



# **Real-Time Sanctions Screening API Specification (Beta)**

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**Service : antfin.security.aml.analyze**

**Version : 1.0**

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## Document revision History

Date	Description	Updated by
2019/01/07	Initial version	Zhao Yun
2019/01/10	Use ISO 8601 date time format instead of Unix Time in requestTime field	Zhao Yun
2019/01/14	Compatible with super gateway API standard	Zhao Yun
2019/01/15	Add "Provide Client IP(s)" section	Zhao Yun

# 1 Disclaimer

**Warning:** Our API is in beta and not officially supported, and for testing purpose only. This interface is subject to change at later release and may cause unpredictable behaviors.

## 2 Description

### 2.1 Overview

The real-time sanctions screening service is designed to help Payment Service Providers (PSP) or E-Wallet operators to identify sanctions risk by leveraging Ant Financial AML capability. PSP or E-Wallet operator can invoke sanctions screening API with data required and get evaluation result from Ant Financial AML system.

### 2.2 Audience

This document is written for application developers who want to integrate with Ant Financial sanctions screening API. Implementing this integration requires software development skills in HTTP, JSON, XML, and etc.

## 3 Prerequisites

### 3.1 Obtain Client Id and Secret

In order to integrate with Ant Financial sanctions screening API, a `clientId` and `clientSecret` must be obtained from Ant Financial AML team.

Parameter	Description	Example
<code>clientId</code>	Identifies an API client	pbavRwEYS2LgpRb3hLwVBEzm
<code>clientSecret</code>	Secret key. It must be stored in a secure place.	gSArzbWvYYMDwiPBGtbRmsy27XsBoS N6yUAotCSjGztRaaHJrtJVDBYboPFQ4N5

## 3.2 Provide Client IP(s)

For security reason, client IP or network addresses must be provided to Ant Financial AML team. Only IPs in white list can invoke Sanctions Screening API successfully.

## 3.3 Define Business Events

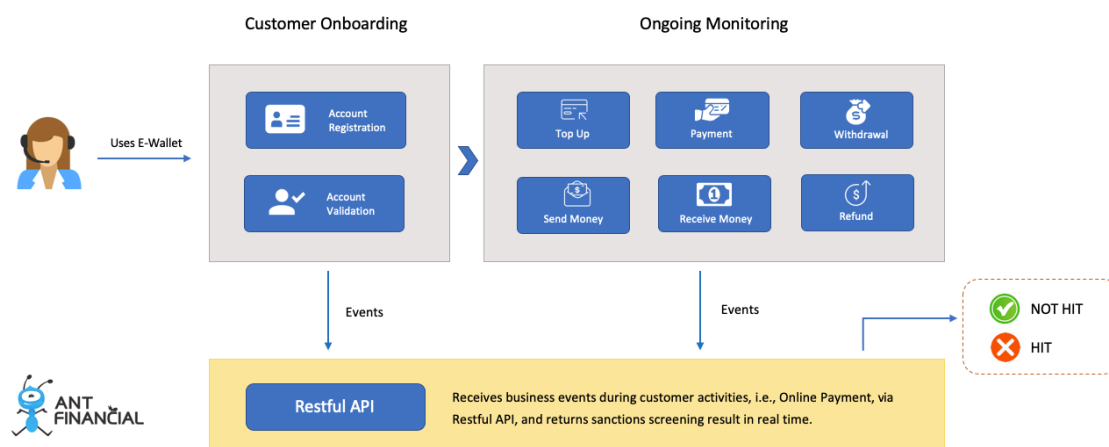
Business events, i.e. Customer Onboarding / Send Money, need be predefined in Ant Financial AML system prior to integration. Business Requirement Document (BRD) should be filed to Ant Financial AML team to implement these events. A business event defines a set of screening strategies, including:

- **Fields to screen:** Defines fields to be screened. For example, an Account Validation event usually screens customer's name, identity type as well as identity number, etc.
- **Watch lists:** Defines watch lists to be used for screening. Currently only World Check watch list is supported; However, a subset of World Check watch list could be filtered according to business scenarios, e.g. OFAC watch list.

