Account Opening API 1.1
Source Development Guide

Document History

Date	Changes
14 November 2025	**Update:** Update wording on ERM
3 March 2025	**Update:** API source documentation for email.domain_creation_date; Query parameter updates for phone and email showing where required.
11 December 2024	**Update:** Included disclaimer for usage of Identity Risk Model
15 October 2024	**Update:** Branding update to remove Ekata and reflect Mastercard; Inclusion of Email Risk Score, mailbox_velocity and is_disposable. Updated phone.line_type value.

Table of Contents

Source Development Guide Overview

To establish best practices of API requests, this document should be used with the associated Integration Guide. The Integration Guide provides additional accepted formats for the following:

- Name
- Phone (required if no email present)
- Address
- Email (required if no phone present)
- Account signup ID and time (both are required)

Account Opening API assesses the overall risk of an applicant for a new account. Using the inputs of name, phone, address, email, and IP, the API returns 23 highly predictive identity verification features from Ekata's Identity Graph and Identity Network.

Account Opening API 1.1

Query Parameters

All parameters are string unless noted.

Query Parameters	Description
account_signup_id *required*	Desc: The identifier associated with the account sign-up. Please use the same identifier when submitting another query for the same account sign-up.
account_signup _time *required*	Desc: Timestamp must be in UTC time zone and date format. See the Integration Guide for additional information
name	Desc: The full legal name of the person.
email_address *required*	Example: email_address=waidong@gmail.com Desc: The email address of the person. Format requirement: emailaddress@domain.topleveldomain
Phone *required*	Desc: The phone number in E.164 or local format. See the Integration Guide for additional information.
phone.country_hint	Example: phone.country_hint=GB Desc: The ISO-3166 alpha-2 country code associated with the phone number. See the Integration Guide for additional information.
ip_address	Desc: The IP address associated with the event. Limit: IPv4 and IPv6 are the only valid IP versions accepted.
address.street_line_1	Example: address.street_line_1=100 Syrws St Desc: The first line of the street part in the primary structured address. Limit: Cannot exceed 1000 characters.
address.street_line_2	Example: address.street_line_2=Ste 1 Desc: The second line of the street part in the structured. Limit: address. (Cannot exceed 1000 characters.)
address.city	Example: address.city=London Desc: The name of the city in the structured address. Limit: (Cannot exceed 500 characters.)

Query Parameters	Description
address.postal_code	Example: address.postal_code=N7 8XG Desc: The postal code of the structured address. Limit: (Cannot exceed 100 characters.)
address.state_code	Example: address.state_code=JS Desc: The state code of the structured address. Limit: (Cannot exceed 100 characters.)
address.country_code	Example: address.country_code=GB Desc: The ISO-3166 alpha-2 country code associated with the phone number. See the Integration Guide for additional information.

Responses

[200]

Response Schema: application/json

Email Checks

Signals	Description
email.valid	*boolean* or *null* True if the email address is valid.
email.first_seen_days	*integer* or *null* <*int64*> Count of days since the email address was first observed in Ekata's Identity Network. If the email address has not been observed before, first_seen_days will be 0.
email.is_disposable	*boolean* or *null* True if the email domain is disposable. Disposable emails are generally associated with fraudulent activities. If true, this is one of the strongest risk indicators and the transaction should be flagged for further review.
email.domain_creation_date	*string* or *null* The date that the email domain was registered. Example: Gmail domain is dated to 2005-08-26 (YYYY-MM-DD)
email.risk_score	*number* <*double*> *[0 .. 1]* Highly performant risk score that assesses the risk level of an email address. The score is derived from a model that leverages features from the Identity Network and new features on email tumbling detection, email linkages to other PII elements, and a new disposable domain list service. A number between 0 and 1 rounded to three decimal places. To return a score, the only required input is an email address. To have the best performance, IP address, phone, or address is recommended.
email.mailbox_velocity	*integer* <*int64*> *[0 .. ∞]* Returns an integer value for the velocity (frequency) a mailbox has been seen in the past 180 days. A mailbox is the un-tumbled name part of an email address. E.g., johndoe@gmail.com, john.doe@gmail.com, and johndoe+123abc@gmail.com all have the same mailbox.
email.to_name	*string* or *null*

Signals	Description
	Enum: "not found" "match" "no-match" The match status between the input name and the queried entity.

