DOTGO.

Konnect API

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Document History

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1. Introduction

This document covers the details for SMS and OBD APIs that need to be supported on the Konnect Platform. The APIs can be used by third party and enterprise software to send SMSs, initiate OBDs or configure inbound SMS campaigns.

2. Terminology

Term	Description
Provider	The provider of SMSC gateway, in most cases it could be Carrier where the KV.SMS application is deployed.
IVR	Interactive Voice Response
OBD	Outbound Dialling
MT	Mobile Terminated
MO	Mobile Originated
DTMF	Dual Tone Multi Frequency
TPS	Transactions Per Second

Table 1

3. Requirements

- Support for sending and tracking an SMS being sent using REST APIs

- Support for launching and tracking an OBD using REST APIs

- Support for launching and tracking an IVR campaign using REST APIs

4. REST API

Konnect supports REST API's for sending an SMS or an OBD or configuring an IVR campaign.

Base URI: **https://konnect.dotgo.com/api/v1/Accounts/{account_id}/**

The Konnect APIs makes uses of authentication as follows:-

- The Konnect **account_id** value is set in the URL

- The Konnect **api_token** is passed in the Authorization header

The account_id and api_token are available on the Account Dashboard once the user logs in to the Konnect portal (https://konnect.dotgo.com/).

The REST APIs support the following HTTP response codes:-

| HTTP Status code	Description
200	Request is successful
201	Resource created
204	Resource deleted
400	Validation failed
401	Credentials not valid
404	Resource not found
405	Method not allowed
500	Server side error occurred, request needs to be re-tried

Table 2

Note: All the above response codes are now not supported in Konnect but is required for future implementations. The authorization header needs to be passed for all the Konnect REST API's.

SMS States

The following states are used to track the status of MT (Outbound SMS) messages:

- Accepted
- Rejected
- Queued
- Sent
- Failed
- Delivered
- Undelivered

The following figure depicts the states of the MT SMS messages:-
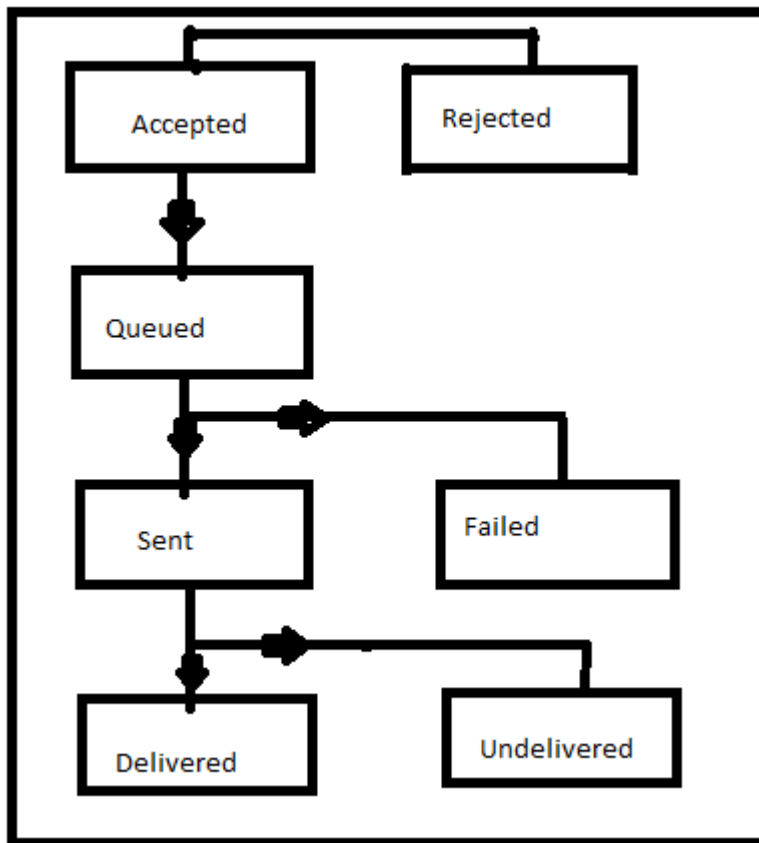
Status	Description
Accepted	Message is submitted successfully to the Konnect platform

Rejected	Message is rejected due to reasons like low balance, exceeding the prescribed SMS rate for the account etc.
Queued	Message is added into the SMS Queue
Sent	Message is successfully pushed to the provider
Failed	Message was rejected by the provider
Delivered	Message is successfully delivered by the provider
Undelivered	Message could not be delivered due to reason like expiry of the message.

