FoneVerify

Mobile Number Verification API Document

Version 1.3

For

Title

Prepared By	Date of Preparation	Signature
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Change Log

S No.	Dated	Done By	Change Description
1.	15th July, 2015	Sanjeev Anand/Saurabh Kapoor	Updating APIs for SMS flow
2.	18th August, 2015	Saurabh Kapoor	Updating APIs for SMS Flow and adding APIs for Voice as well
3.	28th October, 2015	Saurabh Kapoor	Content rectification for API specification and time-interval update

OVERVIEW

Mobile phone number serves as the ultimate user identity in digital universe. Digital applications whether on web or on mobile; verify mobile numbers of their users to ensure their authenticity. To address this growing need, U2opia has developed a reliable, quick and cost-effective mobile number verification service called Foneverify.

This document will give you an overview of APIs that website and mobile app developers can integrate to make Foneverify work for them. These APIs will support accurate identification of end-users' mobile numbers.

In order to align your applications Foneverify interfaces, follow these steps:

1. Register as a User on Foneverify website. If you haven't already registered, you can do so by selecting the "Sign Up" button on Foneverify site. Once registered, you will receive a unique "Customer ID".
2. Register the app that you want on Foneverify site. Once registered, the app will be assigned an "App Key"
3. Take note of the following items as they will be passed frequently during API calls:

Parameter	Description	Example
Customer ID	Unique string that identifies each user registered with Foneverify	345TWXYZ
App Key	Secret key specific to each app registered	KLHJ789Y6HT348957Y25H

4. Learn how to make Foneverify API calls. Once you have registered on the website, you are allowed up to ten free trial verifications.

API Calls & Key Parameters

Foneverify enables you to verify whether one of your end users has access to a specific mobile number through two different mechanisms:

a) Challenging them with an OTP (one time password) to enter into your application or website. That OTP is sent by Foneverify via SMS. End-user enters the correct OTP, server matches the OTP, and the number stands verified.

b) Challenging them with a country-specific DID number (Direct inward dialling number) to dial from their mobile phone. That DID is shared with application or website as a response to verification request. End-user makes the call to DID displayed, server disconnects the call, and the number stands verified.

By selecting a specific verification workflow (SMS/Voice or SMS/SMS) on Foneverify website, user (*account owner*) chooses either of the mechanisms to kick off a verification cycle. Thus, user controls to a certain degree the end-user experience of mobile number verification.

SMS/Voice verification workflow utilizes “Number verification through SMS” API as the first port of call. Any API other than this, as the first port of call, will result in error.

Voice/SMS verification workflow utilizes “Number verification through Voice” API as the first port of call. Any API other than this, as the first port of call, will result in error.

In the event that user (*account owner*) sends initial request on API other than the one assigned as per his verification workflow chosen, he will receive error code 509: WRONG_CALL_FLOW_INIT_STATE_USED

There are simply three API calls to effect the aforementioned two verification workflows:

i) **Number Verification through SMS**: provide the number to be verified and Foneverify will send back an OTP (one time password) via SMS. A verification ID will also be sent for future reference. Some requests might be rejected outright (e.g. invalid numbers or parameters).

ii) **Number verification through Voice**: provide the number to be verified and Foneverify will assign a country-specific DID (direct inward dialling) number, and display on the application or website that made the verification request. A verification ID will also be sent for future reference. Some requests might be rejected outright (e.g. invalid numbers or parameters).

iii) **Verification Update Status**: look up a verification request in order to know its status (In progress, Successful, Failed or Expired) and many other attributes.

User mobile number verification cycle gets started with requests (i) & (ii). The complete time-interval of verification cycle is 180 seconds (3 minutes), bifurcated equally between initial and fallback cases.

Once a verification cycle gets completed (either Successful or Failure), the application can again request for number verification of same user. It will be taken care as new verification cycle.

All Foneverify requests must be submitted to the base URL. Responses will be made in JSON format.

Each API is covered in greater detail below in the section “API Description”.

