher = Cipher.getInstance("AES/GCM/NoPadding");
cipher.init(Cipher.DECRYPT_MODE, secretKeySpec, ivKey);
String encryptedTextValue = Base64.getDecoder().decode(encryptedTextValueBase64);
byte[] decryptedByteArray = cipher.doFinal(encryptedTextValue);
String decryptedValue = new String(decryptedByteArray);
```

3.4 End-to-End Encryption Error Codes and Messages

If the encryption API request is not submitted correctly with the required headers or data, errors will occur during end-to-end encryption or decryption processing in FINI. The following is a list of error codes and messages which may be returned in FINI API response due to incorrect encryption API request:

| Code | Message |
|--------|--|
| 411001 | Missing X-FINI-REQUEST-ID in the header |
| 411002 | Duplicate Request ID |
| 411003 | Missing X-FINI-TIMESTAMP in the header |
| 411004 | Request timestamp expired |
| 411005 | Missing X-FINI-SIGNATURE in the header |
| 411006 | Missing X-FINI-ENCRYPTED-KEY in the header |
| 411007 | Public key is wrong, FINI can't decrypt the encrypted key, please re-fetch crypto meta |
| 411008 | Signature error |
| 411009 | No such field {json_key} |
| 411010 | Cipher text format is wrong |
| 411011 | FINI can't decrypt the cipher text of the field {json_key} |
| 411999 | Crypto process exception |

4 Formats and Conventions

4.1 Identifiers

4.1.1 IPOs

- IPOs are identified using an **ipoID** ("ipoID"), which is different from an IPO's Stock Code ("stkCode") or **ISIN** ("isin"). The design is intended to avoid situations where Stock Codes and ISINs are being reused, e.g. an IPO relaunching under different IPO cases within a short period of time. The use of ipoIDs is unique to the FINI API Gateway, and the identifiers can be queried through the Enquire IPO List API endpoint.

```
/api/ipos/refdata/v1?ipoID=1234
```

4.1.2 EIPO Subscriptions

- EIPO subscriptions are identified using a **Record ID** ("recordID"), which is a globally unique reference number generated by the system upon successful validation and submission. It contains: (i) a 16-digit integer; and (ii) a suffix indicating the method through which the subscription is created.⁴

```
/api/eipo/subscriptions/query/v1?recordID=2486466216549731A
```

4.1.3 EIPO Funding

- Each HKSCC Participant's EIPO subscription list within an IPO is identified using a Transaction Reference ("transactionRef"). Each reference is a globally unique reference number generated by the system upon an HKSCC Participant making a first subscription within an IPO. It contains a 13-digit integer.

```
/api/eipo/funding/query/v1?transactionRef=5224703318532
```

⁴ "O" = Online input, "B" = Bulk upload, and "A" = API.

4.2 Data Formats

All request and response fields are determined by a data type and max length:

| Type | Length | Description | Example | | | | | | | | | | | | | | | | | | | | |
|---------|-----------|--|---|--------|--------|---------|--------|--------|---|--|--------|-------|---|--|-----|--------|--------|---|--|-----|-------|--------|----|
| String | [n] | Field with alphanumeric characters of <i>n</i> characters, fully UTF-8 encoded. ⁽¹⁾ | <p>Request field "fullName" has the following parameters:</p> <table><tr><th>Format</th><th>Length</th></tr><tr><td>String</td><td>20</td></tr></table> <p>Successful examples:</p> <ul style="list-style-type: none">"fullName": "David Chan Tai Man""fullName": "陳大文" <p>Unsuccessful examples:</p> <ul style="list-style-type: none">"fullName": "David Chan Tai Man FOO" (exceeds length)"fullName": "David Chan Tai Man ❖" (invalid character) | Format | Length | String | 20 | | | | | | | | | | | | | | | | |
| Format | Length | | | | | | | | | | | | | | | | | | | | | | |
| String | 20 | | | | | | | | | | | | | | | | | | | | | | |
| Integer | [n] | <p>Field with numeric characters of up to <i>n</i> digits.</p> <p>The FINI API Gateway supports all unsigned 64-bit integers, with a range between 0 and 18446744073709551615.</p> <p>Certain numeric fields are classified as string, as their sizes may</p> | <p>Request field "pageSize" has the following parameters:</p> <table><tr><th>Format</th><th>Length</th></tr><tr><td>Integer</td><td>18</td></tr></table> <p>Successful examples:</p> <ul style="list-style-type: none">"pageSize": 9"pageSize": 18446744073709551614 <p>Unsuccessful examples:</p> <ul style="list-style-type: none">"pageSize": 18446744073709551616 (overflow)"pageSize": -1 (underflow) | Format | Length | Integer | 18 | | | | | | | | | | | | | | | | |
| Format | Length | | | | | | | | | | | | | | | | | | | | | | |
| Integer | 18 | | | | | | | | | | | | | | | | | | | | | | |
| Decimal | [n1],[n2] | <p>Field with an integer component (n1 - n2) and a decimal component (n2), separated by a comma.</p> <p>The decimal component (n2) is the max number of digits after the separator.</p> <p>The integer component (n1) - the decimal component (n2) is the max number of digits before the separator/</p> | <p>Request field "priceMax" has the following parameters:</p> <table><tr><th>Format</th><th>Length</th></tr><tr><td>Decimal</td><td>12,3</td></tr></table> <p>Numerical range:</p> <ul style="list-style-type: none">Min: 0.000Max: 999999999.999 | Format | Length | Decimal | 12,3 | | | | | | | | | | | | | | | | |
| Format | Length | | | | | | | | | | | | | | | | | | | | | | |
| Decimal | 12,3 | | | | | | | | | | | | | | | | | | | | | | |
| Array | [n] | Field holding <i>n</i> variables, separated by commas (",") and enclosed by square brackets "[" and "]" | <p>Request field "idList" has the following parameters:</p> <table><tr><th>#</th><th></th><th>Field</th><th>Format</th><th>Length</th></tr><tr><td>1</td><td></td><td>idList</td><td>Array</td><td>2</td></tr><tr><td></td><td>1.1</td><td>idType</td><td>String</td><td>2</td></tr><tr><td></td><td>1.2</td><td>idNum</td><td>String</td><td>10</td></tr></table> | # | | Field | Format | Length | 1 | | idList | Array | 2 | | 1.1 | idType | String | 2 | | 1.2 | idNum | String | 10 |
| # | | Field | Format | Length | | | | | | | | | | | | | | | | | | | |
| 1 | | idList | Array | 2 | | | | | | | | | | | | | | | | | | | |
| | 1.1 | idType | String | 2 | | | | | | | | | | | | | | | | | | | |
| | 1.2 | idNum | String | 10 | | | | | | | | | | | | | | | | | | | |

| | | | |
|--|--|--|--|
| | | | <p>Successful example:</p> <pre>"idList":[{ "idType":"2", "idNum":"GJ377364"}, { "idType":"2", "idNum":"RQ347486"}]</pre> <p>Unsuccessful example:</p> <pre>"idList":[{ "idType":"2", "idNum":"GJ377364"}, { "idType":"2", "idNum":"RQ347486"}, { "idType":"2", "idNum":"XX323346"}]</pre> |
|--|--|--|--|

(1) Unless specified, the all UTF-8 characters should be accepted, with the exception of the following characters / character sets:

| Unicode | Description |
|--------------|---------------------------------------|
| 1F000-1F02F | Mahjong Tiles |
| 1F030-1F09F | Domino Tiles |
| 1F0A0-1F0FF | Playing Cards |
| 1F100-1F1FF | Enclosed Alphanumeric Supplement |
| 1F200-1F2FF | Enclosed Ideographic Supplement |
| 1F300-1F5FF | Miscellaneous Symbols and Pictographs |
| 1F600-1F64F | Emoticons (Emoji) |
| 1F650-1F67F | Ornamental Dingbats |
| 1F680-1F6FF | Transport and Map Symbols |
| 1F700-1F77F | Alchemical Symbols |
| 1F780-1F7FF | Geometric Shapes Extended |
| 1F800-1F8FF | Supplemental Arrows-C |
| 1F900-1F9FF | Supplemental Symbols and Pictographs |
| 1FA00-1FA6F | Chess Symbols |
| 1FA70-1FAFF | Symbols and Pictographs Extended-A |
| 1FB00-1FBFF | Symbols for Legacy Computing |
| E0000-E007F | Tags |
| E0100-E01EF | Variation Selectors Supplement |
| F0000-FFFFF | Supplementary Private Use Area-A |
| 100000-10FFF | FFSupplementary Private Use Area-B |
| 005B | Left Square Bracket "[" |
| 005D | Right Square Bracket "]" |
| 005E | Circumflex Accent "^" |

4.3 Request Field Conventions

4.3.1 Leading/Trailing Spaces

- All request fields with leading or trailing spaces are trimmed before validation and processing

Example 1: Trailing spaces exceeding field length

- Request field "fullName" has the following parameters:

| Type | Length |
|--------|--------|
| String | 20 |

The following request would be successfully processed:

Request

| |
|--------------------------------|
| "fullName":"Mary Lee Sum See " |
|--------------------------------|

 <- field length of 21 string characters

Response

| |
|-------------------------------|
| "fullName":"Mary Lee Sum See" |
|-------------------------------|

 <- field trimmed to 16 string characters

Example 2: Matched field after trimming trailing spaces

- A GET API endpoint uses "stkCode" as a primary key to enquire other fields ("priceMin", "priceMax" and "priceFinal"), and has the following parameters:

| Type | Length |
|--------|--------|
| String | 10 |

The following request would be successfully processed:

Database

| |
|---|
| "stkCode":"9988" "priceMin":1.1 "priceMax":1.5 "priceFinal":null |
|---|

Request

| |
|-------------------|
| "stkCode":"9988 " |
|-------------------|

 <- matches "stkCode":"9988" after trimming

Response

| |
|---|
| "data":["stkCode":"9988", "priceMin":1.1 "priceMax":1.5 "priceFinal":null] |
|---|

 <- successful response

Example 3: Leading spaces exceeding field length

- Request field "idType" uses an ID Code (digits 1-8) and has the following parameters:

| Type | Length |
|--------|--------|
| String | 2 |

The following request would be successfully processed:

Request

"idType": " 1" <- field with 2 leading spaces and 1 digit

Response

"idType": "1" <- field trimmed to 1 digit

Example 4: Matched field after trimming leading and trailing spaces

- Request field "idType" uses an ID Code (digits 1-8) and has the following parameters:

| Type | Length |
|--------|--------|
| String | 2 |

The following request would be successfully processed:

Request

"idType": " 1 " <- field with 2 leading/trailing spaces and 1 digit

Response

"idType": "1" <- field trimmed to 1 digit

4.3.2 Irrelevant Fields

- Irrelevant fields are ignored by the FINI API Gateway without any processing

Example:

- A GET API endpoint has the following URI (assume both are mandatory fields):

GET /api/ipos/v1?size={integer}&nextCursor={string}

The following request would be successfully processed:

Request

GET /api/ipos/v1?size=10&nextCursor=abc&food=Delicious <- redundant field **food=Delicious**

Outcome

- ✓ Both **size** and **nextCursor** fields are processed, ignoring **food**

4.3.3 Repeated Fields

- Repeated fields will only have its first instance validated and processed by the FINI API Gateway

Example 1: All repeated fields are valid

- A GET API endpoint has the following URI (assume both are mandatory fields):

```
GET /api/ipos/v1?size={integer}&nextCursor={string}
```

The following request would be successfully processed:

Request

```
GET /api/ipos/v1?size=10&nextCursor=abc&size=100
```

 <- repeated **size** field

Outcome

- ✓ Processed as **size=10**, **size=100** is ignored

Example 2: First instance is invalid, repeated instance(s) are valid

- A GET API endpoint has the following URI (assume both are mandatory fields):

```
GET /api/ipos/v1?size={integer}&nextCursor={string}
```

The following request would be successfully processed:

Request

```
GET /api/ipos/v1?size=abc&nextCursor=abc&size=100
```

 <- first repeated **size** field

Outcome

- X Processed as **size=abc**, **size=100** is ignored. API request is rejected for being invalid.

Example 3: First instance valid, repeated fields are invalid

- A GET API endpoint has the following URI (assume both are mandatory fields):

```
GET /api/ipos/v1?size={integer}&nextCursor={string}
```

The following request would be successfully processed:

Request

```
GET /api/ipos/v1?size=10&nextCursor=abc&size=infinite
```

 <- repeated **size** field

Outcome

- ✓ Processed as **size=10**, **size=infinite** is ignored

4.3.4 Optional Fields

- Optional fields that are not provided will be treated as null

Example:

- A POST API endpoint has the following request fields:

| Field | Required? | Type | Length |
|----------|-----------|--------|--------|
| fullName | Mandatory | String | 20 |
| idNum | Mandatory | String | 10 |
| ownRef | Optional | String | 20 |

The following request would be successfully processed:

Request

```
"data":{{"fullName":"Company ABC"
          "idNum":"KM21512456"
        }}
```

<- ownRef not provided

Response

```
"code":"0"
"message":""
[...]
```

<- "code":"0" to indicate successful processing

Database

```
"fullName":"Company ABC"
"idNum":"KM21512456"
"ownRef":null
```

<- ownRef will be stored as null

4.4 Response Field Conventions

4.4.1 Empty Fields, Arrays and Objects

- Empty response fields will be treated as follows:
 - **Strings, integers and decimals** – null
 - **Array of an object** – empty array []
 - **Object** – empty object {}

Example:

- A GET API endpoint has the following response fields:

| Field | Type | Length |
|--------|--------|--------|
| idList | Array | 4 |
| idNum | String | 10 |

If both fields are blank, the following response would be provided:

Response

```
"data":{{"idList":[],"idNum":null}}
```

<- "idList" returns an empty array, and "idNum" returns null

4.4.2 Successful Responses

- All successful responses are indicated with a "0" in code ("code":"0") and empty string in message ("message":"")

Successful example:

Response