Table 3

Note: In case of MO (Inbound SMS) the status is "**received**".

In case of "**Rejected**", "**Failed**" or "**Undelivered**" status the following error code and error messages are returned by the API :-

Error Code	Error Reason	Description
Status: **rejected**		
3001	Message overflow	The message rate exceeded, the message needs to be sent again with some gap.
3002	Account Suspended	The account is suspended, please contact Konnect admin.
3003	Low Balance	The account does not have sufficient funds to send a Message/Call.
3004	Invalid Message Length	The Message length is invalid - it is either 0 or exceeds the maximum

		limit for the text message.
3005	Invalid Sender Number	The provided sender phone number is invalid.
3006	Invalid Sender Mask	The provided sender mask is invalid
3007	Invalid Caller Id	The provided Caller Id is invalid.
3008	Invalid IVR Number	The provided IVR number is invalid.
3009	Invalid Transaction Id	Either the transaction id is invalid or duplicate
3010	Required Field Missing <Field Name>	The required field is missing.
3011	Recipient List Empty	The provided Recipient List is Empty
3012	Invalid Direction	The value specified for the field 'direction' is invalid.
3013	Number Already Configured For Inbound SMS	Number has been already configured to receive Inbound SMS
3014	Invalid Recipient List	The provided Recipient List is Invalid
3015	Rejected - The Number Is Invalid	Number is rejected as the number is invalid
3016	Recipient List Size Out Of Range	Recipient list size exceeds the limit
3017	Invalid Number	Number is not owned by the user or is invalid
3018	Service Not Available For Your Country	Messaging or Voice Service not available for a country
3019	Number Not Configured	Number not configured for Inbound SMS or IVR

Status: **failed**		
3020	Invalid Destination Number	The destination handset is invalid or no longer exists
3021	Landline or Unreachable Carrier	The destination number is unable to receive this message. It could be a landline or a short code or the carrier is unreachable.
3022	The number is registered in DND	The destination number is blocked for receiving messages e.g. the number could belong to DND (Do not disturb) profile.
3023	Carrier Violation	The message was blocked by the Carrier. Many Carriers implement content or spam filtering.
3024	System Error	The message is not submitted to the provider due to an error, the message needs to be re-submitted.
Status: **undelivered**		
3040	Expired	The message could not be delivered in the specified amount of time for instance when the Mobile was switched off.
3041	Rejected	The message could not be delivered as the provider could have blocked the message belonging to this series.
3042	Undelivered	The message is not delivered e.g. when the destination Mobile number does not exist.
3043	Unknown	Unknown error occurred while delivering the message.

<div align="center">**Table 4**</div>

Note: The **error_code** and **error_reason** are set only when the status is either Rejected or Failed or Undelivered, rest of the cases these fields are empty.

APIs

1. **SMS**: Allows user to execute SMS campaigns through the Konnect platform using an API.

   Method

   Post

   URL Structure

   https://konnect.dotgo.com/api/v1/Accounts/{account_id}/Messages

   Method

   Get

   URL Structure

   https://konnect.dotgo.com/api/v1/Accounts/{account_id}/Messages?id={id}&to={to}&from={from}&body={body}&sender_mask={sender_mask}&callback_url={callback_url}&track_url={track_url}&expiry={expiry}&priority={priority}&url_to_track={url_to_track}&api_token={api_token}

   Note: API Token can also be passed as a parameter. URL Encoded API token needs to be passed. Example, + symbol to %2B

   The following table lists the parameters required for SMS API.

