



Dialog Idea Mart Pro LBS API Guide for Dialog Axiata PLC

Document Version 1.0.0



475, Union Place

Colombo-2

Sri Lanka

Tel: +94-777-678700 Fax: +94-777-087917

Document Code DIA-LBS-API-DGD v1.0.0 Last edited: 03 June 2013

Copyright © 1997-2013 hSenid Mobile Solutions (Pvt) Ltd. All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission from hSenid Mobile. All copyright, confidential information, patents, design rights and all other intellectual property rights of whatsoever nature in and to any source code contained herein (including any header files and demonstration code that may be included), are and shall remain the sole and exclusive property of hSenid Mobile. The information furnished herein is believed to be accurate and reliable. However, no responsibility is assumed by hSenid Mobile for its use, or for any infringements of patents or other rights of third parties resulting from its use.

All other trademarks in this publication are the property of their respective owners.

Table of contents

Chapter 1.....	6
1 Overview.....	6
1.1 SMS Service	6
1.2 USSD.....	6
1.3 CAAS.....	6
1.4 LBS.....	7
Chapter 2.....	8
2 HTTP REST	8
2.1 JSON Objects.....	8
Chapter 3.....	9
3 LBS.....	9
3.1 Get Location	9
3.1.1 Request.....	9
3.1.2 Response.....	14
Chapter 4.....	18
Appendix A.....	18
Status Codes and Error Codes.....	18
<i>Common Status Codes (Non Retry-able)</i>	<i>18</i>
<i>Common Error Codes (Non Retry-able)</i>	<i>18</i>
<i>Common Error Codes (Retry-able)</i>	<i>19</i>
<i>LBS Specific Error Codes (Non Retry-able)</i>	<i>19</i>
Appendix B.....	20

Change Control

Version	Date	Description	Author
0.0.1	04/09/2013	Dialog Idea Pro LBS API Guide	Kalpanie Ratnayake
0.0.2	04/10/2013	Updated document based on comments from Duleepa.	Kalpanie Ratnayake
0.1.0	06/03/2013	Reviewed Document	
0.1.1	06/03/2013	Updated document based on the comments.	Kalpanie Ratnayake
1.0.0	06/03/2013	Base-lined Document	Kalpanie Ratnayake

About this document

The purpose of this document is to provide development information on Idea Pro API for LBS service.

The intended audience for this document is the Application Developers.

The document is divided into the following chapters:

Chapter	Description
1 Overview	This chapter gives a brief description on the APIs from Idea Pro for SMS, USSD, CAAS and LBS services.
2 HTTP Rest	This chapter gives a brief description of involvement of HTTP REST in the context.
3 LBS	This chapter gives a brief description of Idea Pro's LBS API.

Chapter 1

1 Overview

This chapter briefly describes how the Service Providers can use APIs from Idea Pro for SMS, USSD, CAAS and LBS services. For more details on each service please refer the relevant document.

1.1 SMS Service

The SMS Interface allows applications to send and receive SMS messages using a HTTP-based API. Supported services are as follows:

- **Send Service** – An application willing to initiate an MT (Mobile Terminated) SMS message should use this operation type.
- **Receive Service** – This retrieves the SMS sent to the application.
- **Status Report Service** – If an application when performing a **Send service** Operation had requested for a status report from Idea Pro, then the Idea Pro will initiate the **status report** service to hand over the status report to the application.

1.2 USSD

The USSD Interface allows applications to initiate USSD sessions using a HTTP-based API. Supported services are as follows:

- **Send Service** – An application willing to send response to MO USSD session should call this method.
- **Deliver Service** – Deliver Service can be either a user initiated session or a response to an existing USSD session.

1.3 CAAS

Applications have Caas NCS access if charging as a service requests are required by the application.

- **Query Balance** – This service retrieves the account balance and other related information of a given subscriber MSISDN.

- **Direct Debit** – This service charges a specific amount from a subscriber's account.

1.4LBS

The LBS API which is based on MLP, allows Service Provider applications to send and receive location requests using a REST based API. Supported services are as follows.

- **Request Service** – This service enables the Service Provider application to request location of a particular mobile number and Idea Pro sends the location as a response.