```
{  "code":"0",  "message":"",  "data":{    "stkCode":"9988",    "status":"40",    "companyEngFull":"Alibaba Group Holding Limited"  }},  "totalSize": 1,  "timestamp": "2022-05-06 07:01:40",  "nextCursor":"0",  "exception":[]}
```

Unsuccessful example:

Response

```
{  "code":"400000",  "message":"Invalid Parameters",  "data":[],  "totalSize": 0,
```

```
"timestamp": "2021-04-29 15:00:00",  
"nextCursor": "0",  
"exception": [{  
    "recordErrorCode": "401900",  
    "recordErrorMsg": "Invalid size format (must be an  
unsigned 64-bit integer)"}]  
}
```

4.4.3 Unsuccessful Responses

- All unsuccessful responses are indicated by:
 - The "code" field with a value that is not "0" (example, "code":"400000")
 - The "message" field with a value that is non-blank (example, "message":"Invalid Parameters")
- Error messages presented by the FINI API Gateway are divided into two categories:
 - **Message-level error** – placed outside the data payload to indicate the request has been wholly rejected
 - **Entry-level error** – used if the endpoint involves bulk processing, placed inside the data payload to indicate the request has been partially or wholly rejected

Example 1: Message-level error with a request wholly rejected

Response

| | |
|--|---|
| <pre>{ "code":"400000", "message":"Invalid Parameter(s)", "data":[], "totalSize":1, "timestamp": "2022-03-24 04:22:18", "exception":{ "recordErrorCode":"405904", "recordErrorMsg":"Invalid array size for data (must be 1 to 1000)" } }</pre> | <p><- Indicates there is an error in the request</p> <p><- Shows the specific error identified</p> <p><- Indicates there is a message-level error</p> <p><- Shows the message-level error identified</p> |
|--|---|

Example 2: Entry-level error with a request partially rejected

Response

| | |
|--|---|
| <pre>{ "code":"400000", "message":"Invalid Parameter(s)", "data":[{ "requestID":"565485", "recordID":null, "exception":{ "recordErrorCode":"405904", "recordErrorMsg":"Invalid array size for idList (must be 1 to 4)" } }, { "requestID":"565486", "recordID":"6498821129182047A", "exception":[] }], "totalSize":2, "timestamp": "2022-03-24 04:23:41", "exception":[] }</pre> | <p><- Indicates there is an error in the request</p> <p><- Shows the specific error identified</p> <p><- Shows the error identified in the first entry</p> <p><- Indicates the second entry has been accepted</p> <p><- Indicates there is no message-level error</p> |
|--|---|

Example 3: Entry-level error with a request wholly rejected

Response

| | |
|--|---|
| <pre>{ "code": "400000", "message": "Invalid Parameter(s)", "data": [{ "requestID": "565487", "recordID": null, "exception": [{ "recordErrorCode": "405904", "recordErrorMsg": "Invalid array size for idList (must be 1 to 4)" }] }, { "requestID": "565488", "recordID": null, "exception": [{ "recordErrorCode": "405904", "recordErrorMsg": "Invalid array size for idList (must be 1 to 4)" }] }], "totalSize": 2, "timestamp": "2022-03-24 04:26:13", "exception": [] }</pre> | <p><- Indicates there is an error in the request <- Shows the specific error identified</p> <p><- Shows the error identified in the first entry</p> <p><- Shows the error identified in the second entry</p> <p><- Indicates there is no message-level error</p> |
|--|---|

5 API Endpoints

5.1 Overview

The FINI API Gateway operates based on 3 main categories:

| Category | Required function in ForgeRock | Description |
|---------------------------|--------------------------------|---|
| /api/ipos/* | EU_finIPORefDataAPI | API endpoints for all FINI users that return data on the specific IPO-related reference data, such as the stock code, offer size and price information |
| /api/eipo/subscriptions/* | EU_finIPOSUBAPI | API endpoints for HKSCC Participants users to operate public offer subscriptions in the EIPO Channel, which includes add, change, invalidate and enquire subscriptions |
| /api/eipo/funding/* | EU_finIPOFundAPI | API endpoints for EIPO Designated Bank users to operate EIPO funding-related functions, such as confirm and enquire funding statuses. |

The 3 main categories cover to 8 API endpoints within the FINI API Gateway:

| API endpoint | Function | Method | Description |
|---------------------------------------|--------------------------------------|--------|---|
| /api/ipos/list/v1 | Enquire IPO List | GET | Returns a list of IPO(s) available on FINI. |
| /api/ipos/refdata/v1 | Enquire IPO Reference Data | GET | Returns the latest full set of reference data of a requested IPO. |
| /api/eipo/subscriptions/add/v1 | Add EIPO Subscription Entries | POST | Allows users to add EIPO entries to IPOs that are open for subscription. |
| /api/eipo/subscriptions/change/v1 | Change EIPO Subscription Entries | POST | Allows users to amend existing EIPO entries recorded on FINI. |
| /api/eipo/subscriptions/invalidate/v1 | Invalidate EIPO Subscription Entries | POST | Allows users to cancel existing EIPO entries recorded on FINI. No deletion is performed. |
| /api/eipo/subscriptions/query/v1 | Enquire EIPO Subscription Entries | POST | Returns a list of EIPO subscription(s) based on an IPO or by specific Record IDs. |
| /api/eipo/funding/confirm/v1 | Confirm EIPO Funding | POST | Allows users to confirm or reject the pre-funding related to an HKSCC Participant's EIPO subscription list. |
| /api/eipo/funding/query/v1 | Enquire EIPO Funding | POST | Returns a list of HKSCC Participants' pre-funding requirements based on an IPO or by specific Transaction References. |

5.2 Throttles

- The FINI API Gateway imposes request throttling with a threshold that refreshes every 60 seconds. Each company registered on HKEX Client Connect is subject to a threshold of **480 requests per 60 seconds**.
- A global throttle is also applied for each API endpoint, based on the expected peak traffic. It is strongly recommended that API machines do not exceed **60 requests per 60 seconds** to avoid triggering the API Gateway's throttles.

6 IPO Reference Data

6.1 Enquire IPO List

6.1.1 Request

GET /api/ipos/list/v1

| # | Field | Type | Length | Required | Description |
|---|------------|---------|--------|----------|---|
| 1 | size | Integer | 18 | No | Expected page size of the API response. Must be between 1 and 1,000. If null or blank, default as 100. |
| 2 | nextCursor | String | 20 | Yes | Key reference (ipolD) from which the response message should start. "0" should be used to start from the first index. |

GET /api/ipos/list/v1?size=5&nextCursor=0

6.1.2 Response

| # | Field | Type | Length | Description | | | | | | | | | | | | | | | | | | | | | | | | |
|--------|----------------------------|---------|--------|--|--------|-------------|----|----------------|----|---------------------|----|-----------------------|----|---------------------|----|------------------|----|----------------------|----|------------------|----|----------------------------|----|-----------------|----|-----------|----|-----------|
| 1 | code | String | 6 | 0 to indicate 'successful response'. | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | message | String | 100 | Empty string, i.e. "" to indicate successful response. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | data | Array | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1 | ipolD | String | 20 | A unique, sequentially-generated value assigned to each IPO case stored on FINI. Used as the identifier for IPOs within the FINI API Gateway. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.2 | stkCode | String | 10 | The IPO's stock code. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.3 | isin | String | 12 | The IPO's ISIN. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.4 | status | String | 2 | <div>The status of the IPO, expressed in status codes:<table><tr><th>Status</th><th>Description</th></tr><tr><td>25</td><td>Deal Initiated</td></tr><tr><td>30</td><td>Public Offer Closed</td></tr><tr><td>35</td><td>Application Validated</td></tr><tr><td>45</td><td>Allotment Confirmed</td></tr><tr><td>50</td><td>Money Settlement</td></tr><tr><td>55</td><td>Allocation Confirmed</td></tr><tr><td>60</td><td>Placing Approved</td></tr><tr><td>65</td><td>Allotment Results Approved</td></tr><tr><td>70</td><td>Trading Started</td></tr><tr><td>80</td><td>Suspended</td></tr><tr><td>90</td><td>Cancelled</td></tr></table></div> | Status | Description | 25 | Deal Initiated | 30 | Public Offer Closed | 35 | Application Validated | 45 | Allotment Confirmed | 50 | Money Settlement | 55 | Allocation Confirmed | 60 | Placing Approved | 65 | Allotment Results Approved | 70 | Trading Started | 80 | Suspended | 90 | Cancelled |
| Status | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | Deal Initiated | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | Public Offer Closed | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | Application Validated | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 45 | Allotment Confirmed | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | Money Settlement | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55 | Allocation Confirmed | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | Placing Approved | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65 | Allotment Results Approved | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 70 | Trading Started | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80 | Suspended | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90 | Cancelled | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | totalSize | Integer | 18 | Total size of the API response. | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | timestamp | String | 19 | Timestamp of the API response, in YYYY-MM-DD HH:MM:SS format. | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | nextCursor | String | 20 | The key reference (ipolD) immediately after the final result of response. If there are no further records, "0" will be returned. | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | exception | Array | | <div>To indicate whether the entire request failed any validation checks:<ul style="list-style-type: none">▪ Empty array = no error(s) were identified across the entire request▪ Non-empty array = the entire request was rejected due to a single or multiple error(s), with each error expressed as an individual object</div> | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.1 | recordErrorCode | String | 6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.2 | recordErrorMsg | String | 100 | | | | | | | | | | | | | | | | | | | | | | | | | |