Field	Type	Mandatory	Description
id	String	Yes	Unique transaction id for the request
to	String	Yes	The destination phone number, multiple phone numbers should be passed as a

			JSON array separated by comma. The 'to' numbers should be formatted with a '+' and country code e.g., +919886038842 (E.164 format). Konnect also understands if 'to' number is provided without the '+' sign eg., 919886038842, but the country code is mandatory. Sample code snippet is provided below this table.
from	String	No	The sender phone number. If not specified, the default sender id is used. The 'from' number should be formatted with a '+' and country code e.g., +919886038842 (E.164 format). Konnect also understands if 'to' number is provided without the '+' sign eg., 919886038842, but the country code is mandatory. However for short codes, only the number (without any country code) is sufficient. For eg., '2656' or '3310'. Sample code snippet is provided below this table.
direction	String	No	The direction of the message, it can be 'inbound', 'outbound' or '2way'. If values is not specified then 'outbound' is set as default.
sender_mask	String	No	The string to mask the sender.
body	String	Yes	The full text of the message. \n : Will be converted to new line and

			treated as a single character. \r : Carriage return will be ignored from the SMS text.
expiry	Integer	No	The message expiry in seconds. E.g. if the message is valid for 5 minutes then the value needs to be set as 300.
priority	String	No	Defines the priority of message delivery, the value can be set to 'normal' or 'high'. The message with 'high' priority is charged at premium rate than 'normal' priority messages. If this parameter is not set, the default priority will be 'normal'.
callback_url	String	No	The URL where status of message is notified, the fields passed in the response is covered in table given below. The callback notification is provided for each SMS sent. A JSON String is posted to the callback_url. The callback_url should accept the data as String and parse it as JSON.
track_url	Boolean	No	Flag to turn on tracking of URL clicks in case URL is present in the SMS content. The actual URL is changed to track the click.
url_to_track	String	No	URL that is to be tracked. This URL should be present in the actual SMS content also.

Table 5

Note:

Sender mask needs to be selected by the user from the Konnect user interface. The selection goes through an approval process by the Dotgo country manager. If the sender mask is not selected, then the default sender mask is used. There is a default

sender mask for every Carrier.

Sample POST request body for sending an SMS

```
{
 "id": "A10579090909090",
"to": ["919886038842","919886038843"],
 "from": "919886000085",
 "body": "Welcome to Konnect !",
 "callback_url": "http://myapp.com/notify"
}
```

The sample GET request looks as follows:-

```
https://konnect.dotgo.com/api/v1/Accounts/{appToken}/Messages?id=A10579090909090&to=91988603884
2&from=919886000085&body=Welcome to Konnect
!&sender_mask=04342&callback_url=http://myapp.com/notify&track_url=http://myapp.com/track&expiry=3
00&priority=high&url_to_track=http://myapp.com/totrack&api_token={api_token}
```

The sample response when the request is submitted successfully is as follows:-

```
{
 "status":"ok"
 }
```

The sample response when the submitted request fails due to low balance is as follows:-

```
{
 "status":"error",
 "error_code":"3003",
"error_reason":"Low Balance"
 }
```

A JSON String is posted to the callback_url. The callback_url should accept the data as String and parse it as JSON. The sample JSON response for the above request is notified asynchronously in the callback_url as follows:-

```
{
  "id":" A10579090909090",
 "status":"accepted",
 "to": "919886038842",
"ref_id":"AC5ef8732a3c49700934481addd5ce1659"}
```

If the SMS body includes an URL, then the URL click information is notified asynchronously to the user in the callback_url as follows:-

```
{
"id" : "A10579090909090",
"ref_id" : "AC5ef8732a3c49700934481addd5ce1659",
"to" : "919886038842",
"url_access_time" : "May 9, 2019 5:33:30 PM IST"
}
```

Note: The Konnect platform responds with a unique reference id for each phone number. In case of error, the status is set as rejected and error_code and error_reason fields contain the reason for error.