# 4 Business Specification

## 4.1 Business Events

Ant Financial defines a standardized set of events that match different business scenarios during typical customer activities.



Ant Financial sanctions screening API supports event including:

- **Account Registration**

- **Account Validation**
- **Send Money**
- **Receive Money**
- **Payment**
- **Withdrawal**

Additional business events could also be added if none of above predefined events meets business requirement.

## 4.2 Screening Decision

In general, Ant Financial sanctions screening API returns screening decision with 2 options:

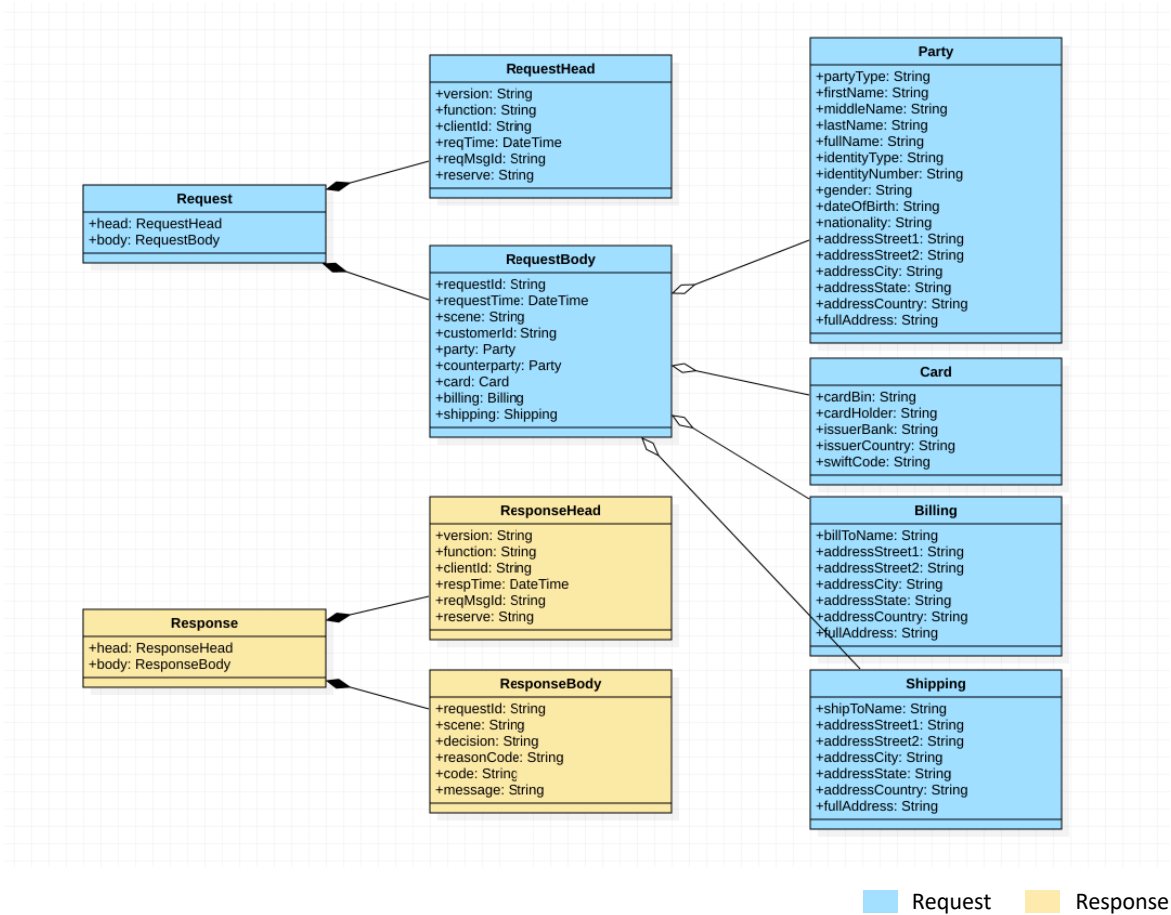
- **NOT\_HIT**: No hit any watch list in this screening.
- **HIT**: Hit watch lists in this screening, which suggests PSP or E-Wallet should be caution with customer's activities.