```
{
  "code": "0",
  "message": "",
  "data": [{
    "ipoID": "1234",
    "stkCode": "9988",
    "isin": "KYG017191142",
    "status": "25"
  },
  {
    "ipoID": "1235",
    "stkCode": "9633",
    "isin": "CNE100004272",
    "status": "30"
  },
  {
    "ipoID": "1236",
    "stkCode": "9618",
    "isin": "KYG8208B1014",
    "status": "45"
  },
  {
    "ipoID": "1237",
    "stkCode": "6618",
    "isin": "KYG5074A1004",
    "status": "60"
  },
  {
    "ipoID": "1238",
    "stkCode": "1024",
    "isin": "KYG532631028",
    "status": "70"
  }
],
  "totalSize": 5,
  "timeStamp": "2021-08-25 16:22:13",
  "nextCursor": "11",
  "exception": []
}
```

6.2 Enquire IPO Reference Data

6.2.1 Request

GET /api/ipos/refdata/v1

| # | Field | Type | Length | Required | Description |
|---|-------|--------|--------|----------|---|
| 1 | ipoID | String | 20 | Yes | Must be a valid ipoID from the Enquire IPO List API endpoint. |

GET /api/ipos/refdata/v1?ipoID=1234

6.2.2 Response

| # | Field | Type | Length | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------|----------------------------|--------|--------|---|--------|-------------|----|----------------|----|---------------------|----|-----------------------|----|----------------------------|----|------------------|----|------------------------|----|------------------|----|----------------------------|----|------------------|----|-----------|----|-----------|----|-------|----|-------|----|--------|----|------------|----|-----------|
| 1 | code | String | 6 | 0 to indicate 'successful response'. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | message | String | 100 | Empty string, i.e. "" to indicate successful response. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | data | Array | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1 | ipoID | String | 20 | The unique identifier assigned to the IPO case. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.2 | stkCode | String | 10 | The IPO's stock code. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.3 | Status | String | | <div>The status of the IPO, expressed in status codes:</div> <table><tr><th>Status</th><th>Description</th></tr><tr><td>25</td><td>Deal Initiated</td></tr><tr><td>30</td><td>Public Offer Closed</td></tr><tr><td>35</td><td>Application Validated</td></tr><tr><td>45</td><td>Allotment Confirmed</td></tr><tr><td>50</td><td>Money Settlement</td></tr><tr><td>55</td><td>Allocation Confirmed</td></tr><tr><td>60</td><td>Placing Approved</td></tr><tr><td>65</td><td>Allotment Results Approved</td></tr><tr><td>70</td><td>Trading Started</td></tr><tr><td>80</td><td>Suspended</td></tr><tr><td>90</td><td>Cancelled</td></tr></table> | Status | Description | 25 | Deal Initiated | 30 | Public Offer Closed | 35 | Application Validated | 45 | Allotment Confirmed | 50 | Money Settlement | 55 | Allocation Confirmed | 60 | Placing Approved | 65 | Allotment Results Approved | 70 | Trading Started | 80 | Suspended | 90 | Cancelled | | | | | | | | | | |
| Status | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | Deal Initiated | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | Public Offer Closed | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | Application Validated | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 45 | Allotment Confirmed | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | Money Settlement | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55 | Allocation Confirmed | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | Placing Approved | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65 | Allotment Results Approved | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 70 | Trading Started | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80 | Suspended | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90 | Cancelled | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.4 | companyEngFull | String | 80 | The IPO's company full English name. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.5 | companyEngShort | String | 15 | The IPO's company short English name. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.6 | companyChiFull | String | 80 | The IPO's company full Chinese name. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.7 | companyChiShort | String | 8 | The IPO's company short Chinese name. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.8 | placeOfCorp | String | 2 | <div>The IPO company's place of incorporation, expressed by location codes:</div> <table><tr><th>Code</th><th>Description</th></tr><tr><td>1</td><td>Bermuda</td></tr><tr><td>2</td><td>Cayman Islands</td></tr><tr><td>3</td><td>Hong Kong, China</td></tr><tr><td>4</td><td>People's Republic of China</td></tr><tr><td>5</td><td>Australia</td></tr><tr><td>6</td><td>British Virgin Islands</td></tr><tr><td>7</td><td>Canada – Alberta</td></tr><tr><td>8</td><td>Canada – British Columbia</td></tr><tr><td>9</td><td>Canada – Ontario</td></tr><tr><td>10</td><td>England</td></tr><tr><td>11</td><td>Israel</td></tr><tr><td>12</td><td>Italy</td></tr><tr><td>13</td><td>Japan</td></tr><tr><td>14</td><td>Jersey</td></tr><tr><td>15</td><td>Luxembourg</td></tr><tr><td>16</td><td>Singapore</td></tr></table> | Code | Description | 1 | Bermuda | 2 | Cayman Islands | 3 | Hong Kong, China | 4 | People's Republic of China | 5 | Australia | 6 | British Virgin Islands | 7 | Canada – Alberta | 8 | Canada – British Columbia | 9 | Canada – Ontario | 10 | England | 11 | Israel | 12 | Italy | 13 | Japan | 14 | Jersey | 15 | Luxembourg | 16 | Singapore |
| Code | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Bermuda | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Cayman Islands | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Hong Kong, China | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | People's Republic of China | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Australia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | British Virgin Islands | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Canada – Alberta | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Canada – British Columbia | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Canada – Ontario | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | England | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Israel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Italy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | Japan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | Jersey | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Luxembourg | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | Singapore | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | <table><tr><td>17</td><td>US - Delaware</td></tr><tr><td>99</td><td>Others</td></tr></table> | 17 | US - Delaware | 99 | Others | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|---------------|---------|-------|---|------|---------------|----|--------|---|-----|---|-----|---|-----|---|-----|---|-----|---|-----|---|-----|---|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|--------|
| 17 | US - Delaware | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 99 | Others | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.9 | isin | String | 12 | The IPO's ISIN. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.10 | nomValue | Decimal | 15,12 | The nominal or par value of the IPO company's securities. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.11 | nomCur | Integer | 2 | <div>The currency denomination of the IPO company's nominal or par value, expressed as codes.</div> <table><tr><th>Code</th><th>Description</th></tr><tr><td>1</td><td>HKD</td></tr><tr><td>2</td><td>CNY</td></tr><tr><td>3</td><td>USD</td></tr><tr><td>4</td><td>AED</td></tr><tr><td>5</td><td>ATS</td></tr><tr><td>6</td><td>AUD</td></tr><tr><td>7</td><td>BDT</td></tr><tr><td>8</td><td>BEC</td></tr><tr><td>9</td><td>BEL</td></tr><tr><td>10</td><td>BHD</td></tr><tr><td>11</td><td>BND</td></tr><tr><td>12</td><td>BRC</td></tr><tr><td>13</td><td>BRL</td></tr><tr><td>14</td><td>BUK</td></tr><tr><td>15</td><td>CAD</td></tr><tr><td>16</td><td>CHF</td></tr><tr><td>17</td><td>CYP</td></tr><tr><td>18</td><td>DEM</td></tr><tr><td>19</td><td>DKK</td></tr><tr><td>20</td><td>ECU</td></tr><tr><td>21</td><td>ESP</td></tr><tr><td>22</td><td>EUR</td></tr><tr><td>23</td><td>FIM</td></tr><tr><td>24</td><td>FJD</td></tr><tr><td>25</td><td>FRF</td></tr><tr><td>26</td><td>GBP</td></tr><tr><td>27</td><td>GGP</td></tr><tr><td>28</td><td>IDR</td></tr><tr><td>29</td><td>IEP</td></tr><tr><td>30</td><td>IMP</td></tr><tr><td>31</td><td>INR</td></tr><tr><td>32</td><td>ITL</td></tr><tr><td>33</td><td>JPY</td></tr><tr><td>34</td><td>KES</td></tr><tr><td>35</td><td>KRW</td></tr><tr><td>36</td><td>KWD</td></tr><tr><td>37</td><td>LBP</td></tr><tr><td>38</td><td>LKR</td></tr><tr><td>39</td><td>MOP</td></tr><tr><td>40</td><td>MUR</td></tr><tr><td>41</td><td>MYR</td></tr><tr><td>42</td><td>NGN</td></tr><tr><td>43</td><td>NIS</td></tr><tr><td>44</td><td>NLG</td></tr><tr><td>45</td><td>NOK</td></tr><tr><td>46</td><td>NZD</td></tr><tr><td>47</td><td>OMR</td></tr><tr><td>48</td><td>PHP</td></tr><tr><td>49</td><td>PKR</td></tr><tr><td>50</td><td>PTE</td></tr><tr><td>51</td><td>QAR</td></tr><tr><td>52</td><td>RUB</td></tr><tr><td>53</td><td>SAR</td></tr><tr><td>54</td><td>SCR</td></tr><tr><td>99</td><td>Others</td></tr></table> | Code | Description | 1 | HKD | 2 | CNY | 3 | USD | 4 | AED | 5 | ATS | 6 | AUD | 7 | BDT | 8 | BEC | 9 | BEL | 10 | BHD | 11 | BND | 12 | BRC | 13 | BRL | 14 | BUK | 15 | CAD | 16 | CHF | 17 | CYP | 18 | DEM | 19 | DKK | 20 | ECU | 21 | ESP | 22 | EUR | 23 | FIM | 24 | FJD | 25 | FRF | 26 | GBP | 27 | GGP | 28 | IDR | 29 | IEP | 30 | IMP | 31 | INR | 32 | ITL | 33 | JPY | 34 | KES | 35 | KRW | 36 | KWD | 37 | LBP | 38 | LKR | 39 | MOP | 40 | MUR | 41 | MYR | 42 | NGN | 43 | NIS | 44 | NLG | 45 | NOK | 46 | NZD | 47 | OMR | 48 | PHP | 49 | PKR | 50 | PTE | 51 | QAR | 52 | RUB | 53 | SAR | 54 | SCR | 99 | Others |
| Code | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | HKD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | CNY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | USD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | AED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | ATS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | AUD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | BDT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | BEC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | BEL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | BHD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | BND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | BRC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | BRL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | BUK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | CAD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | CHF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | CYP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | DEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | DKK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | ECU | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | ESP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | EUR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | FIM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | FJD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | FRF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | GBP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | GGP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | IDR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | IEP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | IMP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | INR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | ITL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | JPY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 34 | KES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | KRW | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | KWD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | LBP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 38 | LKR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 39 | MOP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | MUR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 41 | MYR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 42 | NGN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43 | NIS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 44 | NLG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 45 | NOK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 46 | NZD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 47 | OMR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 48 | PHP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 49 | PKR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | PTE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 51 | QAR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 52 | RUB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 53 | SAR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 54 | SCR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 99 | Others | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.12 | hkAddress | Array | 4 | <div>The IPO company's principal address in Hong Kong, expressed in a nested format, e.g.:</div> <div>"hkAddress":[{ {"id": "1", "line": "26/F Tower One, Times Square" }, {"id": "2", "line": "1 Matheson Street" }, }]</div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | { "id": "3", "line": "Causeway Bay" }, { "id": "4", "line": "Hong Kong" }] | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------|--|-----------------|------|--|------|-------------|---|---|---|--|---|---|---|--|---|---|---|---|---|---------------------------------|---|---|----|-----------------|---|--|----|--|----|------------------------------|
| 3.13 | warrants | Array | 10 | The list series of warrants to belisted by the IPO company, expressed in a nested format. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.13.1 | warrantNameEngShort | String | 15 | The warrant’s full English name. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.13.2 | warrantNameEngFull | String | 100 | The warrant’s short English name. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.13.3 | warrantCode | String | 10 | The warrant’s security code. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.13.4 | isin | String | 12 | The warrant’s ISIN. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.13.5 | boardLot | Integer | 6 | The minimum trading unit of the warrant. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.13.6 | subscriptionPrice | Decimal | 12,3 | The subscription price of the warrant. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.13.7 | faceValue | Integer | 2 | To indicate the denomination method of the warrant's face value, expressed in codes: <table><tr><th>Code</th><th>Description</th></tr><tr><td>1</td><td>Dollar Amount</td></tr><tr><td>2</td><td>Unit Number</td></tr></table> | Code | Description | 1 | Dollar Amount | 2 | Unit Number | | | | | | | | | | | | | | | | | | | | |
| Code | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Dollar Amount | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Unit Number | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.13.8 | totalWarrants | Integer | 20 | The number of warrants to be issued. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.14 | offerType | Integer | 2 | The listing method of the IPO, expressed as codes: <table><tr><th>Code</th><th>Description</th></tr><tr><td>1</td><td>Global offer (placing and public offer)</td></tr><tr><td>2</td><td>By placing only</td></tr><tr><td>3</td><td>By public offer only</td></tr><tr><td>4</td><td>By introduction</td></tr><tr><td>5</td><td>Transfer from GEM</td></tr></table> | Code | Description | 1 | Global offer (placing and public offer) | 2 | By placing only | 3 | By public offer only | 4 | By introduction | 5 | Transfer from GEM | | | | | | | | | | | | | | |
| Code | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Global offer (placing and public offer) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | By placing only | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | By public offer only | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | By introduction | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Transfer from GEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.15 | listSecurities | Integer | 2 | The security type of the IPO, expressed as codes: <table><tr><th>Code</th><th>Description</th></tr><tr><td>1</td><td>Ordinary shares</td></tr><tr><td>2</td><td>Ordinary shares (H shares)</td></tr><tr><td>3</td><td>Ordinary shares (conversion from B to H shares)</td></tr><tr><td>4</td><td>Preference shares</td></tr><tr><td>5</td><td>Real Estate Investment Trust</td></tr><tr><td>6</td><td>Exchange Traded Product</td></tr><tr><td>7</td><td>Depository Receipts</td></tr><tr><td>8</td><td>Share Stapled Units</td></tr><tr><td>99</td><td>Other</td></tr></table> | Code | Description | 1 | Ordinary shares | 2 | Ordinary shares (H shares) | 3 | Ordinary shares (conversion from B to H shares) | 4 | Preference shares | 5 | Real Estate Investment Trust | 6 | Exchange Traded Product | 7 | Depository Receipts | 8 | Share Stapled Units | 99 | Other | | | | | | |
| Code | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Ordinary shares | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Ordinary shares (H shares) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Ordinary shares (conversion from B to H shares) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Preference shares | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Real Estate Investment Trust | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Exchange Traded Product | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Depository Receipts | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Share Stapled Units | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 99 | Other | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.16 | listPlatform | Integer | 2 | The listing board of the IPO, expressed as codes: <table><tr><th>Code</th><th>Description</th></tr><tr><td>1</td><td>Main board</td></tr><tr><td>2</td><td>GEM</td></tr></table> | Code | Description | 1 | Main board | 2 | GEM | | | | | | | | | | | | | | | | | | | | |
| Code | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Main board | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | GEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.17 | primaryExchange | Array of String | 17*2 | An array listing the primary exchange(s) of the IPO company, expressed as exchange codes: <table><tr><th>Code</th><th>Description</th></tr><tr><td>0</td><td>The Stock Exchange of Hong Kong (SEHK)</td></tr><tr><td>1</td><td>The Amsterdam Stock Exchange (NYSE Euronext - Amsterdam)</td></tr><tr><td>2</td><td>The Australian Securities Exchange (ASX)</td></tr><tr><td>3</td><td>The Brazilian Securities, Commodities and Futures Exchange (BM&FBOVESPA)</td></tr><tr><td>4</td><td>The Frankfurt Stock Exchange (Deutsche Börse)</td></tr><tr><td>5</td><td>The Italian Stock Exchange (Borsa Italiana)</td></tr><tr><td>6</td><td>The London Stock Exchange (LSE)</td></tr><tr><td>7</td><td>The Madrid Stock Exchange (Bolsa de Madrid)</td></tr><tr><td>8</td><td>NASDAQ OMX (US)</td></tr><tr><td>9</td><td>The New York Stock Exchange (NYSE Euronext (US))</td></tr><tr><td>10</td><td>The Paris Stock Exchange (NYSE Euronext – Paris)</td></tr><tr><td>11</td><td>The Singapore Exchange (SGX)</td></tr></table> | Code | Description | 0 | The Stock Exchange of Hong Kong (SEHK) | 1 | The Amsterdam Stock Exchange (NYSE Euronext - Amsterdam) | 2 | The Australian Securities Exchange (ASX) | 3 | The Brazilian Securities, Commodities and Futures Exchange (BM&FBOVESPA) | 4 | The Frankfurt Stock Exchange (Deutsche Börse) | 5 | The Italian Stock Exchange (Borsa Italiana) | 6 | The London Stock Exchange (LSE) | 7 | The Madrid Stock Exchange (Bolsa de Madrid) | 8 | NASDAQ OMX (US) | 9 | The New York Stock Exchange (NYSE Euronext (US)) | 10 | The Paris Stock Exchange (NYSE Euronext – Paris) | 11 | The Singapore Exchange (SGX) |
| Code | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | The Stock Exchange of Hong Kong (SEHK) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | The Amsterdam Stock Exchange (NYSE Euronext - Amsterdam) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | The Australian Securities Exchange (ASX) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | The Brazilian Securities, Commodities and Futures Exchange (BM&FBOVESPA) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | The Frankfurt Stock Exchange (Deutsche Börse) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | The Italian Stock Exchange (Borsa Italiana) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | The London Stock Exchange (LSE) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | The Madrid Stock Exchange (Bolsa de Madrid) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | NASDAQ OMX (US) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | The New York Stock Exchange (NYSE Euronext (US)) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | The Paris Stock Exchange (NYSE Euronext – Paris) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | The Singapore Exchange (SGX) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | <table><tr><td>12</td><td>The Stockholm Stock Exchange (NASDAQ OMX – Stockholm)</td></tr><tr><td>13</td><td>The Swiss Exchange (SIX Swiss Exchange)</td></tr><tr><td>14</td><td>The Tokyo Stock Exchange (TSE)</td></tr><tr><td>15</td><td>The Toronto Stock Exchange (TMX)</td></tr><tr><td>99</td><td>Other</td></tr></table> | 12 | The Stockholm Stock Exchange (NASDAQ OMX – Stockholm) | 13 | The Swiss Exchange (SIX Swiss Exchange) | 14 | The Tokyo Stock Exchange (TSE) | 15 | The Toronto Stock Exchange (TMX) | 99 | Other |
|----------|---|---------|------|---|----------|---|-----|---|-----|--------------------------------|-----|----------------------------------|----|-------|
| 12 | The Stockholm Stock Exchange (NASDAQ OMX – Stockholm) | | | | | | | | | | | | | |
| 13 | The Swiss Exchange (SIX Swiss Exchange) | | | | | | | | | | | | | |
| 14 | The Tokyo Stock Exchange (TSE) | | | | | | | | | | | | | |
| 15 | The Toronto Stock Exchange (TMX) | | | | | | | | | | | | | |
| 99 | Other | | | | | | | | | | | | | |
| 3.18 | dualPrimaryExchange | String | 80 | If the IPO company is operating a dual-primary listing, a list of the primary exchanges expressed as a string separated by commas. | | | | | | | | | | |
| 3.19 | biotechIndicator | String | 1 | If the IPO company is listing as a biotech company, then "1". Else, the response will return "0". | | | | | | | | | | |
| 3.20 | regsIndicator | String | 1 | If the IPO company is operating a "Reg-S listing", then "1". Else, the response will return "0". | | | | | | | | | | |
| 3.21 | wvrRatio | String | 5 | If the IPO company has weighted voting rights securities, then the voting ratio expressed in "[n],[n]", where each [n] is an integer with up to 2 digits. If the IPO company does not have any weighted voting rights securities, the response will return null. | | | | | | | | | | |
| 3.22 | tradeCurrency | String | 3 | The IPO's trading currency, expressed as currency codes: <table><tr><th>Currency</th><th>Description</th></tr><tr><td>HKD</td><td>Hong Kong Dollar</td></tr><tr><td>CNY</td><td>Chinese Yuan</td></tr><tr><td>USD</td><td>United States Dollar</td></tr></table> | Currency | Description | HKD | Hong Kong Dollar | CNY | Chinese Yuan | USD | United States Dollar | | |
| Currency | Description | | | | | | | | | | | | | |
| HKD | Hong Kong Dollar | | | | | | | | | | | | | |
| CNY | Chinese Yuan | | | | | | | | | | | | | |
| USD | United States Dollar | | | | | | | | | | | | | |
| 3.23 | boardLot | Integer | 6 | The minimum trading unit of the IPO company. | | | | | | | | | | |
| 3.24 | downwardPriceFlex | Decimal | 3,0 | The percentage at which the IPO company may price its IPO below the minimum offer price. Example: "10" = 10%. | | | | | | | | | | |
| 3.25 | priceMin | Decimal | 12,3 | The minimum offer price of the IPO. | | | | | | | | | | |
| 3.26 | priceMax | Decimal | 12,3 | The maximum offer price of the IPO. | | | | | | | | | | |
| 3.27 | priceFinal | Decimal | 12,3 | The final offer price of the IPO. | | | | | | | | | | |
| 3.28 | clawback | Array | 10 | The thresholds for triggering a clawback and their corresponding retail allocations expressed in percentages. Here, ratio = each threshold and allocation = percentage allocation to the public offer (Example: "10" = 10%). Expressed in a nested format, e.g.: "clawback":[{ {"id":"1","ratio":"1","allocation":"10"}, {"id":"2","ratio":"15","allocation":"30"}, {"id":"3","ratio":"50","allocation":"40"}, {"id":"4","ratio":"100","allocation":"100"} }] | | | | | | | | | | |
| 3.29 | preIpoShares | String | 20 | The number of securities issued by the IPO company before the commencement of the IPO. | | | | | | | | | | |
| 3.30 | ipoShares | String | 20 | The expected number of securities to be issued by the IPO company following the completion of the IPO. | | | | | | | | | | |
| 3.31 | poSharesInitial | String | 20 | The number of securities initially allocated to the public offer. | | | | | | | | | | |
| 3.32 | poApplicationQuantity | String | 20 | Number of securities validly subscribed by the public offer. | | | | | | | | | | |
| 3.33 | poOversubscriptionRatio | Decimal | 9,2 | poApplicationQuantity divided by poSharesInitial. | | | | | | | | | | |
| 3.34 | poSharesFinal | String | 20 | The final number of securities allocated to the public offer. | | | | | | | | | | |
| 3.35 | ioSharesInitial | String | 20 | The number of securities initially allocated to the institutional offer. | | | | | | | | | | |
| 3.36 | ioApplicationQuantity | String | 20 | Number of securities validly subscribed by the institutional offer. | | | | | | | | | | |
| 3.37 | ioOversubscriptionRatio | Decimal | 9,2 | ioApplicationQuantity divided by ioSharesInitial. | | | | | | | | | | |
| 3.38 | ioOfferSharesFinal | String | 20 | The final number of securities allocated to the institutional offer. | | | | | | | | | | |
| 3.39 | poReallocationCap | Decimal | 5,2 | The percentage cap at which the IPO company may allocate its securities to the public offer at its own discretion. | | | | | | | | | | |
| 3.40 | upsizedOption | Decimal | 5,2 | The IPO's offer size adjustment option, expressed in percentage terms (Example: "10" = 10%). | | | | | | | | | | |
| 3.41 | upsizedPoShares | String | 20 | The additional number of securities issued to the public offer using the IPO's offer size adjustment option. | | | | | | | | | | |
| 3.42 | upsizedIoShares | String | 20 | The additional number of securities issued to the institutional offer using the IPO's offer size adjustment option. | | | | | | | | | | |

| | | | | |
|------|--------------------------------|---------|-----|--|
| 3.43 | overallotOption | Decimal | 5,2 | The IPO's over-allotment option, expressed in percentage terms (Example: "10" = 10%). |
| 3.44 | overallotPoShares | String | 20 | The additional number of securities issued to the public offer using the IPO's over-allotment option. |
| 3.45 | overallotIoShares | String | 20 | The additional number of securities issued to the institutional offer using the IPO's over-allotment option. |
| 3.46 | overallPoShares | String | 20 | The final size of the public offer, calculated as poSharesFinal + upsizePoShares + overallotPoShares. |
| 3.47 | overallIoShares | String | 20 | The final size of the institutional offer, calculated as ioSharesFinal + upsizeIoShares + overallotIoShares. |
| 3.48 | overallIpoShares | String | 20 | The final size of the IPO, calculated as overallPoShares + overallIoShares. |
| 3.49 | totalIssuedCapitalListing | String | 20 | The IPO company's total issued number of securities upon listing. |
| 3.50 | totalIssuedHsharesListing | String | 20 | The IPO company's total issued number of H-shares upon listing. |
| 3.51 | totalIssuedNonwvrsharesListing | String | 20 | The IPO company's total issued number of non-weighted voting rights securities upon listing. |
| 3.52 | denomTable | Array | 200 | <p>An array of denominations at which a public offer subscriber may subscribe for the IPO. Here, shares = number of securities for subscription and value = the maximum value payable upon application.</p> <p>Expressed in a nested format, e.g.:</p> <pre>"denomTable": [{"id": "1", "shares": "100", "value": "101.01"}, {"id": "2", "shares": "200", "value": "202.02"}, {"id": "3", "shares": "300", "value": "303.03"}, {"id": "4", "shares": "400", "value": "404.03"}, {"id": "5", "shares": "500", "value": "505.04"}, {"id": "6", "shares": "600", "value": "606.05"}, {"id": "7", "shares": "700", "value": "707.06"}, {"id": "8", "shares": "800", "value": "808.06"}, {"id": "9", "shares": "900", "value": "909.07"}, {"id": "10", "shares": "1000", "value": "1010.08"}, {"id": "11", "shares": "2000", "value": "2020.15"}]</pre> |
| 3.53 | designatedSponsor | String | 80 | The designated sponsor of the IPO. |
| 3.54 | sponsors | Array | 100 | <p>The other joint sponsors of the IPO. Here, member = the company name of a joint sponsor.</p> <p>Presented in a nested JSON format, e.g.</p> <pre>"sponsors": [{"id": "1", "member": "Goldman Sachs (Asia)"}, {"id": "2", "member": "Morgan Stanley (Asia)"}, {"id": "3", "member": "JP Morgan (Asia)"}, {"id": "4", "member": "BOCI Securities"}]</pre> |
| 3.55 | legalSponsor | Array | 100 | <p>The list of legal counsels retained by the sponsors of the IPO. Here, member = the firm name of a sponsor counsel.</p> <p>Presented in a nested JSON format, e.g.</p> <pre>"legalSponsor": [{"id": "1", "member": "Freshfields Bruckhaus Deringer"}, {"id": "2", "member": "Clifford Chance"}, {"id": "3", "member": "Deacons"}]</pre> |
| 3.56 | legalIssuer | String | 80 | The issuer's legal counsel. |
| 3.57 | underwriters | Array | 100 | <p>The list of underwriters within the IPO. Here, member = the company name of an underwriter.</p> <p>Presented in a nested JSON format, e.g.</p> <pre>"underwriters": [{"id": "1", "member": "Goldman Sachs (Asia)"}, {"id": "2", "member": "Morgan Stanley (Asia)"}, {"id": "3", "member": "JP Morgan (Asia)"}, {"id": "4", "member": "BOCI Securities"}]</pre> |
| 3.58 | advisers | Array | 100 | <p>The list of advisers within the IPO. Here, member = the company name of an adviser.</p> <p>Presented in a nested JSON format, e.g.</p> <pre>"advisers": [{"id": "1", "member": "Goldman Sachs (Asia)"},</pre> |

| | | | | |
|------|---------------------------|---------|-----|--|
| | | | | <pre>{ "id": "2", "member": "Morgan Stanley (Asia)" }, { "id": "3", "member": "JP Morgan (Asia)" }, { "id": "4", "member": "BOCI Securities" }]</pre> |
| 3.59 | overallCoordinators | Array | 100 | <p>The list of Overall Coordinators within the IPO. Here, the company of an overall coordinator.</p> <p>Presented in a nested JSON format, e.g.</p> <pre>"overallCoordinators": [{ "id": "1", "member": "Goldman Sachs (Asia)" }, { "id": "2", "member": "Morgan Stanley (Asia)" }, { "id": "3", "member": "JP Morgan (Asia)" }, { "id": "4", "member": "BOCI Securities" }]</pre> |
| 3.60 | distributors | Array | 100 | <p>The list of distributors within the IPO. Here, member = the company name of a distributor.</p> <p>Presented in a nested JSON format, e.g.</p> <pre>"distributors": [{ "id": "1", "member": "Goldman Sachs (Asia)" }, { "id": "2", "member": "Morgan Stanley (Asia)" }, { "id": "3", "member": "JP Morgan (Asia)" }, { "id": "4", "member": "BOCI Securities" }]</pre> |
| 3.61 | hkSharereg | String | 80 | The HK share registrar of the IPO. |
| 3.62 | bookOpenDate | String | 19 | The time and date for opening the IPO's public offer for subscriptions, in YYYY-MM-DD HH:MM:SS format. |
| 3.63 | bookCloseDate | String | 19 | The time and date for closing the IPO's public offer from subscriptions, in YYYY-MM-DD HH:MM:SS format. |
| 3.64 | pricingDate | String | 19 | The latest time and date for determining the final price of the IPO, in YYYY-MM-DD HH:MM:SS format. |
| 3.65 | allotmentDate | String | 10 | The expected date for broadcasting the public offer allotment results of the IPO, in YYYY-MM-DD format. |
| 3.66 | listingDate | String | 19 | The expected time and date at which the IPO commences trading, in YYYY-MM-DD HH:MM:SS format. |
| 3.67 | silInputDate | String | 10 | The expected date for HKSCC to permit the inputting of settlement instructions into CCASS in relation to the IPO, in YYYY-MM-DD format. |
| 3.68 | placingSharesDeliveryDate | String | 19 | The latest time and date for delivering the institutional offer shares to CCASS. |
| 3.69 | prefOfferIndicator | String | 1 | If the IPO company has preferential offers, then "1". Else, the response will return "0". |
| 3.70 | brokerage | Decimal | 8,5 | The percentage of the allotment value payable to the allottee's broker, example: "10" = 10%. |
| 3.71 | sfcLevy | Decimal | 8,5 | The percentage of the allotment value payable to the SFC, example: "10" = 10%. |
| 3.72 | sehkTradingFee | Decimal | 8,5 | The percentage of the allotment value payable to SEHK, example: "10" = 10%. |
| 3.73 | frcoLevy | Decimal | 8,5 | The percentage of the allotment value payable to Financial Reporting Council, example: "10" = 10%. |
| 4 | totalSize | Integer | 18 | Total size of the API response. |
| 5 | timestamp | String | 19 | Timestamp of the API response, in YYYY-MM-DD HH:MM:SS format. |
| 6 | exception | Array | | <p>To indicate whether the entire request failed any validation checks:</p> <ul style="list-style-type: none"> ▪ Empty array = no error(s) were identified across the entire request ▪ Non-empty array = the entire request was rejected due to a single or multiple error(s), with each error expressed as an individual object |
| 6.1 | recordErrorCode | String | 6 | |
| 6.2 | recordErrorMsg | String | 100 | |

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    "nomValue": "0.000000000025",
    "nomCur": "2",
    "hkAddress": [
      {
        "id": "1",
        "line": "26/F Tower One, Times Square"
      },
      {
        "id": "2",
        "line": "1 Matheson Street"
      },
      {
        "id": "3",
        "line": "Causeway Bay"
      },
      {
        "id": "4",
        "line": "Hong Kong"
      }
    ],
    "warrants": [
      {
        "warrantNameEngShort": "BABA-WRT 1",
        "warrantNameEngFull": "Alibaba Warrant 1",
        "warrantCode": "4988",
        "isin": "",
        "boardLot": 100000,
        "subscriptionPrice": 2.000,
        "faceValue": "Dollar Amount",
        "totalWarrants": 10000000
      },
      {
        "warrantNameEngShort": "BABA-WRT 2",
        "warrantNameEngFull": "Alibaba Warrant 2",
        "warrantCode": "4999",
        "isin": "",
        "boardLot": 100000,
        "subscriptionPrice": 4.000,
        "faceValue": "Dollar Amount",
        "totalWarrants": 40000000
      }
    ],
    "offerType": 1,
    "listSecurities": 1,
    "listPlatform": 1,
    "primaryExchange": ["10"],
    "dualPrimaryExchange": null,
    "biotechIndicator": "0",
    "regsIndicator": "0",
    "wvrRatio": "1,10",
    "tradeCurrency": "HKD",
    "boardLot": 100,
  }
}