Sample response for callback_url (called for each phone number every time the request status is updated):

Field	Type	Mandatory	Description
ref_id	String	Yes	Unique reference generated by Konnect Platform.
status	String	Yes	The status can be any of the following:- rejected, sent, failed, delivered and undelivered. In case of MOSMS it is set as received
to	String	No	The phone number to which the message was sent.
from	String	No	The phone number from which the

			message originated.
price	String	No	The amount billed for the message
balance	String	No	The amount remaining in the account
body	String	No	This is only applicable when the text is received from MO SMS.
error_code	String	Yes	The error code is set when the status is either failed; rejected or undelivered else it is blank.
error_reason	String	Yes	The error reason is set when the status is either failed; rejected or undelivered else it is blank.
timestamp	String	Yes	The start time of this event/status
event_timestamp	String	Yes	The end time of this event, in case of delivery it is the delivery time
url_access_time	String	No	The time at which the URL in the SMS body is clicked

Table 6

2. **OBD/Inbound Calls**: Allows user to execute OBD/Inbound voice campaigns through the Konnect platform using an API.

Method

Post

URL Structure

https://konnect.dotgo.com/api/v1/Accounts/{account_id}/Calls

Method

Get

URL Structure

https://konnect.dotgo.com/api/v1/Accounts/
{appToken}/Calls?id={id}&caller_id={caller_id}
&media_url={media_url}&callback_url=
{callback_url}&direction={direction}&
doc_url={doc_url}&alt_doc_url={alt_doc_url}
&ivr_number={ivr_number}&recipient={recipient}
&api_token={api_token}

Note: API Token can also be passed as a parameter. URL Encoded
API token needs to be passed. Example, + symbol to %2B

Field	Type	Mandatory	Description
id	String	Yes	Unique transaction id for the request.
ref_id	String	No	This reference id (preconfigured voice callflow id) is used for executing the preconfigured voice callflow. The reference id is returned in the response of callflow creation API. This can be re-used for subsequent campaigns with the same call flow, but with different/same set of recipients. ***This field is kept for future to be used in call flow creation APIs where the user can select call flows from a set of***

			pre-defined templates like Polls & Surveys, Voting, Quiz etc..
recipient	String	No	The destination phone numbers, each phone numbers must be separated by "," delimiter. This parameter is mandatory if the direction is 'outbound' or '2way', for 'inbound' campaigns it is not required. The 'recipient' numbers should be formatted with a '+' and country code e.g., +919886038842 (E.164 format). Konnect also understands if 'to' number is provided without the '+' sign eg., 919886038842, but the country code is mandatory. Sample code snippet is provided below this table.
direction	String	No	The value can be 'inbound', 'outbound' or '2way'. If no value is specified then default string is 'outbound'. E.g. for premium OBD the value is set to '2way'.
expiry	String	No	[Not currently supported] The expiry in seconds, it is applicable for outbound Calls, e.g. if the Call is valid for 5 minutes then the value needs to be the value needs to be set as 300.
priority	String	No	Defines the priority of outbound Calls delivery, the value can be set to 'normal' or 'high'. The Call with 'high' priority is charged at premium rate than 'normal' priority Calls. If this parameter is not set,

			the default priority will be 'normal'.
media_url	String	No	The URL for the media to be played in outbound call. The media file format needs to be in A-law, 64 kbps, mono. Please note that if ref_id is passed, the media_url should be null. This parameter is ignored if the doc_url is specified.
caller_id	String	No	The phone number of the OBD initiator/sender. If not specified the default caller_id is used. The 'caller_id' should be formatted with a '+' and country code e.g., +919886038842 (E.164 format). For eg., Konnect also understands if 'caller_id' number is provided without the '+' sign eg., 919886038842, but the country code is mandatory. However for short codes, only the number (without any country code) is sufficient. For eg., '2656' or '3310'. Sample code snippet is provided below this table.
ivr_number	String	No	The dial-in phone number used when the call_type is defined as 'premium' or direction is defined as 'inbound'. **Premium OBD**: If this number is not specified then the caller_id is configured as dial-in number for premium OBD. **Inbound Calls:** This parameter is mandatory for calls with direction 'inbound'