# 5 Data Specification

## 5.1 Data Segments

The section is to specify all data required by Ant Financial sanctions screening API, the diagram below is an overview for all data segments defined by Ant Financial AML system. There are total 5 categories are covered which including:

- **Party**
- **Counterparty**
- **Card**
- **Billing**
- **Shipping**



## 5.2 Event Data Matrix

Event	Party	Counterparty	Card	Billing	Shipping
Account Registration	●				
Account Validation	●				
Send Money	○	●			
Receive Money	○	●			
Payment	○	●	○	○	○
Withdrawal			●		



●: Required, ○ : Optional

## 5.3 Specification

### 5.3.1 Party

Parameter	Required	Description	Example
partyType	M	Party type, either PERSON or ENTITY.	PERSON
firstName	O	First name.	James
middleName	O	Middle name.	Robert
lastName	O	Last name.	Smith
fullName	M	Full name. <b>NOTE</b> If fullName is provided, the fullName is screened, otherwise the concatenation of firstName, middleName and lastName is screened.	James R. Smith
identityType	O	Identity type, i.e. PASSPORT	PASSPORT
identityNumber	O	Identity number.	65093343
gender	O	Gender, F for Female, M for Male, U for Unknown	F
dateOfBirth	O	Date of birth in "yyyy-MM-dd" format.	1988-10-22
nationality	O	Country code, ISO 3166-1 alpha-2 format.	US
addressStreet1	O	Street 1 of address	822 Cimmaron Road
addressStreet2	O	Street 2 of address	
addressCity	O	City of address	RIDGECREST
addressState	O	State of address	California
addressCountry	O	Country code of address, ISO 3166-1 alpha-2 format	US
fullAddress	O	Full address <b>NOTE</b> If fullAddress is provided, the fullAddress is screened, otherwise the concatenation of addressStreet1, addressStreet2, addressCity, addressState and addressCountry is screened.	814 Cimmaron Road, RIDGECREST, California US

```
"party": {
  "partyType": "PERSON",
  "firstName": "James",
  "middleName": "Robert",
  "lastName": "Smith",
```

```

"nationality": "US",
"fullAddress": "814 Cimmaron Road, RIDGECREST, California US"
}

```

### 5.3.2 Card

Parameter	Required	Description	Example
cardBin	M	Card bin, first 6 digits of card number.	439255
cardHolder	O	Card holder name	James Smith
issuerBank	O	Issuer bank name	Standard Chartered Bank
issuerCountry	O	Country code of issuer bank	US
swiftCode	O	Swift code	

```

"card": {
  "cardBin": "439255",
  "cardHolder": "James Smith",
  "issuerBank": "Standard Chartered Bank",
  "issuerCountry": "US"
}

```

### 5.3.3 Billing

Parameter	Required	Description	Example
billToName	M	Bill to name	James Smith
addressStreet1	O	Street 1 of address	822 Cimmaron Road
addressStreet2	O	Street 2 of address	
addressCity	O	City of address	RIDGECREST
addressState	O	State of address	California
addressCountry	O	Country code of address, ISO 3166-1 alpha-2 format	US
fullAddress	O	Full address <b>NOTE</b> If fullAddress is provided, the fullAddress is screened, otherwise the concatenation of addressStreet1, addressStreet2, addressCity, addressState and addressCountry is screened.	814 Cimmaron Road, RIDGECREST, California US

```
"billing": {  
  "billToName": "James Smith",  
  "addressStreet1": "822 Cimmaron Road",  
  "addressCity": "RIDGECREST",  
  "addressState": "California",  
  "addressCountry": "US"  
}
```