```

```
"downwardPriceFlex": 10,
"priceMin": 0.000,
"priceMax": 188.000,
"priceFinal": null,
"clawback": [{
  "id": "1",
  "threshold": 1,
  "allocation": 2.5
},
{
  "id": "2",
  "threshold": 15,
  "allocation": 5
},
{
  "id": "3",
  "threshold": 50,
  "allocation": 7.5
},
{
  "id": "4",
  "threshold": 100,
  "allocation": 10
}
],
"preIpoShares": "80000000",
"ipoShares": "500000000",
"poSharesInitial": "12500000",
"poApplicationQuantity": "530465900",
"poOversubscriptionRatio": 42.44,
"poSharesFinal": "500000000",
"ioSharesInitial": "487500000",
"ioApplicationQuantity": "487500000",
"ioOversubscriptionRatio": 1.00,
"ioOfferSharesFinal": "450000000",
"poReallocationCap": 20,
"upsizedOption": 20,
"upsizedPoShares": null,
"upsizedIoShares": null,
"overallotOption": 15,
"overallotPoShares": null,
"overallotIoShares": null,
"overallPoShares": null,
"overallIoShares": null,
"overallIpoShares": null,
"totalIssuedCapitalListing": null,
"totalIssuedHsharesListing": null,
"totalIssuedNonwvrsHsharesListing": null,
"denomTable": [{
  "id": "1",
  "shares": 100,
  "value": 188997.91
},
{
  "id": "2",
  "shares": 200,
  "value": 37995.82
},
{
  "id": "3",
  "shares": 300,
  "value": 56993.72
},
{
  "id": "4",
  "shares": 400,
  "value": 75991.63
}
```

```
{
    "id": "4",
    "shares": 400,
    "value": 75991.63
},
{
    "id": "5",
    "shares": 500,
    "value": 94989.54
},
{
    "id": "6",
    "shares": 600,
    "value": 113987.45
},
{
    "id": "7",
    "shares": 700,
    "value": 132985.35
},
{
    "id": "8",
    "shares": 800,
    "value": 151983.26
},
{
    "id": "9",
    "shares": 900,
    "value": 170981.17
},
{
    "id": "10",
    "shares": 1000,
    "value": 189979.08
},
{
    "id": "11",
    "shares": 2000,
    "value": 379958.15
},
{
    "id": "12",
    "shares": 3000,
    "value": 569937.23
},
{
    "id": "13",
    "shares": 4000,
    "value": 759937.30
},
{
    "id": "14",
    "shares": 5000,
    "value": 949895.38
},
{
    "id": "15",
    "shares": 6000,
    "value": 1139874.46
},
{
    "id": "16",
    "shares": 7000,
```

```

    },
    {
      "id": "17",
      "shares": 8000,
      "value": 1519832.61
    },
    {
      "id": "18",
      "shares": 9000,
      "value": 1709811.68
    },
    {
      "id": "19",
      "shares": 10000,
      "value": 1899790.76
    }
  ],
  "designatedSponsor": "Credit Suisse (Hong Kong) Limited",
  "sponsors": [
    {
      "id": "1",
      "member": "China International Capital Corporation"
    }
  ],
  "legalSponsor": [
    {
      "id": "1",
      "member": "Clifford Chance"
    },
    {
      "id": "2",
      "member": "Deacons"
    }
  ],
  "legalIssuer": "Freshfields Bruckhaus Deringer",
  "underwriters": [],
  "advisers": [],
  "overallCoordinators": [
    {
      "id": "1",
      "member": "Credit Suisse (Hong Kong) Limited"
    },
    {
      "id": "2",
      "member": "China International Capital Corporation"
    }
  ],
  "distributors": [
    {
      "id": "1",
      "member": "Citigroup Global Markets Asia"
    },
    {
      "id": "2",
      "member": "JP Morgan"
    },
    {
      "id": "3",
      "member": "The Hongkong and Shanghai Banking"
    }
  ],
  "hkShareReg": "Computershare Investor Services HK",
  "bookOpenDate": "2021-04-26 09:00:00",
  "bookCloseDate": "2021-04-29 12:00:00",
  "pricingDate": "2021-04-30",
  "allotmentDate": "2021-04-30",
  "listingDate": "2021-05-04 09:00:00",