			The 'ivr_number' should be formatted with a '+' and country code e.g., +919886038842 (E.164 format). For eg., Konnect also understands if 'ivr_number' number is provided without the '+' sign eg., 919886038842, but the country code is mandatory. However for short codes, only the number (without any country code) is sufficient. For eg., '2656' or '3310'. Sample code snippet is provided below this table.
callback_url	String	No	The URL to be notified for the status of OBD/Inbound call. The callback notification is provided for each call. A JSON String is posted to the callback_url. The callback_url should accept the data as String and parse it as JSON.
doc_url	String	No	The fully qualified URL containing KML instructions for the call. Konnect invokes this URL when the call gets connected. The response details are covered in the section 5 Konnect Markup Language. This parameter is ignored if the ref_id is specified. The call_id, campaign_id, phone_number,key_pressed and call_status parameters are passed in the query string while invoking the doc_url:- The description of the parameters are as follows:-

			Parameter	Value
			call_id	The unique id for the current call.
			campaign_id	The id of the campaign.
			phone_number	The mobile number of the caller.
			key_pressed	The DTMF key pressed by the user
			call_status	A string representing the status of the call. The status can be one of the following:- 'continue', 'end' or 'error'.
alt_doc_url	String	No	The fully qualified URL containing KML instructions, an alternative to the doc_url. This URL gets invoked if there is an error in accessing the doc_url.	

Table 7

The sample POST request is as follows:-

```
{
 "id": "A10579090909090",
"recipient": ["919886038842","9198860347"],
 "caller_id": "919886000085",
 "media_url": "http://somewebsite.com/audio.wav",
```

```
  "callback_url", "http://myapp.com/notify"

}
```

The sample GET request is as follows:-

```
https://konnect.dotgo.com/api/v1/Accounts/{appToken}/Calls?id=A10579090909090&caller_id=9198860000
85&media_url=http://somewebsite.com/audio.wav&callback_url=http://myapp.com/notify&direction=2way
&doc_url=http://somewebsite.com/audio.wav&alt_doc_url=http://somewebsite.com/audio2.wav&ivr_numb
er=919886000085&recipient=919886038842&api_token={api_token}
```

The sample response when the request is submitted successfully is as follows:-

```
{
 "status":"ok"
 }
```

The sample response when the submitted request fails due to low balance is as follows:-

```
{
 "status":"error",
 "error_code":"3003",
 "error_reason":"Low Balance"
 }
```

A JSON String is posted to the callback_url. The callback_url should accept the data as String and parse it as JSON. The asynchronous response of the above request command is sent via callback_url, containing status and ref_ids as follows:-

```
{
  "id":" A10579090909090",
 "status":"accepted",
 "to": "919886038842",
 "ref_id":"AC5ef8732a3c49700934481addd5ce1659"
}
```

Note: In case the request is rejected then the status is set as rejected and the

error_code and **error_reason** contains the details for error.

The callback_url for the OBD(called for each phone number every time there is a change in the request status) contains the following fields:-

Field	Type	Mandatory	Description
ref_id	String	Yes	Unique reference generated by Konnect Platform.
recipient	String	Yes	The phone number of the recipient.
caller_id	String	No	The phone number of the OBD initiator.
status	String	Yes	The list of status is mentioned in the **Table 9** below.
price	String	Yes	The amount billed for the OBD/IVR
balance	String	Yes	The remaining balance in the account
error_code	String	Yes	The list of error code is mentioned in the **Table 9** below.
error_reason	String	Yes	The list of error reason is mentioned in the **Table 9** below.
call_start_time	String	No	The start time of an OBD/IVR Call. The time format is in MMM D, YYYY H:M:S AM/PM time zone of the user e.g. Nov 22, 2018 6:07:12 PM IST.
call_end_time	String	No	The end time of an OBD/IVR Call. The time format is in MMM D, YYYY H:M:S AM/PM time zone of the user.