Chapter 2

2 HTTP REST

In this context, both requests/responses used to exchange information are with content type "application/json".

2.1 JSON Objects

JSON objects are used as content type to communicate between application and Idea Pro. JSON is an open, text-based data exchange format; it is human-readable, platform independent, and supports a wide availability of implementations.

Chapter 3

3 LBS

The LBS REST Service facilitates Service Providers to send requests and receive responses to and from Idea Pro.

E.g., A third party application requesting a location of a particular MSISDN through LBS API and receiving the response with the location of the requested MSISDN.

3.1 Get Location

Get Location service comprises of location request and location response.

Location request URL for Get Location service is as follows:

http://<sdp.dns>:7000/lbs/locate

NOTE:

<sdp.dns> field should be the URL of the IdeaPro live server.

Service Providers who tests third party applications via SDK shall use 127.0.0.1 as the <sdp.dns>.

3.1.1 Request

Following is a sample LBS request with mandatory and optional parameters.

```
{
  "applicationId":"APP_001768",
  "password":"729fdf8ea178cdea9857eeb9a059fd6e",
  "subscriberId":"tel:94776177322",
  "serviceType":"IMMEDIATE",
  "responseTime":"NO_DELAY",
  "freshness" : "HIGH",
```

```
"horizontalAccuracy" : "1500",  
"vesrion" : "2.0"  
}
```

Following parameters need to appear in the LBS request as mandatory parameters.

- applicationId
- password
- subscriberId
- serviceType

Following is a sample LBS Request with mandatory parameters.

```
{  
  "applicationId": "APP_001764",  
  "password": "39ca9208fbb1171f027e8d24fe5e275e",  
  "subscriberId": "tel:94776177393",  
  "serviceType": "IMMEDIATE"  
}
```

Following are the Request parameters of LBS.

Parameter Name	Description	Type	Mandatory / Optional
applicationId	Application ID as given when provisioned	String	Mandatory
password	Password given when provisioned	String	Mandatory

version	API version shall be numbered as 1.0, 2.0 etc	String	Optional If not specified shall be validated against the latest version
subscriberId	MSISDN of the subscriber for which the location update is needed. This is a unique identifier. Note: MSISDN might be a masked number depending on the type of the application	String	Mandatory Only a single value can be sent per request
serviceType	Required MLP service type. Currently supports; IMMEDIATE	ENUM	Mandatory

responseTime	<p>QoS parameter defines the accepted delay for the response</p> <p>Accepted values and precedence is as below;</p> <ol style="list-style-type: none"> 1. NO_DELAY 2. LOW_DELAY 3. DELAY_TOLERANCE <p>NO_DELAY has the highest precedence.</p> <p>Eg; Third party application can not initiate location requests with NO_DELAY if the provisioned value is 'LOW_DELAY'. But can initiate location requests with LOW_DELAY and DELAY_TOLERANCE.</p>	ENUM	Optional - If not specified shall be validated against LBS NCS configuration for the application
--------------	---	------	--

horizontalAccuracy	<p>QoS parameter defines the required horizontal accuracy for the location update</p> <p>Accepted values and their precedence is as follows;</p> <ol style="list-style-type: none"> 1. 100 2. 500 3. 1000 4. 1500 <p>Minimum value 100 has the highest precedence.</p> <p>Eg; Third party application can not initiate location requests with '100' or '500' if the provisioned value is '1000'. But can initiate location requests with '1000' and '1500'.</p>	ENUM	Optional - If not specified shall be validated against LBS NCS configuration for the application
--------------------	---	------	--

freshness	<p>QoS parameter defines the required freshness for the location update</p> <p>Accepted values and their precedence is as follows;</p> <ol style="list-style-type: none"> 1. HIGH_LOW 2. LOW_HIGH 3. HIGH 4. LOW <p>HIGH_LOW has the highest precedence.</p> <p>Eg; Third party application can not initiate location requests with 'HIGH_LOW' if the provisioned value is 'LOW_HIGH'. But can initiate location requests with 'LOW_HIGH', 'HIGH' and 'LOW'.</p>	ENUM	Optional - If not specified shall be validated against LBS NCS configuration for the application
-----------	--	------	--

3.1.2 Response

Following is a sample LBS response with Mandatory and optional parameters.

```
{
  "statusCode":"S1000",
  "timeStamp":"20130405181744",
  "subscriberState":true,
  "statusDetail":"Success",
}
```

```
"horizontalAccuracy":"7.0",  
"longitude":"6.707778",  
"freshness":"8.0",  
"latitude":"79.948944",  
"messageId":"101304051246360081",  
"version":"1.0"  
}
```

Following parameters need to appear in the LBS response as Mandatory parameters.