Key Parameters

- **Customer ID**: Unique string that identifies each user registered with Foneverify
- **App Key**: Secret key specific to each app registered by Foneverify user
- **MSISDN**: Mobile number of the end-user for which verification request is made
- **Verification ID**: Unique ID generated for each verification request, right at the beginning of verification cycle
- **smsCLI**: Unique string that defines the service & the service provider. smsCLI denotes the sender that sends the SMS
- **Timeout**: Time interval after which app can request for SMS delivery status
- **didAssigned**: DID number along with country code assigned to MSISDN that initiated a verification request
- **Code**: OTP entered by end-user in application or website

API Description

1) NUMBER VERIFICATION THROUGH SMS

This API may serve to initiate end-user verification request.. This API enables sending of One-Time Password (OTP) via SMS on end-user's mobile number.

This API entertains request over HTTP Post Method. GET request is discarded by Foneverify server SeSeveral validations are incorporated at FoneVerify server to sanitize upcoming request parameters. Responses will be made in JSON format.

REQUEST

Method	Base URL
POST	http://apifv.foneverify.com/U2opia_Verify/v1.0/flow/sms

Parameter	Description	Example	Required/Optional
customerId	Unique string that identifies each user registered with Foneverify	345TWXYZ	Required
isoCountryCode	ISO Country Code specific to a country	UK	Required
Msisdn	MSISDN of the user for which verification need to be done.	9234890011	Required
App Key	Secret key specific to each app registered	KLHJ789Y6HT348957Y25H	Required
transactionID	Transaction ID specific to each transaction	334466	Optional
langID	Language ID specific to multi-ligual text formats; If not provided, default is 1 associated to English	2	Optional

After submitting the request, you will receive an HTTP response. HTTP response will contain a JSON object. Response will contain the following keys and values

Keys	Values
verificationId	Unique ID generated for verification request. This ID will be used to make verification calls by application
smsCLI	Unique string that defines the service & the service provider. smsCLI denotes the sender that sends the SMS
mobileNumber	Mobile number which was provided by app for verification
responseCode	The response code depicting status of processing
Timeout	Time interval after which app can request for SMS delivery status
errorMessage	Type of error occurred for request

If response is a validation failure or other error**;** error message INVALID_CUSTOMER_ID will be sent.

Field	Description	Example
responseCode	The response code depicting status of processing	501
errorMessage	Type of error occurred for request	INVALID_CUSTOMER_ID

Sample Successful Response

HTTP/1.1
Status: 200 OK
Content-Type: application/json; charset=utf-8
Content-Encoding: gzip
{"verificationId" : xxxxxxx, "mobileNumber": "9845678291, "smsCLI" : "VERIFY",, “responseCode” : 200, “timeout”:”90000”}

Please be informed that initial request will remain active for 90 seconds to verify end-user msisdn by invoking update api with otp entered by user. Post 90 seconds, verification will get expired and switch to fallback case with update api.

2) NUMBER VERIFICATION THROUGH VOICE

This API may serve to initiate end-user verification request. This API enables assigning of Direct Inward Dialling (DID) number to end-user's mobile number that placed the verification request.

This API entertains request over HTTP Post Method. GET request will be discarded by server

Several validations are incorporated at FoneVerify server to sanitize upcoming request parameters. responses will be made in JSON format.

REQUEST

Method	Base URL
POST	http://apifv.foneverify.com/U2opia_Verify/v1.0/flow/voice

Parameter	Description	Example	Required/Optional
customerId	Unique string that identifies each user registered with Foneverify	345TWXYZ	Required
isoCountryCode	ISO Country Code specific to a country	UK	Required
Msisdn	MSISDN of the user for which verification need to be done.	9234890011	Required
App Key	Secret key specific to each app registered	KLHJ789Y6HT348957Y25H	Required
transactionID	Transaction ID specific to each transaction	334466	Optional

After submitting the request, you will receive an HTTP response. HTTP response will contain a JSON object. Response will contain the following keys and values:

Case I: When DID service is available in country requested

Keys	Values
verificationId	Unique ID generated for verification request. This ID will be used to make verification calls by application
didAssigned	DID number along with country code assigned to MSISDN provided in verification request
mobileNumber	Mobile number which was provided by app for verification
responseCode	The response code depicting status of processing
Timeout	Time interval after which app can request for SMS delivery status
errorMessage	Type of error occurred for request