```

```
        "silInputDate": "2021-05-03",
        "placingSharesDeliveryDate": "2021-05-04 09:00:00",
        "prefOfferIndicator": "0",
        "brokerage": 1.00000,
        "sfcLevy": 0.00270,
        "sehkTradingFee": 0.00500,
        "frcoLevy": 0.00015
    }},
    "totalSize": 1,
    "timestamp": "2021-04-29 15:00:00",
    "exception": []
```

```
}
```

7 EIPO Subscription

All EIPO Subscription-related requests and responses must be signed, with PII values encrypted / decrypted based on the procedures set out in 3 End-to-End Encryption. All data field descriptions below are based upon the decrypted values to illustrate the business-level validations required.

7.1 Add EIPO Subscription Entries

7.1.1 Request

POST /api/eipo/subscriptions/add/v1

| # | Field | Type | Length | Required | Description | | | | | | | | | | | | | | | | | | |
|--|---------------------------------------|---------|--------|----------|---|---------------------|-----------------------|--|-------------------|---|----------------------------------|---|----------|---|---------------------------|---|------------------------------|---|-----------------------------------|---|---------------------------------------|---|----------------------------------|
| 1 | data | Array | | Yes | Min 1 object, max 1,000 objects. Each object should contain 1 subscriptions (i.e. each request may process up to 1,000 subscriptions). | | | | | | | | | | | | | | | | | | |
| 1.1 | requestID | Integer | 7 | Yes | A unique reference within the bulk request for pairing with a response message. Must contain numeric characters only. | | | | | | | | | | | | | | | | | | |
| 1.2 | ipoID | String | 20 | Yes | Must be a valid ipoID from the Enquire IPO List API endpoint. | | | | | | | | | | | | | | | | | | |
| 1.3 | idList | Array | | Yes | Min 1 object, max 4 objects. Each object contains the information of 1 applicant, e.g. 2 joint account holders should include 2 objects. | | | | | | | | | | | | | | | | | | |
| 1.3.1 | idType | String | 2 | Yes | <div>The ID Type of the applicant, expressed in ID Codes:</div> <table><tr><th>ID Type</th><th>Description</th></tr><tr><td>1</td><td>HKID</td></tr><tr><td>2</td><td>National identification document</td></tr><tr><td>3</td><td>Passport</td></tr><tr><td>4</td><td>LEI registration document</td></tr><tr><td>5</td><td>Certificate of incorporation</td></tr><tr><td>6</td><td>Business registration certificate</td></tr><tr><td>7</td><td>Other official incorporation document</td></tr><tr><td>8</td><td>Broker-to-Client Assigned Number</td></tr></table> <div>If idList [Field 1.5] contains > 1 object, then must be 1, 2 or 3.</div> | ID Type | Description | 1 | HKID | 2 | National identification document | 3 | Passport | 4 | LEI registration document | 5 | Certificate of incorporation | 6 | Business registration certificate | 7 | Other official incorporation document | 8 | Broker-to-Client Assigned Number |
| ID Type | Description | | | | | | | | | | | | | | | | | | | | | | |
| 1 | HKID | | | | | | | | | | | | | | | | | | | | | | |
| 2 | National identification document | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Passport | | | | | | | | | | | | | | | | | | | | | | |
| 4 | LEI registration document | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Certificate of incorporation | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Business registration certificate | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Other official incorporation document | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Broker-to-Client Assigned Number | | | | | | | | | | | | | | | | | | | | | | |
| 1.3.2 | idCountryJurisdiction | String | 3 | Yes | <div>The issuing authority of the applicant's identification document. Based on ISO-3166 Alpha-3 codes, or 'OTH' to represent "Other".</div> <div>Restrictions:</div> <div>If idType [Field #1.3.1] = 1, must be "HKG".</div> <div>If idType [Field #1.3.1] = 8, must be "OTH".</div> | | | | | | | | | | | | | | | | | | |
| 1.3.3 | idNum | String | 40 | Yes | <div>The ID number of the applicant's identification document.</div> <div>Restrictions:</div> <div>If idType [Field #1.3.1] = 1, then must be a concatenation (no spaces) of:</div> <div>(i) Prefix: 1-2 upper case alphabetical characters</div> <div>(ii) ID number: 6 integers</div> <div>(iii)Check digit: 0 to 9, or "A", enclosed by parentheses</div> <table><tr><th>Successful Examples</th><th>Unsuccessful Examples</th></tr><tr><td>Y123456(7), YZ123456(7), Y123456(A)</td><td>Y123456, Y123456?</td></tr></table> <div>If idType [Field #1.3.1] = 4, then must be <u>exactly</u> 20 uppercase alphanumeric characters.</div> <div>If idType [Field #1.3.1] = 8, must be in "xxxxxx.#####" format, where:</div> <div><ul style="list-style-type: none">"x" = a text string of exactly 6 uppercase alphanumeric characters"." = a delimiter to separate "x" and "#""#" = a positive integer up to 10 characters</div> | Successful Examples | Unsuccessful Examples | Y123456(7), YZ123456(7), Y123456(A) | Y123456, Y123456? | | | | | | | | | | | | | | |
| Successful Examples | Unsuccessful Examples | | | | | | | | | | | | | | | | | | | | | | |
| Y123456(7), YZ123456(7), Y123456(A) | Y123456, Y123456? | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | <table><tr><th>Successful Examples</th><th>Unsuccessful Examples</th></tr><tr><td>“ABC123.1123456789”, “ABC123.112345678”, “ABC123.112345”</td><td>“ABC123.00000000001”, “ABC123.0000000000”, “ABC123.0000000000”</td></tr></table> <p>If idType [Field #1.3.1] = 2, 3, 5, 6 or 7, any text input is permitted.</p> | Successful Examples | Unsuccessful Examples | “ABC123.1123456789”, “ABC123.112345678”, “ABC123.112345” | “ABC123.00000000001”, “ABC123.0000000000”, “ABC123.0000000000” |
|--|--|--------|-----|-----|---|---------------------|-----------------------|--|--|
| Successful Examples | Unsuccessful Examples | | | | | | | | |
| “ABC123.1123456789”, “ABC123.112345678”, “ABC123.112345” | “ABC123.00000000001”, “ABC123.0000000000”, “ABC123.0000000000” | | | | | | | | |
| 1.3.4 | fullNameEng | String | 150 | No | The full English name of the applicant. Only English alphabetical characters and spaces are permitted. Mandatory if fullNameChi [Field #1.5.5] = null or blank. | | | | |
| 1.3.5 | fullNameChi | String | 150 | No | The full Chinese or non-English name of the applicant. Fully UTF-8 encoded. Mandatory if fullNameEng [Field #1.5.4] = null or blank. | | | | |
| 1.4 | appQuantity | String | 20 | Yes | The number of securities being subscribed by the applicant. Must be a 'shares' parameter from denomTable in the Enquire IPO Reference Data API. | | | | |
| 1.5 | firmID | String | 5 | Yes | The SEHK Participant ID for identifying the recipient of any brokerage fees. Must be a valid SEHK Participant ID (with no leading zeroes), or '00000' for HKSCC. | | | | |
| 1.6 | ownRef | String | 40 | No | Free text field for own reference. | | | | |

```
{
  "data": [{
    "requestID": 1,
    "ipoID": "1234",
    "idList": [{
      "idType": "1",
      "idCountryJurisdiction": "HKG",
      "idNum": "A123456(9)",
      "fullNameEng": "Chan Tai Man",
      "fullNameChi": "陳大文"
    },
    {
      "idType": "1",
      "idCountryJurisdiction": "HKG ",
      "idNum": "B234567(1)",
      "fullNameEng": "Chan Siu Man",
      "fullNameChi": "陳小文"
    }
  ],
  "appQuantity": "1000",
  "firmID": "00000",
  "ownRef": null
},
{
  "requestID": 2,
  "ipoID": "1234",
  "idList": [{
    "idType": "4",
    "idCountryJurisdiction": "OTH",
    "idNum": "A1B200D4E5F6G7H8I9J0",
    "fullNameEng": "Alpha Company Ltd",
```

```

        "fullNameChi": "甲有限公司"
    },
    "appQuantity": "5000",
    "firmID": "00000"
},
{
    "requestID": 3,
    "ipoID": "1234",
    "idList": [{
        "idType": "1",
        "idCountryJurisdiction": "HKG",
        "idNum": "C345678(A)",
        "fullNameEng": "",
        "fullNameChi": "Rémy Victor"
    }],
    "appQuantity": "500000",
    "firmID": "00000",
    "ownRef": "Favourite client"
}
]
}