### 5.3.4 Shipping

Parameter	Required	Description	Example
shipToName	M	Ship to name	James Smith
addressStreet1	O	Street 1 of address	822 Cimmaron Road
addressStreet2	O	Street 2 of address	
addressCity	O	City of address	RIDGECREST
addressState	O	State of address	California
addressCountry	O	Country code of address, ISO 3166-1 alpha-2 format	US
fullAddress	O	Full address <b>NOTE</b> If fullAddress is provided, the fullAddress is screened, otherwise the concatenation of addressStreet1, addressStreet2, addressCity, addressState and addressCountry is screened.	814 Cimmaron Road, RIDGECREST, California US

```
"shipping": {  
  "shipToName": "James Smith",  
  "addressStreet1": "822 Cimmaron Road",  
  "addressCity": "RIDGECREST",  
  "addressState": "California",  
  "addressCountry": "US"  
}
```

## 6 API Specification

### 6.1 Request

The section describes the general AML request provided by Ant Financial sanctions screening API.

#### 6.1.1 Head

Parameter	Data type	Required	Description	Example
version	String	M	API version	1.0
function	String	M	API interface	antfin.security.aml.analyze
clientId	String	M	Client id distributed by Ant Financial AML system, and used to identify partner and application system.	pbavRwEYS2LgpRb3hLwVBEzm
reqTime	DateTime	M	Request time in ISO 8601 format, e.g. yyyy-MM-ddTHH:mm:ss.sss±hh:mm. The character 'T' is the delimiter between date and time, and '±' is the delimiter between time and time zone (offset from UTC).	2018-12-22T14:02:11.123+07
reqMsgId		M	Identify unique system request. It is not used to identify a unique business request.	
reserve	String	O	Reserved for future use	{"attr1":"value1"}

#### 6.1.2 Body

Parameter	Data type	Required	Description	Example
requestId	String	M	Business request id (32 ~ 64 bytes)	aa3b8bab7a9340f2b3021645816b0964
requestTime	String	M	Business request time in ISO 8601 format, e.g. yyyy-MM-ddTHH:mm:ss.sss±hh:mm. The character 'T' is the delimiter between date and time, and '±' is the delimiter between time and time zone (offset from UTC).	2018-12-22T14:02:11.123+07

scene	String	M	Business scenario	SEND_MONEY
customerId	String	O	Customer's unique id	
party	Party	O	Party information	Refer to <a href="#">Party</a>
counterparty	Party	O	Counterparty information	Refer to <a href="#">Party</a>
card	Card	O	Card information	Refer to <a href="#">Card</a>
billing	Billing	O	Billing information	Refer to <a href="#">Billing</a>
shipping	Shipping	O	Shipping information	Refer to <a href="#">Shipping</a>

## 6.2 Response

### 6.2.1 Head

Parameter	Data type	Description	Example
version	String	API version	1.0
function	String	API interface	antfin.security.aml.analyze
clientId	String	Client id distributed by Ant Financial AML system, and used to identify partner and application system.	pbavRwEYS2LgpRb3hLwVBEzm
respTime	DateTime	Response time in ISO 8601 format, e.g. yyyy-MM-ddTHH:mm:ss.sss±hh:mm. The character 'T' is the delimiter between date and time, and '±' is the delimiter between time and time zone (offset from UTC).	2018-12-22T14:02:11.123+07
reqMsgId		Identify unique system request. It is not used to identify a unique business request.	
reserve	String	Reserved for future use	{"attr1":"value1"}

### 6.2.2 Body

Parameter	Data type	Description	Example
requestId	String	Business request id	aa3b8bab7a9340f2b3021645816b0964

scene	String	Business scenario code	SEND_MONEY
decision	String	Screening decision: NOT_HIT: Not hit any watch list HIT: Hit some watch lists	NOT_HIT
reasonCode	String	Reason of screening decision, one of: <ul style="list-style-type: none"> <li>AML_CLEAN if decision is NOT_HIT</li> <li>POSSIBLE_IN_WATCH_LIST</li> </ul>	AML_CLEAN
code	String	Return code	OK
message	String	Return message	Success

## 6.3 Signature

The signature is used to identify the request sent from trusted client. If the server fails to verify the signature of the request, an error will be returned.