call_connect_time	String	No	The time when the call was picked up. The time format is in MMM D, YYYY H:M:S AM/PM time zone of the user.
media_duration	String	No	The length of the audio listened in seconds.
key_pressed	String	No	The DTMF key pressed by the user in the IVR. If user presses multiple keys then each key is delimited with "," (comma).
media_url	String	No	If the user had recorded any audio in the callflow then the audio is sent to the user

Table 8

The values of the status, error_code and error_reason fields returned are as follows:-

Status	Error Code	Error Reason
Success		
	0	Answered
	201	Busy
	202	No Answer
	213	Call Forwarded
	214	Call Forwarded
	215	Call Forwarded
	216	Call Forwarded
	217	Call Forwarded

	219	Call Forwarded
	218	Not Reachable
Failed		
	220	Voice Platform timed out waiting for accept/answer
	221	Error in initiating a call, in case of ISUP link congestion, in case of SIP unknown SIP error
	225	Normal call cleaning, happens sometime before accept
	250	Unexpected data from Voice platform during OBD initiation.
	251	Re-try attempts exhausted

Table 9

3. **Receive SMS**: Allows user to configure a phone number for receiving SMS on Konnect platform using an API. There are two methods supported by Konnect for this purpose:

   a. **Create an Inbound Phone number**

   b. **Deleting an Inbound Phone number**

a) Creating an Inbound Phone number

Method

Post

URL Structure

https://konnect.dotgo.com/api/v1/Accounts/{account_id}/InboundPhone Numbers

Method

Get

URL Structure

https://konnect.dotgo.com/api/v1/Accounts/{account_id}/
InboundPhoneNumbers?id={id}&phone_number={phone_n
umber}&callback_url={callback_url}&api_token={api_token
}

Note: API Token can also be passed as a parameter. URL
Encoded API token needs to be passed. Example, + symbol
to %2B

Field	Type	Mandatory	Description
id	String	Yes	Unique transaction id for the request.
phone_number	String	Yes	The phone number to be configured for receiving incoming SMS. The phone number to be configured should be purchased from the Konnect Portal.
callback_url	String	No	The URL where status of inbound phone number configuration as well as any incoming SMS text is notified. A JSON String is posted to the callback_url. The callback_url should

			accept the data as String and parse it as JSON.

Table 10

The sample POST request looks as follows:-

```
{
  "id": "A10579090909090",
"phone_number": "919886038842",
  "callback_url": "http://myapp.com/notify"
}
```

The sample GET request looks as follows:-

```
https://konnect.dotgo.com/api/v1/Accounts/{appToken}/InboundPhoneNumbers?id=A10579090909090&phone_number=919886038842&callback_url=http://myapp.com/notify&api_token={api_token}
```

The sample success response looks as follows:-

```
{
  "status":"accepted",
  "ref _id": "AC5ef8732a3c49700934481addd5ce1659"
}
```

In case of error response looks as follows:-

```
{
"status":"rejected",
  "ref _id": "AC5ef8732a3c49700934481addd5ce1659",
  "error_code": "3050",
  "error_reason":"Invalid Parameter Value"
```

```
}
```

Sample response for callback_url is as follows:-

Field	Type	Mandatory	Description
ref_id	String	Yes	Unique reference generated by Konnect Platform.
status	String	Yes	The status is set to either "done", "received" or "failed".
body	String	No	This is only applicable when the text is received from MO SMS. The status for such cases is set to "received".
error_code	String	Yes	The error_code is set to blank when the status is set to "done". Please refer the table below for error_code.
error_reason	String	Yes	The error reason is blank if the status is "done" or "received"
timestamp	String	Yes	The start time of this event/status
event_timestamp	String	Yes	The end time of this event, in case of delivery it is the delivery time