```

7.1.2 Response

| # | Field | Type | Length | Description |
|-------|-----------------|---------|--------|---|
| 1 | code | String | 6 | 0 to indicate 'successful response'. |
| 2 | message | String | 100 | Empty string, i.e. "" to indicate successful response. |
| 3 | data | Array | | |
| 3.1 | requestID | Integer | 7 | The requestID from the original API request. |
| 3.2 | recordID | String | 17 | <p>A Record ID generated for each subscription that has passed all validation checks. It contains: (i) a sequentially-generated 16-digit integer; and (ii) a suffix indicating the method through which the subscription was created ("O" = Online input, "B" = Bulk upload, and "A" = API.).</p> <p>A response without a recordID indicates that the subscription failed ≥1 validation check(s).</p> |
| 3.3 | exception | Array | | <p>To indicate whether an individual request has failed any validation checks:</p> <ul style="list-style-type: none"> Empty array = the individual request has passed all validation checks Non-empty array = the individual request has a single or multiple errors, with each error expressed as an individual object |
| 3.3.1 | recordErrorCode | String | 6 | |
| 3.3.2 | recordErrorMsg | String | 100 | |
| 4 | totalSize | Integer | 18 | Total size of the API response. |
| 5 | timestamp | String | 19 | Timestamp of the API response, in YYYY-MM-DD HH:MM:SS format. |
| 6 | exception | Array | | <p>To indicate whether the entire request failed any structural or permission-related validation checks:</p> <ul style="list-style-type: none"> Empty array = no structural or permission-related error(s) were identified across the entire request Non-empty array = the entire request was rejected due to a single or multiple structural or permission-related error(s), with each error expressed as an individual object |
| 6.1 | recordErrorCode | String | 6 | |
| 6.2 | recordErrorMsg | String | 100 | |

```
{
  "code": "0",
  "message": "",
  "data": [
    {
      "requestID": 1,
      "recordID": "1234567890123456A",
      "exception": []
    },
    {
      "requestID": 2,
      "recordID": "1234567890123457A",
      "exception": []
    },
    {
      "requestID": 3,
      "recordID": "123456789018858A",
      "exception": []
    }
  ],
  "totalSize": 3,
  "timestamp": "2021-08-26 09:13:22",
  "exception": []
}
```

7.2 Change EIPO Subscription Entries

7.2.1 Request

POST /api/eipo/subscriptions/change/v1

| # | Field | Type | Length | Required | Description | | | | | | | | | | | | | | | | | | |
|--|---|--------|--------|----------|--|---------------------|-----------------------|--|-------------------|---------------------|----------------------------------|--|---|---|---------------------------|---|------------------------------|---|-----------------------------------|---|---------------------------------------|---|----------------------------------|
| 1 | data | Array | | Yes | Min 1 object, max 1,000 objects. Each object should contain 1 subscriptions (i.e. each request may process up to 1,000 subscriptions). | | | | | | | | | | | | | | | | | | |
| 1.1 | recordID | String | 17 | Yes | To indicate the subscription that is being amended. Must be a valid Record ID within own subscription list, under "Authorised" sub-flow status. | | | | | | | | | | | | | | | | | | |
| 1.2 | idList | Array | | Yes | Min 1 object, max 4 objects. Each object should contain the subscription information of 1 applicant, e.g. a joint account subscription with 2 applicants should include 2 objects. | | | | | | | | | | | | | | | | | | |
| 1.2.1 | idType | String | 2 | Yes | <div>The ID Type of the applicant, expressed in ID Codes:</div> <table><tr><th>ID Type</th><th>Description</th></tr><tr><td>1</td><td>HKID</td></tr><tr><td>2</td><td>National identification document</td></tr><tr><td>3</td><td>Passport</td></tr><tr><td>4</td><td>LEI registration document</td></tr><tr><td>5</td><td>Certificate of incorporation</td></tr><tr><td>6</td><td>Business registration certificate</td></tr><tr><td>7</td><td>Other official incorporation document</td></tr><tr><td>8</td><td>Broker-to-Client Assigned Number</td></tr></table> <div>If idList [Field 1.2] contains > 1 object, then must be 1, 2 or 3.</div> | ID Type | Description | 1 | HKID | 2 | National identification document | 3 | Passport | 4 | LEI registration document | 5 | Certificate of incorporation | 6 | Business registration certificate | 7 | Other official incorporation document | 8 | Broker-to-Client Assigned Number |
| ID Type | Description | | | | | | | | | | | | | | | | | | | | | | |
| 1 | HKID | | | | | | | | | | | | | | | | | | | | | | |
| 2 | National identification document | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Passport | | | | | | | | | | | | | | | | | | | | | | |
| 4 | LEI registration document | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Certificate of incorporation | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Business registration certificate | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Other official incorporation document | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Broker-to-Client Assigned Number | | | | | | | | | | | | | | | | | | | | | | |
| 1.2.2 | idCountryJurisdiction | String | 3 | Yes | <div>The issuing authority of the applicant's identification document. Based on ISO-3166 Alpha-3 codes, or 'OTH' to represent "Other".</div> <div>Restrictions: If idType [Field #1.2.1] = 1, must be "HKG". If idType [Field #1.2.1] = 8, must be "OTH".</div> | | | | | | | | | | | | | | | | | | |
| 1.2.3 | idNum | String | 40 | Yes | <div>The ID number of the applicant's identification document.</div> <div>Restrictions: If idType [Field #1.2.1] = 1, then must be a concatenation (no spaces) of: (iv)Prefix: 1-2 upper case alphabetical characters (v) ID number: 6 integers (vi)Check digit: 0 to 9, or "A", enclosed by parentheses</div> <table><tr><th>Successful Examples</th><th>Unsuccessful Examples</th></tr><tr><td>Y123456(7), YZ123456(7), Y123456(A)</td><td>Y123456, Y123456?</td></tr></table> <div>If idType [Field #1.2.1] = 4, then must be <u>exactly</u> 20 uppercase alphanumeric characters.</div> <div>If idType [Field #1.2.1] = 8, must be in "xxxxxx.#####" format, where:<ul style="list-style-type: none">"x" = a text string of exactly 6 uppercase alphanumeric characters"." = a delimiter to separate "x" and "#""#" = a positive integer up to 10 characters</div> <table><tr><th>Successful Examples</th><th>Unsuccessful Examples</th></tr><tr><td>"ABC123.1123456789", "ABC123.112345678", "ABC123.112345"</td><td>"ABC123.0000000001", "ABC123.0000000000", "ABC123.112345"</td></tr></table> <div>If idType [Field #1.2.1] = 2, 3, 5, 6 or 7, any text input is permitted.</div> | Successful Examples | Unsuccessful Examples | Y123456(7), YZ123456(7), Y123456(A) | Y123456, Y123456? | Successful Examples | Unsuccessful Examples | "ABC123.1123456789", "ABC123.112345678", "ABC123.112345" | "ABC123.0000000001", "ABC123.0000000000", "ABC123.112345" | | | | | | | | | | |
| Successful Examples | Unsuccessful Examples | | | | | | | | | | | | | | | | | | | | | | |
| Y123456(7), YZ123456(7), Y123456(A) | Y123456, Y123456? | | | | | | | | | | | | | | | | | | | | | | |
| Successful Examples | Unsuccessful Examples | | | | | | | | | | | | | | | | | | | | | | |
| "ABC123.1123456789", "ABC123.112345678", "ABC123.112345" | "ABC123.0000000001", "ABC123.0000000000", "ABC123.112345" | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|-------|-------------|--------|-----|-----|---|
| 1.2.4 | fullNameEng | String | 150 | No | The full English name of the applicant. Only English alphabetical characters and spaces are permitted. Mandatory if fullNameChi [Field #1.2.5] = null or blank. |
| 1.2.5 | fullNameChi | String | 150 | No | The full Chinese or non-English name of the applicant. Fully UTF-8 encoded. Mandatory if fullNameEng [Field #1.2.4] = null or blank. |
| 1.3 | appQuantity | String | 20 | Yes | The number of securities being subscribed by the applicant. Must be a 'shares' parameter from denomTable in the Enquire IPO Reference Data API. |
| 1.4 | firmID | String | 5 | Yes | The SEHK Participant ID for identifying the recipient of any brokerage fees. Must be a valid SEHK Participant ID (with no leading zeroes), or '00000' for HKSCC. |
| 1.5 | ownRef | String | 40 | No | Free text field for own reference. |

```
{
  "data": [{
    "recordID": "1234567890123456A",
    "idList": [{
      "idType": "1",
      "idCountryJurisdiction": "HKG",
      "idNum": "A123456(9)",
      "fullNameEng": "Chan Tai Man",
      "fullNameChi": "陳大文"
    },
    {
      "idType": "1",
      "idCountryJurisdiction": "HKG ",
      "idNum": "B234567(1)",
      "fullNameEng": "Chan Siu Man",
      "fullNameChi": "陳小文"
    },
    {
      "idType": "1",
      "idCountryJurisdiction": "HKG ",
      "idNum": "B234567(1)",
      "fullNameEng": "Mary Lee Sum See",
      "fullNameChi": "李心思"
    }
  ]},
  "appQuantity": "1000",
  "firmID": "00000",
  "ownRef": null
}]
}
```

7.2.2 Response

| # | Field | Type | Length | Description |
|-------|-----------------|---------|--------|---|
| 1 | code | String | 6 | 0 to indicate 'successful response'. |
| 2 | message | String | 100 | Empty string, i.e. "" to indicate successful response. |
| 3 | data | Array | | |
| 3.1 | recordID | String | 17 | The recordID from the original API request. |
| 3.2 | exception | Array | | To indicate whether an individual request has failed any validation checks: <ul style="list-style-type: none">▪ Empty array = the individual request has passed all validation checks▪ Non-empty array = the individual request has a single or multiple errors, with each error expressed as an individual object |
| 3.2.1 | recordErrorCode | String | 6 | |
| 3.2.2 | recordErrorMsg | String | 100 | |
| 4 | totalSize | Integer | 18 | Total size of the API response. |
| 5 | timestamp | String | 19 | Timestamp of the API response, in YYYY-MM-DD HH:MM:SS format. |
| 6 | exception | Array | | To indicate whether the entire request failed any structural or permission-related validation checks: <ul style="list-style-type: none">▪ Empty array = no structural or permission-related error(s) were identified across the entire request▪ Non-empty array = the entire request was rejected due to a single or multiple structural or permission-related error(s), with each error expressed as an individual object |
| 6.1 | recordErrorCode | String | 6 | |
| 6.2 | recordErrorMsg | String | 100 | |

```
{
    "code": "0",
    "message": "",
    "data": [
        {
            "recordID": "1234567890123456A",
            "exception": []
        }
    ],
    "totalSize": 1,
    "timestamp": "2021-08-26 10:15:39",
    "exception": []
}
```

7.3 Invalidate EIPO Subscription Entries

7.3.1 Request

POST /api/eipo/subscriptions/invalidate/v1

| # | Field | Type | Length | Required | Description |
|-----|----------|--------|--------|----------|---|
| 1 | data | Array | | Yes | Min 1 object, max 1,000 objects. Each object should contain 1 subscriptions (i.e. each request may process up to 1,000 subscriptions). |
| 1.1 | recordID | String | 17 | Yes | To indicate the subscription that is being amended. Must be a valid Record ID within own subscription list, under "Authorised" sub-flow status. |

```
{
  "data": [
    {
      "recordID": "1234567890123456A"
    }
  ]
}
```

7.3.2 Response

| # | Field | Type | Length | Description |
|-------|-----------------|---------|--------|---|
| 1 | code | String | 6 | 0 to indicate 'successful response'. |
| 2 | message | String | 100 | Empty string, i.e. "" to indicate successful response. |
| 3 | data | Array | | |
| 3.1 | recordID | String | 17 | The recordID from the original API request. |
| 3.2 | exception | Array | | To indicate whether an individual request has failed any validation checks: <ul style="list-style-type: none">▪ Empty array = the individual request has passed all validation checks▪ Non-empty array = the individual request has a single or multiple errors, with each error expressed as an individual object |
| 3.2.1 | recordErrorCode | String | 6 | |
| 3.2.2 | recordErrorMsg | String | 100 | |
| 4 | totalSize | Integer | 18 | Total size of the API response. |
| 5 | timestamp | String | 19 | Timestamp of the API response, in YYYY-MM-DD HH:MM:SS format. |
| 6 | exception | Array | | To indicate whether the entire request failed any structural or permission-related validation checks: <ul style="list-style-type: none">▪ Empty array = no structural or permission-related error(s) were identified across the entire request▪ Non-empty array = the entire request was rejected due to a single or multiple structural or permission-related error(s), with each error expressed as an individual object |
| 6.1 | recordErrorCode | String | 6 | |
| 6.2 | recordErrorMsg | String | 100 | |

```
{
  "code": "0",
  "message": "",
  "data": [
    {
      "recordID": "1234567890123456A",
      "exception": []
    }
  ],
  "totalSize": 1,
}
```

```
    "timestamp": "2021-08-26 11:28:09"
    "exception": []
}
```

7.4 Enquire EIPO Subscription Entries

7.4.1 Request

POST /api/eipo/subscriptions/query/v1

| # | Field | Type | Length | Required | Description |
|-----|---------------|-----------------|---------|----------|--|
| 1 | data | Object | | Yes | |
| 1.1 | ipolD | String | 20 | No | Must be a valid ipolD from the Enquire IPO List API endpoint. Mandatory if recordID [Field #1.2] = null or blank. |
| 1.2 | recordID | Array of String | 1000*17 | No | Must be a valid Record ID within own subscription list, under "Authorised" sub-flow status. Mandatory if ipolD [Field #1.1] = null or blank. |
| 1.3 | subFlowStatus | String | 2 | No | To filter response by a subscription's status, either by "Authorised" (active subscriptions) or "Invalidated" (previously active subscriptions, now removed from subscription list). |
| 2 | size | Integer | 18 | No | Expected page size of the API response. Must be between 1 and 1,000. If null or blank, default as 100. |
| 3 | nextCursor | String | 20 | Yes | Key reference (recordID) from which the response message should start. "0" should be used to start from the first index. |

```
{
  "data": {
    "ipolD": "1234",
    "recordID": null,
    "subFlowStatus": null
  },
  "size": 100,
  "nextCursor": "0"
}

{
  "data": {
    "ipolD": "1234",
    "recordID": ["2462303930948573A", "4317515259216099A", "5365467074774676A"],
    "subFlowStatus": null
  },
  "size": 100,
  "nextCursor": "6962170439634540A"
}

{
  "data": {
    "ipolD": "1234",
    "recordID": ["2462303930948573A", "4317515259216099A", "5365467074774676A"],
    "subFlowStatus": "3"
  },
  "size": 100,
  "nextCursor": "6962170439634540A"
}
```



```
"size": 100,  
"nextCursor": "6962170439634540A"
```

```
}
```