IP Checks

Signals	Description
ip.risk	*boolean* or *null* True if the IP address is considered risky, based on multiple IP data points and velocity calculations.
ip.risk_score	*string* or *null <double> [0 .. 1] ^0\.[0-9]{1,3}|1\.0* Comprehensive risk score associated with an IP address, with a higher score indicating a riskier IP address. A number between 0 and 1 rounded to three decimal places.
ip.last_seen_days	*integer* or *null <int164>* Count of days since the IP address was last observed in Ekata's Identity Network. If the IP address has not been observed before, last_seen_days will be 0.
ip.geolocation_country_code	*string* or *null* The ISO-3166 alpha-2 country code associated with the geolocation of the individual's IP address. See the Integration Guide for additional information
ip.geolocation_subdivision	*string* or *null* More granular detail about the IP address location.
ip.phone_distance	*Integer* or *null <int64>* The distance (in miles) between the IP address and the closest physical address associated with the phone number.
ip.address_distance	*string* or *null <int164>* The distance (in miles) between the IP address and the physical address.

Phone Checks

Signals	Description
phone.valid	*boolean* or *null* True if the phone number is valid.
phone.line_type	*string* or *null* Enum: "non-fixed-VoIP" "premium" "voicemail" "landline" "fixed-VoIP" "toll-free" "other" "mobile" The line type of the phone number • **landline** - Traditional wired phone line • **fixed-VoIP** - VOIP-based fixed line phones • **mobile** - Wireless phone line • **voicemail** - Voicemail-only service • **toll-free** - Callee pays for call • **premium** - Caller pays a premium for the call–e.g., 976 area code • **non-fixed-VoIP** - Skype, for example • **other** - Anything that does not match the previous categories
phone.carrier	*string* or *null* The company that provides voice and/or data services for the phone number. Carriers are returned at the MVNO level.
phone.country_code	*string* or *null* The ISO-3166 alpha-2 country code associated with the phone number. See the Integration Guide for additional information.
phone.last_seen_days	*integer* or *null <int164>* Count of days since the phone-IP combination was last observed in Ekata's Identity Network. If the phone-IP combination has not been observed before, last_seen_days will be 0.
phone.email.first_seen_days	*Integer* or *null <int64>* Count of days since the combination of phone and email was first observed in Ekata's Identity Network. If that combination has not been observed before, first_seen_days will be 0.

phone.to_name	*string* or *null* Enum: "not-found" "match" "no-match" The match status between either of the input names (person or business) and the queried entity.
phone.to_address	*string* or *null* Enum: "match" "postal-match" "zip4-match" "city-state-match" "metro-match" "country-match" "no-match" • **match** – Phone location matches input address line 1, address line 2, city, state, and postal code. • **postal-match** – Phone location postal code matches input address postal code. • **zip4-match** – Phone location postal code zip+4 matches input address postal code zip+4. • **city-state-match** – Phone location city and state matches input address city and state. • **metro-match** – Phone location is in the same metro area as input address. • **country-match** – Phone location country matches input address country. • **no-match** – Phone location does not match input address

Address Checks

Signals	Description
address.validity_level	*string* or *null* Enum: "valid_to_house_number" "missing_address" "invalid" "valid" "valid_to_street" "valid_to_country" "valid_to_city" "valid_to_house_number_missing_apt" The most granular level to which the address could be validated. Ex. If the address was only valid to the city level (but not to the house level), it would return "valid_to_city". • **missing_address** – An input address was not provided. • **invalid** – The input address is not valid. • **valid** – The input address is valid. • **valid_to_country** – The input address could only be validated to the country level. This means the country of the input address is valid, but the other elements of the input address were unable to be confirmed as valid or invalid. • **valid_to_city** – The input address was validated to the city level. This means the country, state, city, and postal code of the input address are valid, but the street, house number, and subpremise of the input address were unable to be confirmed as valid or invalid. • **valid_to_street** – The input address was validated to the street level. This means the country, state, city, postal code, and street of the input address are valid, but the house number and subpremise of the input address were unable to be confirmed as valid or invalid. • **valid_to_house_number** – The input address was validated to the street and house number level. This means the country, state, city, postal code, street, and house number of the input address are valid, but the subpremise of the input address was unable to be confirmed as valid or invalid. • **valid_to_house_number_missing_apt** – The input address was validated to the street and house number level. This means the country, state, city, postal code, street, and house number of the input address are valid, but the subpremise of the input address was missing and thus unable to be confirmed as valid or invalid.
address.to_name	*string* or *null* Enum: "not-found" "match" "no-match" The match status between either of the input names (person or business) and the queried entity.