Case II: When DID service is not available in country requested. In this verification workflow will automatically switch to 'verification via SMS' mode, and OTP will be sent to end-user

Keys	Values
verificationId	Unique ID generated for verification request. This ID will be used to make verification calls by application
smsCLI	Short Code CLI from which the user will get the SMS
mobileNumber	Mobile number which was provided by app for verification
responseCode	711 - `COUNTRY_NOT_SUPPORTED_OTP_SENT`
Timeout	Time interval after which app can request for SMS delivery status
errorMessage	Type of error occurred for request

If response is a validation failure or other error**;** error message INVALID_CUSTOMER_ID will be sent

Field	Description	Example
responseCode	The response code depicting status of processing	501
errorMessage	Type of error occurred for request	INVALID_CUSTOMER_ID

Please be informed that initial request will remain active for 90 seconds to verify end-user msisdn by invoking update api with did number provided to user. Post 90 seconds, verification will get expired and switch to fallback case with update api.

3) VERIFICATION UPDATE STATUS API

Once the application receives verificationId along with timeout, it can request for status update of verification cycle using update API. Please be informed that this API is common to both SMS and Voice verification mechanisms with minor tweak in request parameters.

This API will be utilized to switch verification cycle over fallback scenario once initial request time-interval gets expired.

REQUEST

Method	Base URL
GET	http://apifv.foneverify.com/U2opia_Verify/v1.0/flow/update

Four use cases get invoked when calling this API:
Case I: Requesting delivery report status after timeout interval provided in SMS initial request
Case II: Requesting update status with OTP entered by user over application within stipulated (90 sec) timeout interval for initial request
Case III: Requesting update status after timeout interval in VOICE initial request
Case IV: When user hasn't entered OTP provided or hasn't called on DID assigned or bifurcated timer (90 seconds) expired

Case I: Requesting delivery report status after timeout interval provided in SMS initial request

REQUEST

Parameter	Description	Example	Required/Optional
customerId	Unique string that identifies each user registered with Foneverify	345TWXYZ	Required
verificationId	Specific to each verification cycle. Provided at the time of initial verification request.	7	Required
App Key	Secret key specific to each app registered	KLHJ789Y6HT34 8957Y25H	Required

Response will contain the following keys and values:

Case (A): When delivery report either pending or successfully delivered:

Keys	Values
verificationId	Unique ID generated for verification request. This ID will be used to make verification calls by application
verificationStatus	Verification Status depicting status of verification
responseCode	708 - `SMS_DELIVERY_REPORT_PENDING`

Case (B): When SMS delivery fails on end-user's MSISDN

In this scenario, after receiving update request, server will automatically switch to fallback state based upon quota available. If quota for selected flow exhausts, server will fail currently ongoing verification and application needs to re-initiate verification.

Keys	Values
verificationId	Unique ID generated for verification request. This ID will be used to make verification calls by application
verificationStatus	Verification Status depicting status of verification
responseCode	704 - `TRYING_FALLBACK_SMS_DELIVERED`
mobileNumber	MSISDN for which verification cycle exists
smsCLI	Short Code CLI from which the user will get the SMS (when fallback state is SMS)

didAssigned	DID number along with country code assigned to msisdn provided in request

If response is a validation failure or other error message INVALID_CUSTOMER_ID will be sent

Field	Description	Example
responseCode	The response code depicting status of processing	501
errorMessage	Type of error occurred for request	INVALID_CUSTOMER_ID

Case II: Requesting update status with OTP entered by user over application after timeout interval provided in SMS initial request

REQUEST

Parameter	Description	Example	Required/Optional
customerId	Unique string that identifies each user registered with Foneverify	345TWXYZ	Required
verificationId	Specific to each verification cycle. Provided at the time of initial verification request.	7	Required
App Key	Secret key specific to each app registered	KLHJ789Y6HT34 8957Y25H	Required
Code	OTP entered by user in the application	5649	Required

When OTP entered by end-user matches the one shared with him/her; within the stipulated time; response will contain the following keys and values:**Keys**	**Values**
verificationId	Unique ID generated for verification request. This ID will be used to

	make verification calls by application
verificationStatus	Verification Status depicting status of verification
responseCode	200 – `response code depicting status`
mobileNumber	MSISDN for which verification cycle exists