Table 11

The following table lists the status, error_code and error_reason:-

Status	Error Code	Error Reason
accepted		
done		
received		
deleted		

rejected	3050	Invalid Parameter Value
failed	3051	Phone Number Already Exists
failed	3052	Error in deleting the Phone Number
failed	3053	Server Error

Note:

4. When the status is set to "received", the body field contains the text received in SMS.

5. KV.SMS needs to implement command for configuring the inbound phone number for SMS and also send appropriate responses to Konnect.

b) **Deleting an Inbound Phone number**

Method

Delete

URL Structure

https://konnect.dotgo.com/api/v1/Accounts/{account_id}/InboundPhone Numbers/{inbound_phone_number}

The response is similar to creating an inbound phone number.

4. Get User Balance: Allows user to request for his current account balance via an API.

Method

Get

URL Structure

https://konnect.dotgo.com/api/v1/Accounts/{accountId}/Balance?api_token={api_token}

Note: API Token can also be passed as a parameter. URL Encoded API token needs to be passed. Example, + symbol to %2B

The following table lists the parameters in the response:

Field	Type	Description
mode	String	Trial account or Paid account
account_balance	String	Account balance of the user
name	String	Display name of the user

Table 12

The sample JSON response for the GET request is as follows:

```
{
 "mode":"paid",
 "account_balance":"Rs.4,801",
 "name":"Abhirup",
 "status":"ok"
}
```

5. Message Rate Limit

The API currently supports 1 request per second or 1 TPS (Transactions Per Second) for outbound messages (Calls or SMS messages). The API user can submit one message (Transactional) per request or up to 1000 messages(Bulk)per request. So, the user can submit 60,000 messages (1000 * 60) via the Konnect platform in one minute.

The actual processing of messages depends on the capacity available on the Konnect Platform. In case of bulk SMS messages, for example, even if messages are submitted to Konnect at the rate of 1000 per second, the actual delivery of the message does not happen at the same rate.

6. Konnect Markup Language

Konnect platform allows a user to create a Voice Callflow using Konnect APIs. The Konnect APIs expects input as Konnect Markup Language (KML) for creating Voice Callflow. The KML is an XML document with the following verbs for creating all kinds of interactive Voice Applications:-

- <Read> - Reads text to the caller
- <Play> - Plays an audio for the caller
- <Transfer> - Transfers the call to another party (not yet implemented)
- <Collect> - Captures DTMF input from the caller
- <Record> - Records the audio of the caller
- <Goto> - Transfers the controls to another KML document (not yet implemented)
- <Disconnect> - Disconnects the current Call
- <Reject> - Rejects the incoming Call without being connected (not yet implemented)
- <Conference> - Adds another caller to the current Call (not yet implemented)

Read/Play:

These tags are used to render a pre-recorded file and to recite text to the user. In case of "Play' the recorded file is rendered as is, in case of "Read" the text is converted to audio using the default voice in the TextToSpeech, this can be overridden using the KML tags.

Collect:

This tag is used to collect DTMF keys (or interpreted keys) from the user. It embeds a combination of Play/Read tags to be recited to the user before the input. It also embeds the "Grammar" tag for the designer to specify the accepted DTMF keys and whether they need to be interpreted. Finally it also embeds the "Noinput" tag for the designer to specify prompts to be played in case of noinput/nomatch.

Record:

This tag is used to record the voice stream from the user. It also embeds a combination of Play/Read tags to be recited to the user.

Disconnect:

This tag is used to disconnect the call, it embeds a combination of Read/Play tags to recite audio to the user before disconnecting the call.

Call control/flow:

In the current version all flow-control is managed by the external entity (i.e., the enterprise/organization that uses this service). In a future version, on implementation of the "goto" tag, flow control can be specified by the designer in a single KML document, this will not preclude pages of greater granularity (as is the case now).

In the current setup the Konnect system, after the call has been connected, will seek further rendering instructions from the user of the service via the DOCURL (or ALTDOCURL).