7.4.2 Response

| # | Field | Type | Length | Description | | | | | | | | | | | | | | | | | | | | | | | | |
|---------|---------------------------------------|--------|--------|--|---------|-------------|----|----------------|----|----------------------------------|----|-----------------------|----|---------------------------|----|------------------------------|----|-----------------------------------|----|---------------------------------------|----|----------------------------------|----|-----------------|----|-----------|----|-----------|
| 1 | code | String | 6 | 0 to indicate 'successful response'. | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | message | String | 100 | Empty string, i.e. "" to indicate successful response. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | data | Array | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1 | stkCode | String | 10 | The IPO's stock code. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.2 | isin | String | 12 | The IPO's ISIN. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.3 | status | String | 2 | <div>The status of the IPO, expressed in status codes:<table><tr><th>Status</th><th>Description</th></tr><tr><td>25</td><td>Deal Initiated</td></tr><tr><td>30</td><td>Public Offer Closed</td></tr><tr><td>35</td><td>Application Validated</td></tr><tr><td>45</td><td>Allotment Confirmed</td></tr><tr><td>50</td><td>Money Settlement</td></tr><tr><td>55</td><td>Allocation Confirmed</td></tr><tr><td>60</td><td>Placing Approved</td></tr><tr><td>65</td><td>Allotment Results Approved</td></tr><tr><td>70</td><td>Trading Started</td></tr><tr><td>80</td><td>Suspended</td></tr><tr><td>90</td><td>Cancelled</td></tr></table></div> | Status | Description | 25 | Deal Initiated | 30 | Public Offer Closed | 35 | Application Validated | 45 | Allotment Confirmed | 50 | Money Settlement | 55 | Allocation Confirmed | 60 | Placing Approved | 65 | Allotment Results Approved | 70 | Trading Started | 80 | Suspended | 90 | Cancelled |
| Status | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | Deal Initiated | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | Public Offer Closed | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | Application Validated | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 45 | Allotment Confirmed | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | Money Settlement | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55 | Allocation Confirmed | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | Placing Approved | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65 | Allotment Results Approved | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 70 | Trading Started | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80 | Suspended | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90 | Cancelled | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.4 | subFlowStatus | String | 2 | The subscription's sub-flow status, either as "Authorised" (active) or "Invalidated" (previously active, now removed from subscription list). | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.5 | recordID | String | 17 | The subscription's Record ID. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.6 | idList | Array | | Min 1 object, max 4 objects. Each object contains the information of 1 applicant, e.g. 2 joint account holders should include 2 objects. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.6.1 | idType | String | 2 | <div>The ID Type of the applicant, expressed in ID Codes:<table><tr><th>ID Type</th><th>Description</th></tr><tr><td>1</td><td>HKID</td></tr><tr><td>2</td><td>National identification document</td></tr><tr><td>3</td><td>Passport</td></tr><tr><td>4</td><td>LEI registration document</td></tr><tr><td>5</td><td>Certificate of incorporation</td></tr><tr><td>6</td><td>Business registration certificate</td></tr><tr><td>7</td><td>Other official incorporation document</td></tr><tr><td>8</td><td>Broker-to-Client Assigned Number</td></tr></table></div> | ID Type | Description | 1 | HKID | 2 | National identification document | 3 | Passport | 4 | LEI registration document | 5 | Certificate of incorporation | 6 | Business registration certificate | 7 | Other official incorporation document | 8 | Broker-to-Client Assigned Number | | | | | | |
| ID Type | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | HKID | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | National identification document | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Passport | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | LEI registration document | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Certificate of incorporation | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Business registration certificate | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Other official incorporation document | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Broker-to-Client Assigned Number | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.6.2 | idCountryJurisdiction | String | 3 | The issuing authority of the applicant's identification document. Based on ISO-3166 Alpha-3 codes, or 'OTH' to represent "Other". | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.6.3 | idNum | String | 40 | The ID number of the applicant's identification document. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.6.4 | fullNameEng | String | 150 | The full English name of the applicant. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.6.5 | fullNameChi | String | 150 | The full Chinese or non-English name of the applicant. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.7 | appQuantity | String | 20 | The number of securities being subscribed by the applicant | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.8 | allotQuantity | String | 20 | The number of securities allotted to the applicant. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.9 | firmID | String | 5 | The SEHK Participant ID for identifying the recipient of any brokerage fees. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.10 | ownRef | String | 40 | Free text field for own reference. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.11 | unsuccessfulReason | String | 2 | <div>To indicate the applicable reason for which the subscription was unsuccessful, expressed in reason codes:<table><tr><th>ID Type</th><th>Description</th></tr><tr><td>0</td><td>Allotted</td></tr><tr><td>1</td><td>Not allotted</td></tr><tr><td>2</td><td>Failed pre-funding</td></tr><tr><td>3</td><td>Duplicate application</td></tr><tr><td>4</td><td>Incomplete information</td></tr><tr><td>5</td><td>Invalid BCAN</td></tr><tr><td>6</td><td>EIPO default</td></tr><tr><td>99</td><td>Others</td></tr></table></div> | ID Type | Description | 0 | Allotted | 1 | Not allotted | 2 | Failed pre-funding | 3 | Duplicate application | 4 | Incomplete information | 5 | Invalid BCAN | 6 | EIPO default | 99 | Others | | | | | | |
| ID Type | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | Allotted | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Not allotted | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Failed pre-funding | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Duplicate application | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Incomplete information | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Invalid BCAN | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | EIPO default | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 99 | Others | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|--------|-----------------------|---------|-----|--|
| 3.12 | intDuplicateIndicator | String | 1 | If the subscription has been identified as a duplicate within the HKSCC Participant's subscription list, then "1". Else, the response will return "0". |
| 3.13 | exception | Array | | To indicate whether an individual request has failed any validation checks: <ul style="list-style-type: none"> ▪ Empty array = the individual request has passed all validation checks ▪ Non-empty array = the individual request has a single or multiple errors, with each error expressed as an individual object |
| 3.13.1 | recordErrorCode | String | 6 | |
| 3.13.2 | recordErrorMsg | String | 100 | |
| 4 | totalSize | Integer | 18 | Total size of the API response. |
| 5 | timestamp | String | 19 | Timestamp of the API response, in YYYY-MM-DD HH:MM:SS. |
| 6 | nextCursor | String | 20 | The key reference (recordID) immediately after the final result of response. If there are no further records, "0" will be returned. |
| 7 | exception | Array | | To indicate whether the entire request failed any structural or permission-related validation checks: <ul style="list-style-type: none"> ▪ Empty array = no structural or permission-related error(s) were identified across the entire request ▪ Non-empty array = the entire request was rejected due to a single or multiple structural or permission-related error(s), with each error expressed as an individual object |
| 7.1 | recordErrorCode | String | 6 | |
| 7.2 | recordErrorMsg | String | 100 | |

```
{
    "code": "0",
    "message": "",
    "data": {
        "stkCode": "9988",
        "isin": "KYG017191142",
        "status": "25",
        "subFlowStatus": "3",
        "recordID": "2462303930948573A ",
        "idList": [
            {
                "idType": "1",
                "idCountryJurisdiction": "HKG",
                "idNum": "A123456(9)",
                "fullNameEng": "Chan Tai Man",
                "fullNameChi": "陳大文"
            },
            {
                "idType": "1",
                "idCountryJurisdiction": "HKG ",
                "idNum": "B234567(1)",
                "fullNameEng": "Chan Siu Man",
                "fullNameChi": "陳小文"
            },
            {
                "idType": "1",
                "idCountryJurisdiction": "HKG ",
                "idNum": "B234567(1)",
                "fullNameEng": "Mary Lee Sum See",
                "fullNameChi": "李心思"
            }
        ],
        "appQuantity": "1000",
        "allotQuantity": "100",
        "firmID": "00000",
        "ownRef": null,
    }
}
```

```

        "unsuccessfulReason": "0",
        "intDuplicateIndicator": "0",
        "exception": []
    },
    {
        "stkCode": "9988",
        "isin": "KYG017191142",
        "status": "25",
        "subFlowStatus": "3",
        "recordID": "4317515259216099A ",
        "idList": [{
            "idType": "4",
            "idCountryJurisdiction": "OTH",
            "idNum": "A1B200D4E5F6G7H8I9J0",
            "fullNameEng": "Alpha Company Ltd",
            "fullNameChi": "甲有限公司"
        }],
        "appQuantity": "5000",
        "allotQuantity": "500",
        "firmID": "00000",
        "ownRef": null,
        "unsuccessfulReason": "0",
        "intDuplicateIndicator": "0",
        "exception": []
    },
    {
        "stkCode": "9988",
        "isin": "KYG017191142",
        "status": "25",
        "subFlowStatus": "3",
        "recordID": "5365467074774676A ",
        "idList": [{
            "idType": "1",
            "idCountryJurisdiction": "HKG",
            "idNum": "C345678(A)",
            "fullNameEng": "",
            "fullNameChi": "Rémy Victor"
        }],
        "appQuantity": "500000",
        "allotQuantity": "50000",
        "firmID": "00000",
        "ownRef": null,
        "unsuccessfulReason": "0",
        "intDuplicateIndicator": "0",
        "exception": []
    }
}],
"totalSize": 3,
"timestamp": "2021-08-26 12:30:29",
"nextCursor": "0",
"exception": []
}

```


8 EIPO Funding

8.1 Enquire EIPO Funding

8.1.1 Request

POST /api/eipo/funding/query/v1

| # | Field | Type | Length | Required | Description | | | | | | | | | | |
|------|------------------|-----------------|---------|----------|---|------|-------------|----|---------|----|-----------|----|----------|----|-------------|
| 1 | data | Object | | Yes | | | | | | | | | | | |
| 1.1 | ipoID | String | 20 | No | Must be a valid ipoID from the Enquire IPO List API endpoint. Mandatory if transactionRef [Field #1.2] = null or blank. | | | | | | | | | | |
| 1.2 | transactionRef | Array of String | 1000*13 | No | Must be a valid transactionRef assigned to the HKSCC Participant's EIPO subscriptions within an IPO. Mandatory if ipoID [Field #1.1] = null or blank. | | | | | | | | | | |
| 1.3 | preFundingStatus | String | 2 | No | <div>Sub-flow status of the Transaction Reference, expressed as status codes:<table><tr><th>Code</th><th>Description</th></tr><tr><td>10</td><td>Pending</td></tr><tr><td>20</td><td>Confirmed</td></tr><tr><td>30</td><td>Rejected</td></tr><tr><td>40</td><td>Invalidated</td></tr></table></div> <div>During the public offer book open (before the Pre-funding Requirement is finalised), this field returns as null.</div> | Code | Description | 10 | Pending | 20 | Confirmed | 30 | Rejected | 40 | Invalidated |
| Code | Description | | | | | | | | | | | | | | |
| 10 | Pending | | | | | | | | | | | | | | |
| 20 | Confirmed | | | | | | | | | | | | | | |
| 30 | Rejected | | | | | | | | | | | | | | |
| 40 | Invalidated | | | | | | | | | | | | | | |
| 2 | size | Integer | 18 | No | Expected page size of the API response. Must be between 1 and 1,000. If null or blank, default as 100. | | | | | | | | | | |
| 3 | nextCursor | String | 20 | Yes | Timestamp of the API response, in YYYY-MM-DD HH:MM:SS format. | | | | | | | | | | |

```
{
  "data": {
    "ipoID": "1234",
    "transactionRef": null,
    "preFundingStatus": null
  },
  "size": 100,
  "nextCursor": "0"
}
```

```
{
  "data": {
    "ipoID": "1234",
    "transactionRef": ["1241677736293", "1614124660146", "4557626203254"],
    "preFundingStatus": null
  },
  "size": 100,
  "nextCursor": "2244"
}
```

```
{
  "data": {
    "ipoID": "1234",
    "transactionRef": ["1241677736293", "1614124660146", "4557626203254"],
    "preFundingStatus": "10"
  },
  "size": 100,
  "nextCursor": "5835245508721"
}
```