If response is a validation failure or other error**;** error message INVALID_CUSTOMER_ID will be sent

Field	Description	Example
responseCode	The response code depicting status of processing	501
errorMessage	Type of error occurred for request	INVALID_CUSTOMER_ID

Case III: Requesting update status after timeout interval provided in VOICE initial request

REQUEST

Parameter	Description	Example	Required/Optional
customerId	Unique string that identifies each user registered with Foneverify	345TWXYZ	Required
verificationId	Specific to each verification cycle. Provided at the time of initial verification request.	7	Required
App Key	Secret key specific to each app registered	KLHJ789Y6HT34 8957Y25H	Required
DID	Complete DID number assigned to this verification cycle	+13403601844	Required

When DID called by end-user within stipulated time, matches the one assigned to him/her; response will contain the following keys and values

Keys	Values
verificationId	Unique ID generated for verification request. This ID will be used to make verification calls by application

verificationStatus	Verification Status depicting status of verification
responseCode	200 – `response code depicting status`
mobileNumber	MSISDN for which verification cycle exists

If response is a validation failure or other error**;** error message INVALID_CUSTOMER_ID will be sent

Field	Description	Example
responseCode	The response code depicting status of processing	501
errorMessage	Type of error occurred for request	INVALID_CUSTOMER_ID

Case IV: When user hasn't entered provided OTP or hasn't called on DID assigned or bifurcated timer (90 seconds) expired

REQUEST

Parameter	Description	Example	Required/Optional
customerId	Unique string that identifies each user registered with Foneverify	345TWXYZ	Required
verificationId	Specific to each verification cycle. Provided at the time of initial verification request.	7	Required
App Key	Secret key specific to each app registered	KLHJ789Y6HT34 8957Y25H	Required
DID	Complete DID number assigned to this verification cycle (in Voice verification mode)	+13403601844	Required
Code	OTP entered by user in the application (in SMS verification mode)	5649	Required

Response will contain the following keys and values:

Keys	Values
verificationId	Unique ID generated for verification request. This ID will be used to make verification calls by application
verificationStatus	Verification Status depicting status of verification
responseCode	Response code depicting status
mobileNumber	MSISDN for which verification cycle exists
smsCLI	Short Code CLI from which the user will get the SMS (when fallback state is SMS)
didAssigned	DID number along with country code assigned to msisdn provided in request

If response is a validation failure or other error**;** error message INVALID_CUSTOMER_ID will be sent

Field	Description	Example
responseCode	The response code depicting status of processing	501
errorMessage	Type of error occurred for request	INVALID_CUSTOMER_ID

Sample Successful Response

HTTP/1.1
Status: 200 OK
Content-Type: application/json; charset=utf-8
Content-Encoding: gzip
{"verificationId" : xxxxxxx, ”mobileNumber”:”9xxxxxxxxx”, “responseCode” : “200”}

STATUS CODES

Code	Display Text
200	Success (Request Received / VERIFICATION_COMPLETED)
500	Unknown Response. Please Try again later.
501	INVALID_CUSTOMER_ID
502	INVALID_APP_KEY
503	INVALID_ISOCOUNTRYCODE
504	INVALID_MOBILE_NUMBERFORMAT
505	INVALID_VERIFICATION_ID
506	REQUEST_ALREADY_EXISTS
507	NO_ACTIVE_DID_FOUND
509	WRONG_CALL_FLOW_INIT_STATE_USED
700	VERIFICATION_FAILED
701	TRYING_FALLBACK
702	WRONG_OTP_PROVIDED
703	ALREADY_VERIFIED
704	NOT_VALID_TYPE_REQUEST
705	TRYING_FALLBACK_SMS_DELIVERED
706	TRYING_FALLBACK_SMS_NOT_DELIVERED
707	SMS_DELIVERED_SUCCESSFULLY
708	SMS_DELIVERY_REPORT_PENDING
709	WRONG_DID_PROVIDED
710	DID_VERIFICATION_PENDING
711	COUNTRY_NOT_SUPPORTED_OTP_SENT