The signature need append to the request, as below:

```
{
  "request": {
    "head": {
      // ...
    },
    "body": {
      // ...
    }
  },
  "signature": "The signature of the request"
}
```

The signature string of the request must follow two steps:

1. Create a string to sign

```
StringToSign = Hash(requestId + '\n' + requestTime + '\n' + scene)
```

Note that the requestId, requestTime and scene are fields from RequestBody, and the Hash(data) represents *sha256* function.

2. Calculate the final signature

Signature = HMAC(MD5(clientSecret), StringToSign)

Note that the HMAC(key, data) represents *hmac-sha1* function.

## 6.4 Return Code

Code	Message
OK	Success
INVALID_SIGNATURE	Invalid signature
INVALID_REQUEST	Invalid request
SYSTEM_ERROR	Internal system error

# 7 Event Specification

## 7.1 Account Registration

```
POST /api/v1/aml/analyze
{
  "request": {
    "head": {
      "version": "1.0",
      "function": "antfin.security.aml.analyze",
      "clientId": "pbavRwEYS2LgpRb3hLwVBEzm",
      "reqTime": "2018-12-22T14:02:11.123+07",
      "reqMsgId": "abc1234567asdfasdf1123fda",
      "reserve": {}
    },
    "body": {
      "requestId": "aa3b8bab7a9340f2b3021645816b0964",
      "requestTime": "2018-12-22T14:02:11.123+07",
      "scene": "ACCOUNT_REGISTRATION",
      "party": {
        "partyType": "PERSON",
```

```
        "firstName": "James",
        "middleName": "Robert",
        "lastName": "Smith",
      }
    },
    "signature": "09d2b6bc829df6f04b73b42f6851f4f4cea3825b5bbb92b929ae0e5ad83fcc2d"
  }
}
```

## 7.2 Account Validation

```
POST /api/v1/aml/analyze
{
  "request": {
    "head": {
      "version": "1.0",
      "function": "antfin.security.aml.analyze",
      "clientId": "pbavRwEYS2LgpRb3hLwVBEzm",
      "reqTime": "2018-12-22T14:02:11.123+07",
      "reqMsgId": "abc1234567asdfasdf1123fda",
      "reserve": {}
    },
    "body": {
      "requestId": "aa3b8bab7a9340f2b3021645816b0964",
      "requestTime": "2018-12-22T14:02:11.123+07",
      "scene": "ACCOUNT_VALIDATION",
      "party": {
        "partyType": "PERSON",
        "firstName": "James",
        "middleName": "Robert",
        "lastName": "Smith",
        "nationality": "US",
        "dateOfBirth": "1988-10-22",
        "identityType": "SSN",
        "identityNumber": "602-40-6312"
      }
    }
  },
}
```



```
    }  
  },  
  "signature": "09d2b6bc829df6f04b73b42f6851f4f4cea3825b5bbb92b929ae0e5ad83fcc2d"  
}
```

## 7.3 Send Money

POST /api/v1/aml/analyze

```
{  
  "request": {  
    "head": {  
      "version": "1.0",  
      "function": "antfin.security.aml.analyze",  
      "clientId": "pbavRwEYS2LgpRb3hLwVBEzm",  
      "reqTime": "2018-12-22T14:02:11.123+07",  
      "reqMsgId": "abc1234567asdfasdf1123fda",  
      "reserve": {}  
    },  
    "body": {  
      "requestId": "aa3b8bab7a9340f2b3021645816b0964",  
      "requestTime": "2018-12-22T14:02:11.123+07",  
      "scene": "SEND_MONEY",  
      "counterparty": {  
        "partyType": "PERSON",  
        "firstName": "James",  
        "middleName": "Robert",  
        "lastName": "Smith",  
        "nationality": "US"  
      }  
    }  
  },  
  "signature": "09d2b6bc829df6f04b73b42f6851f4f4cea3825b5bbb92b929ae0e5ad83fcc2d"  
}
```