- ststusCode
- statusDetail
- messageId
- version

Following is a sample LBS response with mandatory parameters.

```
{  
"statusCode":"E1303",  
"statusDetail":"IP address, which the request originates from, is not listed withing the allowed-  
host-address list",  
"messageId":"101304051248020083",  
"version":"1.0"  
}
```

Following are the LBS Response parameters.

Parameter Name	Description	Type	Mandatory / Optional
version	API version shall be numbered as 1.0, 2.0 etc	String	Mandatory
messageID	MessageID to uniquely Identify the request within the SDP	string	Will be specified always
latitude	Latitude coordinate of the location of the subscriber	string	Mandatory if success. Parameter will not be available for failed requests.
longitude	Longitude coordinate of the location of the subscriber	string	Mandatory if success. Parameter will not be available for failed requests.
freshness	Actual freshness of the responded location update. Value shall be defined in minutes.	Integer	Mandatory
horizontalAccuracy	Actual horizontal accuracy of the responded location update. Value shall be defined in meters.	Integer	Mandatory
subscriberState	Power on/off state of the target subscriber's mobile phone True: power on False: power off	Boolean	Optional

timeStamp	System date and time of success or failed transaction	Date time	Mandatory if success. Parameter will not be available for failed requests.
statusCode	The error code for the request	string	Mandatory
statusDetail	The error detail for the request	string	Mandatory

Chapter 4

Appendix A

Status Codes and Error Codes

Common Status Codes (Non Retry-able)

Code	Description
S1000	Process completed successfully for all the available destination numbers.

Common Error Codes (Non Retry-able)

Code	Description
E1313	Authentication failed. No such active application with applicationId <application-id>, or no active service provider or the given password in the request is invalid.
E1303	IP address from which this request originated is not provisioned to send request to application <application-id>. Please use a provisioned system to send request or contact system admin to provision the new IP.
E1312	Request is Invalid. <specify_the_reason> Refer the Idea Mart NBL API Developer Guide for the mandatory fields and correct format of the request.
E1309	Requested LBS service is not allowed for this Application. Please check the issue with Idea Mart system administrator.
E1315	Cannot find the requested service LBS or it is not active.
E1317	<MSISDN> in request is invalid or not allowed.

E1601	System experienced an unexpected error.
E1342	MSISDN is black listed. Not authorized to use the application <application_name>
E1343	MSISDN is not white listed. Only white list numbers are allowed to send messages at this state.
E1325	Format of the address is invalid. Expected format is "tel:94771211212"

Common Error Codes (Retry-able)

Code	Description
E1318	Transaction limit per second has exceeded. Please throttle requests not to exceed the transaction limit. Contact Idea Mart admin to increase the traffic limit.
E1319	Transaction limit for today is exceeded. Please try again tomorrow or contact Idea Mart admin to increase the transaction per day limit
E1603	Temporary System Error occurred while delivering your request.

LBS Specific Error Codes (Non Retry-able)

Code	Description
E1367	Invalid QoS value parameter. (Invalid NBL request)
E1368	Invalid service type parameter. (Invalid NBL request)
E1369	Positioning method not supported. (Position cannot be found for the given combination of QoS parameters.)

Appendix B

What follows is a list of definitions of all terms, acronyms and abbreviations required to properly interpret this document.

API – Application Programming Interface

HTTP – Hyper Text Transfer Protocol

JSON – Java Script Object Notation

LBS – Location Based Service

MLP– Mobile Location Protocol

MO – Mobile Originated

MT – Mobile Terminated

MSISDN – Mobile Station Integrated Services Digital Network

NBL – North Bound Layer

NCS – Network Capability Service

QoS–Quality of Service

SLA – Service Level Agreement

SMS –Simple Message Service

USSD –Unstructured Supplementary Service Data