The DOCURL is an http resource which can be accessed using an http-post request. The data identifiers used to post to this url are – phone_number, call_id, call_status, campaign_id, key_pressed. These are described in table – 7, and will be described below too.

- phone_number – the MSISDN of the called party
- call_id – a unique call-id for this call, this is essentially a uuid and will be across all systems
- campaign_id – the internal campaign-id assigned to this "campaign"
- call_status – this is the current status of the call, it begins with a value 'continue' and other possible values are 'end' and 'error'
- key_pressed – the input provided (if solicited) via DTMF by the called party

The DOCURL is the driver of the application and will be referred to as the "application" in further discussion. The Konnect infrastructure successively calls this application with the params as above till such time that the application completes the flow or the user disconnects the call. (TODO – need to check if the final disposition of the dialog is posted back to the enterprise application. Also note that there is a

hardcoded limit of 15 dialogs that can be performed by the application, we need to make this configurable).

A few examples of call-flows are presented below. In each successive post to the application the parameters phone_number, call_id & campaign_id do not change. call_status & key_pressed change and will be noted in the examples.

a) Sample KML for playing an audio

```
<?xml version="1.0" encoding="UTF-8"?>
<Response id="id1">
<Play url="http://sampleaudio/welcome.wav" />
</Response>
```

In the above example, the Konnect system plays the specified audio and posts call_status="continue" & key_pressed="". The application can continue the flow or disconnect.

b) Sample KML for capturing an user input

```
<?xml version="1.0" encoding="UTF-8"?>
<Response id="r1">
<Collect id="1">
<Play url="http://192.168.230.55:8080/kvsms/wave/ivr/en-
US/KallisIsBetterThanSachin.wav" />
<Noinput max=2>
<Play url="http://konnhttp://192.168.230.55:8080/kvsms/wave/ivr/en-
US/didnothear.wav" />
</Noinput>
<Grammar src="1:yes,2:no,3:maybe,4:dreamon,5"/>
</Collect>
```

In the above dialog the user is:
- posed a question and asked to provide an input, the question is in the prompt & will be descriptive
- the dialog specifies that the valid keys are 1, 2, 3, 4 & 5, these valid keys are specified in the "src" attribute as a comma separated list. The dtmf:value states that if 1 is pressed the key_pressed will contain "yes" and so forth
- any other key results in "nomatch" & the action specified in the "Noinput" tag is affected, in this case a prompt is played & user is asked

the question again, the max=2 attribute says the user is given 2 chances to respond
- at the end of the dialog – normal or no, the application is invoked again with the params key_pressed as the actual key or its interpretation & call_status='continue'. If no key was detected the call_status will contain 'end', and any other error (including a user hangup) will result in call_status as 'error'

c) Sample KML for recording the user audio stream

```xml
<?xml version="1.0" encoding="UTF-8"?>
<Response id="r1">
<Record id="1">
< Play url=http://192.168.230.55:8080/kvsms/wave/ivr/en-US/TellMeWhoIsGreatest.wav"
/>
<Noinput max=2>
<Play url="http://konnhttp://192.168.230.55:8080/kvsms/wave/ivr/en-
US/didnothear.wav" />
</Noinput>
</Record>
```

In the above dialog the user is:
- posed a question that requires a voice response
- the spoken audio stream is recorded
- if no audio is sensed it results in two more chances offered to the user (same as in the above example)
- at the end of the dialog – normal or no, the application is invoked again with the params key_pressed='' & call_status='continue'. If no audio the call_status will contain 'end', and other error (including a user hangup) will result in call_status as 'error'
- TODO – the actual recorded audio is stored on the Konnect (kv.sms) system & NOT returned to the application. This needs to be fixed

d) Sample KML for reading text to the user

```
<?xml version="1.0" encoding="UTF-8"?>
<Response id="r1">
<Read>
       Earth provides enough to satisfy every man's needs, but not every man's
greed.
</Read>
</Response>
```

In the above dialog the user
- Will hear the text in the Read tag