## 7.4 Receive Money

```
POST /api/v1/aml/analyze

{
  "request": {
    "head": {
      "version": "1.0",
      "function": "antfin.security.aml.analyze",
      "clientId": "pbavRwEYS2LgpRb3hLwVBEzm",
      "reqTime": "2018-12-22T14:02:11.123+07",
      "reqMsgId": "abc1234567asdfasdf1123fda",
      "reserve": {}
    },
    "body": {
      "requestId": "aa3b8bab7a9340f2b3021645816b0964",
      "requestTime": "2018-12-22T14:02:11.123+07",
      "scene": "RECEIVE_MONEY",
      "counterparty": {
        "partyType": "PERSON",
        "fullName": "James R. Smith",
        "nationality": "US"
      }
    }
  },
  "signature": "09d2b6bc829df6f04b73b42f6851f4f4cea3825b5bbb92b929ae0e5ad83fcc2d"
}
```

## 7.5 Payment

```
POST /api/v1/aml/analyze

{
  "request": {
    "head": {
      "version": "1.0",
```

```
"function": "antfin.security.aml.analyze",
"clientId": "pbavRwEYS2LgpRb3hLwVBEzm",
"reqTime": "2018-12-22T14:02:11.123+07",
"reqMsgId": "abc1234567asdfasdf1123fda",
"reserve": {}
},
"body": {
  "requestId": "aa3b8bab7a9340f2b3021645816b0964",
  "requestTime": "2018-12-22T14:02:11.123+07",
  "scene": "PAYMENT",
  "counterparty": {
    "partyType": "PERSON",
    "firstName": "James",
    "middleName": "Robert",
    "lastName": "Smith",
    "nationality": "US"
  },
  "card": {
    "cardBin": "439255",
    "cardHolder": "James Smith",
    "issuerBank": "Standard Chartered Bank",
    "issuerCountry": "US"
  },
  "billing": {
    "billToName": "James Smith",
    "addressStreet1": "822 Cimmaron Road",
    "addressCity": "RIDGECREST",
    "addressState": "California",
    "addressCountry": "US"
  },
  "shipping": {
    "shipToName": "James Smith",
    "addressStreet1": "822 Cimmaron Road",
    "addressCity": "RIDGECREST",
    "addressState": "California",
    "addressCountry": "US"
  }
}
```

```
    }  
  },  
  "signature": "09d2b6bc829df6f04b73b42f6851f4f4cea3825b5bbb92b929ae0e5ad83fcc2d"  
}
```

## 7.6 Withdrawal

```
POST /api/v1/aml/analyze  
{  
  "request": {  
    "head": {  
      "version": "1.0",  
      "function": "antfin.security.aml.analyze",  
      "clientId": "pbavRwEYS2LgpRb3hLwVBEzm",  
      "reqTime": "2018-12-22T14:02:11.123+07",  
      "reqMsgId": "abc1234567asdfasdf1123fda",  
      "reserve": {}  
    },  
    "body": {  
      "requestId": "aa3b8bab7a9340f2b3021645816b0964",  
      "requestTime": "2018-12-22T14:02:11.123+07",  
      "scene": "WITHDRAWAL",  
      "card": {  
        "cardBin": "439255",  
        "cardHolder": "James Smith",  
        "issuerBank": "Standard Chartered Bank",  
        "issuerCountry": "US"  
      }  
    }  
  },  
  "signature": "09d2b6bc829df6f04b73b42f6851f4f4cea3825b5bbb92b929ae0e5ad83fcc2d"  
}
```