Signals	Description
identity_network_score	*Number* or *null [0 .. 1] <double> ^0\.[0-9]{1,3}|1\.0* Comprehensive network score built on behavioral insights such as velocity, popularity, volatility, and age of an attribute, with a higher score indicating a riskier account sign-up. A number between 0 and 1 rounded to three decimal places.
identity_risk_score	*Integer* or *null <int164> [0 .. 500]* Comprehensive identity risk score with a higher score indicating a riskier account sign-up.
warnings	*array of strings* Items Enum Email: "General syntax error" Email: "Invalid top-level-domain (TLD) in address" Email: "Address is too long" Email: "Invalid username syntax" Email: "Invalid domain syntax" Address: "Input state corrected" Address: "Missing country_code" Address: "Input postal code was corrected" Phone: "Invalid country_hint value. Only Alpha-2 supported" Ip: "IP address is in private range" An array containing warning messages.

Request

Get /1.1/account_opening

Request Samples: cURL

```
curl --get -H "Authorization: Bearer <API_KEY>" 'https://api.ekata.com/1.1/account_opening' \
--data-urlencode 'account_signup_id= 95285489a80b059a7f0be7147ba211f1' \
--data-urlencode 'account_signup_time= 2020-12-31 13:45' \
--data-urlencode 'name= Martin Chang' \
--data-urlencode 'phone= 67340062' \
--data-urlencode 'email_address= martinchang@gmail.com' \
--data-urlencode 'address.street_line_1= 153 Joo Chiat Rd' \
--data-urlencode 'address.street_line_2= ' \
--data-urlencode 'address.city= Singapore' \
--data-urlencode 'address.state_code= ' \
--data-urlencode 'address.postal_code= 427431' \
--data-urlencode 'address.country_code= SG' \
--data-urlencode 'ip_address= 54.190.251.42' \
```

Response Samples


```
{
"email.valid": true,
"email.first_seen_days": 453,
"email.is_disposable": false,
"email.domain_creation_date":"2011-06-29",
"email.risk_score": 0.23,
"email.mailbox_velocity": 4,
"email.to_name": "not-found",
"ip.risk": false,
"ip.risk_score": 0.117,
"ip.last_seen_days": 35,
"ip.geolocation_country_code": "US",
"ip.geolocation_subdivision": "Oregon",
"ip.phone_distance": 200,
"ip.address_distance": 210,
"phone.valid": true,
"phone.line_type": "mobile",
"phone.carrier": "Vodafone Uk Ltd",
"phone.country_code": "GB"
"phone.last_seen_days": 42,
"phone.email.first_seen_days": 56,
"phone.to_name": "match",
"phone.to_address": "match",
"address.validity_level": "valid",
"address.to_name": "match",
"identity_network_score": 0.574,
"identity_risk_score": 275,
"warnings": []
}
```

Error Handling

Ekata uses conventional HTTP response codes to indicate success or failure of a request. Codes in the 2xx range indicate a successful response. Codes in the 4xx range indicate an error that resulted from the API request. Codes in the 5xx range indicate an error within Ekata's system. Contact support@ekata.com for help on errors that can't be resolved.

HTTP Code	Error Name	Error Message(s)	Likely Cause
400 Bad Request	MissingInput	account_signup_id_required account_signup_time_required phone_or_email_address_required	API request is missing one or both required inputs.
401 Unauthorized	AuthError	invalid-auth-token	API key is not provided in the API request.
402 Payment Required	QuotaExceededError	quota-exceeded	API key has exceeded its lifetime quota of requests.
403 Forbidden	AuthError	action-unauthorized	Configuration issue on Ekata's end or invalid input sent.
403 Forbidden	AuthError	invalid-auth-token	API key provided is invalid.
403 Forbidden	AuthError	ip-blocked	API request is from an IP address that isn't on the permitted IPs list.
403 Forbidden	AuthError	token-archived	API key has been archived.
403 Forbidden	AuthError	token-disabled	API key is not valid yet.
403 Forbidden	AuthError	token-expired	API key has expired.
404 Not Found	InvalidResourceURI	Invalid resource URI	API request has been made to an invalid URI/endpoint
429 Too Many Requests	-	-	API key has exceeded its rate limit.
500 Internal Server Error	InternalError	internal-error	Internal error on Ekata's end.

How To Respond to Error Codes

- 4xx error code is returned, review and correct the input.
- 429 error code is returned, the call will *not* automatically retry the query. Retry requests once the rate of 429 responses has returned to normal.

For Account Opening API, it is recommended to configure timeouts at 1000ms.

Disclaimers

This model is designed to be an informational tool only. This model is provided as a rough estimate of authentication-based risk decisioning performance. The analysis performed by this model is a series of general estimates which are based upon the underlying information and assumptions now available. That information may change over time, and the analysis would need to be updated to reflect those changes for the analysis to be useful. The assumptions regarding authorization rates are hypothetical and there can be no guarantee that they will be achieved. Actual results may vary substantially from the figures shown. Mastercard accepts no responsibility for any losses arising from any use of or reliance upon any calculations or conclusions reached using this Model.

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