8.1.2 Response

| # | Field | Type | Length | Description | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|----------------------------|---------|--------|--|----------|-------------|-----|------------------|-----|---------------------|-----|-----------------------|----|---------------------|----|------------------|----|----------------------|----|------------------|----|----------------------------|----|-----------------|----|-----------|----|-----------|
| 1 | code | String | 6 | 0 to indicate 'successful response'. | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | message | String | 100 | Empty string, i.e. "" to indicate successful response. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | data | Array | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1 | ipoID | String | 20 | A unique, sequentially-generated value assigned to each IPO case stored on FINI. Used as the identifier for IPOs within the FINI API Gateway. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.2 | stkCode | String | 10 | The IPO's stock code. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.3 | isin | String | 12 | The IPO's ISIN. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.4 | status | String | 2 | <div>The status of the IPO, expressed in status codes:<table><tr><th>Status</th><th>Description</th></tr><tr><td>25</td><td>Deal Initiated</td></tr><tr><td>30</td><td>Public Offer Closed</td></tr><tr><td>35</td><td>Application Validated</td></tr><tr><td>45</td><td>Allotment Confirmed</td></tr><tr><td>50</td><td>Money Settlement</td></tr><tr><td>55</td><td>Allocation Confirmed</td></tr><tr><td>60</td><td>Placing Approved</td></tr><tr><td>65</td><td>Allotment Results Approved</td></tr><tr><td>70</td><td>Trading Started</td></tr><tr><td>80</td><td>Suspended</td></tr><tr><td>90</td><td>Cancelled</td></tr></table></div> | Status | Description | 25 | Deal Initiated | 30 | Public Offer Closed | 35 | Application Validated | 45 | Allotment Confirmed | 50 | Money Settlement | 55 | Allocation Confirmed | 60 | Placing Approved | 65 | Allotment Results Approved | 70 | Trading Started | 80 | Suspended | 90 | Cancelled |
| Status | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | Deal Initiated | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | Public Offer Closed | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | Application Validated | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 45 | Allotment Confirmed | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | Money Settlement | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55 | Allocation Confirmed | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | Placing Approved | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65 | Allotment Results Approved | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 70 | Trading Started | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80 | Suspended | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90 | Cancelled | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.5 | transactionRef | String | 13 | The Transaction Reference assigned to the HKSCC Participant's EIPO subscriptions within the IPO. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.6 | preFundingStatus | String | 2 | <div>Sub-flow status of the Transaction Reference, expressed as status codes:<table><tr><th>Code</th><th>Description</th></tr><tr><td>10</td><td>Pending</td></tr><tr><td>20</td><td>Confirmed</td></tr><tr><td>30</td><td>Rejected</td></tr><tr><td>40</td><td>Invalidated</td></tr></table></div> <div>During the public offer book open (before the Pre-funding Requirement is finalised), this field returns as null.</div> | Code | Description | 10 | Pending | 20 | Confirmed | 30 | Rejected | 40 | Invalidated | | | | | | | | | | | | | | |
| Code | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Pending | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | Confirmed | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | Rejected | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | Invalidated | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.7 | settlementStatus | String | 2 | <div>Settlement status of the Transaction Reference, expressed as status codes:<table><tr><th>Code</th><th>Description</th></tr><tr><td>10</td><td>Pending</td></tr><tr><td>20</td><td>Settled</td></tr><tr><td>30</td><td>Rejected</td></tr><tr><td>40</td><td>Defaulted</td></tr></table></div> <div>Before the public offer allotment is made available, this field returns as null.</div> | Code | Description | 10 | Pending | 20 | Settled | 30 | Rejected | 40 | Defaulted | | | | | | | | | | | | | | |
| Code | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Pending | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | Settled | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | Rejected | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | Defaulted | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.8 | ipoInfo | Object | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.8.1 | tradeCurrency | String | 3 | <div>The IPO's trading currency, expressed as currency codes:<table><tr><th>Currency</th><th>Description</th></tr><tr><td>HKD</td><td>Hong Kong Dollar</td></tr><tr><td>CNY</td><td>Chinese Yuan</td></tr><tr><td>USD</td><td>United States Dollar</td></tr></table></div> | Currency | Description | HKD | Hong Kong Dollar | CNY | Chinese Yuan | USD | United States Dollar | | | | | | | | | | | | | | | | |
| Currency | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HKD | Hong Kong Dollar | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CNY | Chinese Yuan | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| USD | United States Dollar | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.8.2 | priceMin | Decimal | 12,3 | The minimum offer price of the IPO. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.8.3 | downwardPriceFlex | Decimal | 3,0 | The percentage at which the IPO company may price its IPO below the minimum offer price. Example: "10" = 10%. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.8.4 | priceFloor | Decimal | 12,3 | The lowest possible price for the IPO, calculated as priceMin * (1 – downwardPriceFlex). | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.8.5 | priceMax | Decimal | 12,3 | The maximum offer price of the IPO. | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|--------|--------------------|---------|------|--|
| 3.8.6 | priceFinal | Decimal | 12,3 | The final offer price of the IPO. |
| 3.8.7 | poMaxValue | Decimal | 20,2 | The highest value the IPO company is able to allocate to the public offer. |
| 3.8.8 | prefundingDate | String | 19 | The date for confirming the HKSCC Participants' pre-funding requirements. |
| 3.9 | fundingInfo | Object | | |
| 3.9.1 | partID | String | 6 | The HKSCC Participant's ID within CCASS. |
| 3.9.2 | partName | String | 80 | The HKSCC Participant's ID fully company name. |
| 3.9.3 | poMaxOptIn | String | 1 | To indicate whether the HKSCC Participant has opted in to poMax for the pre-funding requirement calculations. "Y" = Yes, "N" = No. |
| 3.9.4 | totalAppQuantity | String | 20 | The total number of securities subscribed by the HKSCC Participant within the IPO. |
| 3.9.5 | appValue | Decimal | 20,2 | The total value of securities subscribed by the HKSCC Participant within the IPO. |
| 3.9.6 | prefundingReq | Decimal | 20,2 | The HKSCC Participant's pre-funding requirement. If the HKSCC Participant's poMaxOptIn = "Y", then it is calculated as the lower figure between poMax Value and appValue. If the HKSCC Participant's poMaxOptIn = "N", then it is the appValue. |
| 3.9.7 | totalAllotQuantity | String | 20 | The total number of securities allotted to the HKSCC Participant within the IPO. |
| 3.9.8 | allotValue | Decimal | 20,2 | The total value of securities allotted the HKSCC Participant within the IPO. |
| 3.10 | bankAcctInfo | Object | | |
| 3.10.1 | cpBankCode | String | 3 | The bank code of the HKSCC Participant's designated bank account from which the pre-funding requirement should be transferred. |
| 3.10.2 | cpBranchCode | String | 3 | The branch code of the HKSCC Participant's designated bank account from which the pre-funding requirement should be transferred. |
| 3.10.3 | cpBankAcctNum | String | 9 | The bank account number of the HKSCC Participant's designated bank account from which the pre-funding requirement should be transferred. |
| 3.10.4 | nomBankCode | String | 3 | The bank code of the EIPO Designated Bank's nominee bank account to which the pre-funding requirement should be transferred. |
| 3.10.5 | nomBranchCode | String | 3 | The branch code of the EIPO Designated Bank's nominee bank account to which the pre-funding requirement should be transferred. |
| 3.10.6 | nomBankAcctNum | String | 9 | The bank account number of the EIPO Designated Bank's nominee bank account to which the pre-funding requirement should be transferred. |
| 3.11.7 | debtorRef | String | 40 | The debtor reference of the EIPO Designated Bank's nominee bank account to which the pre-funding requirement should be transferred. |
| 3.11 | exception | Array | | To indicate whether an individual request has failed any validation checks: <ul style="list-style-type: none"> ▪ Empty array = the individual request has passed all validation checks ▪ Non-empty array = the individual request has a single or multiple errors, with each error expressed as an individual object |
| 3.11.1 | recordErrorCode | String | 6 | |
| 3.11.2 | recordErrorMsg | String | 100 | |
| 4 | totalSize | Integer | 18 | Total size of the API response. |
| 5 | timestamp | String | 19 | Timestamp of the API response, in YYYY-MM-DD HH:MM:SS format. |
| 6 | nextCursor | String | 20 | The key reference (transactionRef) immediately after the final result of response. If there are no further records, "0" will be returned. |
| 7 | exception | Array | | To indicate whether the entire request failed any structural or permission-related validation checks: <ul style="list-style-type: none"> ▪ Empty array = no structural or permission-related error(s) were identified across the entire request ▪ Non-empty array = the entire request was rejected due to a single or multiple structural or permission-related error(s), with each error expressed as an individual object |
| 7.1 | recordErrorCode | String | 6 | |
| 7.2 | recordErrorMsg | String | 100 | |

```
{
  "code": "0",
  "message": "",
  "data": [{
    "ipoID": "1234",
    "stkCode": "9988",
    "isin": "KYG017191142",
```



```

    "status": "25",
    "transactionRef": "1241677736293",
    "preFundingStatus": "10",
    "settlementStatus": null,
    "ipoInfo": {
        "tradeCurrency": "HKD",
        "priceMin": 0.000,
        "downwardPriceFlex": 0,
        "priceFloor": 0.000,
        "priceMax": 188.000,,
        "priceFinal": 176,
        "poMaxValue": "10449004280.00",
        "prefundingDate": "2020-09-30"
    },
    "fundingInfo": {
        "partID": "B01130",
        "partName": "BOCI SECURITIES",
        "poMaxOptIn": "Y",
        "totalAppQuantity": "1000000",
        "appValue": 208980085.60,
        "prefundingReq": 208980085.60,
        "totalAllotQuantity": null,
        "allotValue": null
    },
    "bankAccInfo": {
        "cpBankCode": "012",
        "cpBranchCode": "001",
        "cpBankAcctNum": "929874231",
        "nomBankCode": "012",
        "nomBranchCode": "004",
        "nomBankAcctNum": "612352324",
        "debtorRef": "ABCEDFGH"
    },
    "exception": []
},
{
    "ipoID": "1234",
    "stkCode": "9988",
    "isin": "KYG017191142",
    "status": "25",
    "transactionRef": "1614124660146",
    "preFundingStatus": "10",
    "settlementStatus": "",
    "ipoInfo": {
        "tradeCurrency": "HKD",
        "priceMin": 0.000,
        "downwardPriceFlex": 0,
        "priceFloor": 0.000,
        "priceMax": 188.000,
        "priceFinal": 176,
        "poMaxValue": 10449004280.00,
        "prefundingDate": "2020-09-30"
    },
    "fundingInfo": {
        "partID": "B01345",
        "partName": "PHILLIP SECURITIES",
        "poMaxOptIn": "Y",
        "totalAppQuantity": 3400200,
        "appValue": 710574087.06,
        "prefundingReq": 710574087.06,
        "totalAllotQuantity": null,
        "allotValue": null
    },

```

```
        "bankAcctInfo": {
            "cpBankCode": "012",
            "cpBranchCode": "001",
            "cpBankAcctNum": "827634232",
            "nomBankCode": "012",
            "nomBranchCode": "004",
            "nomBankAcctNum": "612352324",
            "debtorRef": "BCDEFGHI"
        },
        "exception": []
    }
},
"totalSize": 2,
"timestamp": "2021-09-30 08:12:33",
"nextCursor": "0",
"exception": []
}
```

8.2 Confirm EIPO Funding

8.2.1 Request

POST

/api/eipo/funding/confirm/v1

| # | Field | Type | Length | Required | Description | | | | | | |
|--------|---------------------|--------|--------|----------|--|--------|-------------|----|---------------------|----|--------------------|
| 1 | data | Array | | Yes | Min 1 object, max 1,000 objects. Each object should contain 1 subscriptions (i.e. each request may process up to 1,000 subscriptions). | | | | | | |
| 1.1 | transactionRef | String | 13 | Yes | Must be a valid Transaction Reference with a preFundingStatus = "10" | | | | | | |
| 1.2 | preFundingStatus | String | 2 | Yes | The target pre-funding status to be amended by the API request. <table><tr><th>Status</th><th>Description</th></tr><tr><td>20</td><td>Confirm pre-funding</td></tr><tr><td>30</td><td>Reject pre-funding</td></tr></table> | Status | Description | 20 | Confirm pre-funding | 30 | Reject pre-funding |
| Status | Description | | | | | | | | | | |
| 20 | Confirm pre-funding | | | | | | | | | | |
| 30 | Reject pre-funding | | | | | | | | | | |

```
{
  "data": [
    {
      "transactionRef": "6398340114921",
      "preFundingStatus": "20"
    },
    {
      "transactionRef": "6398340114936",
      "preFundingStatus": "20"
    },
    {
      "transactionRef": "6398340114947",
      "preFundingStatus": "20"
    },
    {
      "transactionRef": "6398340114959",
      "preFundingStatus": "20"
    },
    {
      "transactionRef": "6398340114972",
      "preFundingStatus": "30"
    }
  ]
}
```

8.2.2 Response

| # | Field | Type | Length | Description |
|------|------------------|---------|--------|--|
| 1 | code | String | 6 | 0 to indicate 'successful response'. |
| 2 | message | String | 100 | Empty string, i.e. "" to indicate successful response. |
| 3 | data | Array | | |
| 3.1 | transactionRef | String | 13 | The transactionRef from the original API request. |
| 3.2 | preFundingStatus | String | 2 | The latest preFundingStatus after processing the API request. |
| 3.3 | exception | Array | | To indicate whether an individual request has failed any validation checks: <ul style="list-style-type: none"> Empty array = the individual request has passed all validation checks Non-empty array = the individual request has a single or multiple errors, with each error expressed as an individual object |
| 3.31 | recordErrorCode | String | 6 | |
| 3.32 | recordErrorMsg | String | 100 | |
| 4 | totalSize | Integer | 18 | Total size of the API response. |
| 5 | timestamp | String | 19 | Timestamp of the API response, in YYYY-MM-DD HH:MM:SS format. |
| 6 | exception | Array | | To indicate whether the entire request failed any structural or permission-related validation checks: <ul style="list-style-type: none"> Empty array = no structural or permission-related error(s) were identified across the entire request Non-empty array = the entire request was rejected due to a single or multiple structural or permission-related error(s), with each error expressed as an individual object |
| 6.1 | recordErrorCode | String | 6 | |
| 6.2 | recordErrorMsg | String | 100 | |

```
{
  "code": "0",
  "message": "",
  "data": [
    {
      "transactionRef": "6398340114921",
      "preFundingStatus": "20",
      "exception": []
    },
    {
      "transactionRef": "6398340114936",
      "preFundingStatus": "20",
      "exception": []
    },
    {
      "transactionRef": "6398340114947",
      "preFundingStatus": "20",
      "exception": []
    },
    {
      "transactionRef": "6398340114959",
      "preFundingStatus": "20",
      "exception": []
    },
    {
      "transactionRef": "6398340114972",
      "preFundingStatus": "30",
      "exception": []
    }
  ],
  "totalSize": 5,
  "timestamp": "2021-09-30 11:55:21",
}
```

"exception": []

}

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