



Dialog Idea Mart Pro USSD API Guide for Dialog Axiata PLC

Product Version 1.3.0



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Change Control

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About this document

The purpose of this document is to provide developing information on Idea Mart API for USSD service.

The intended audience for this document is the Application Developers.

The document is divided into the following chapters:

Chapter	Description
Overview	This chapter gives a brief description of document content.
HTTP Rest	This chapter gives a brief description of involvement of HTTP REST in the context.
USSD	This chapter gives a brief description of USSD Service.

Chapter 1

1 Overview

This chapter describes how the Service Providers can use the HTTP-based Interfaces from Idea Mart for SMS, USSD and CAAS 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 wishing 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 Mart, then the **Idea Mart** 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 wishing 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.

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 Mart. 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 USSD

USSD (Unstructured Supplementary Service Data) is a capability built into SMS-based mobile devices. USSD information is directly sent from the sender's device to an application which is with USSD platform. A USSD service can be invoked either by the mobile user or by a USSD platform.

3.1 Send Service

This service lets the user send USSD to one or more terminals from the application.

Send service supports only POST HTTP requests. This is used when sending USSD messages to a mobile phone from an application.

3.1.1 Request

Following is a sample request for send service.

```
{
  "applicationId": "APP_000001",
  "password": "password",
  "message": "1. Press One
2. Press two
3. Press three
4. Exit",
  "sessionId": "1330929317043",
  "ussdOperation": "mt-cont",
  "destinationAddress": "tel:94771122336"
}
```

Following are the Request parameters of send service.

Parameter Name	Description	Type	M / O
applicationId	Application ID as given when provisioned	String	M
password	Password given when provisioned	String	M

version	API version (shall be numbered as 1.0 etc) If not specified shall be validated against the latest version		O
sessionId	Unique number that USSD Gateway assigns to the application for the duration of the session. This number will be maintained in all messages throughout a single session.	String	M
ussdOperation	<p>USSD operation</p> <p>mo-init: Idea Mart to assign when a USSD session is initiated by subscriber</p> <p>mo-cont: Idea Mart to assign for any USSD message originated from subscriber, that comes after a init</p> <p>mt-init: App to assign when a USSD session is initiated by an application</p> <p>mt-cont: App to assign for any USSD message originated from application, that comes after a init</p> <p>mt-fin: App to assign when session ends in final message</p>	<p>Enumerator</p> <p>Data type will be string where the operation name itself will be used in the parameter value.</p>	M
destinationAddress	<p>Destination address</p> <p>should be a telephone number</p> <p>tel - for MSISDN</p> <p>tel: 94771122336</p> <div> <p>Note : tel might be a masked number depending on the type of application</p> </div>	String	M
encoding	<p>Encoding scheme used in the message</p> <p>440 - Plain ASCII characters</p>	Enumerated	O

chargingAmount	Charging amount specified for variable charging applications only Shall be considered only in system currency	number to 2 decimal places E.g., 78.05	0
----------------	--	---	---

Comprehensive sample request:

```
{
  "applicationId": "APP_000001",
  "password": "password",
  "version": "1.0",
  "message": "1. Press One
2. Press two
3. Press three
4. Exit",
  "sessionId": "1330929317043",
  "ussdOperation": "mt-cont",
  "destinationAddress": "tel:94771122336",
  "encoding": "440",
  "chargingAmount": "5"
}
```

3.1.2 Response

USSD-Send-Response is a response from the **Idea Mart** to the application, which will be sent as a response to the USSD-Send-Request message.

Following are the response parameters of send service.

Parameter Name	Description	Type	M / O
version	API version (shall be numbered as 1.0 etc)	String	M
requestId	MessageID to uniquely Identify the request within the Idea Mart	String	M
timeStamp	Processed timestamp		M
statusCode	The status code for the entire request	String	M
statusDetail	The status detail for the entire request	String	M

Comprehensive sample response:

```
{
  "statusCode": "S1000",
  "timestamp": "1203051205",
  "statusDetail": "Success",
  "requestId": "1330929317059",
  "version": "1.0"
}
```

3.2 Receive Service

The **ReceiveUssd** service allows **Idea Mart** to deliver MO messages to the application using HTTP – based API. The flow of messages is initiated by a MO request sent to an application, the **Idea Mart** will deliver the message to the application as an acknowledgement. Hence it could be either request-response exchange or a request-exception exchange.

Receive USSD request is a MO message which will be sent to the application through the Idea Mart as a delivery request.

3.2.1 Request

Following is a sample request for receive service.

```
{
  "message": "*141#",
  "ussdOperation": "mt-cont",
  "requestId": "1330933229901",
  "sessionId": "1330929317043",
  "encoding": "440",
  "sourceAddress": "tel:94771122336",
  "applicationId": "APP_000001",
  "version": "1.0"
}
```

Following are the request parameters of deliver service.

Parameter Name	Description	Type	M / O
version	API version (shall be numbered as 1.0 etc)	String	M
applicationId	Application ID as given when provisioned	String	M
sessionId	Unique number that USSD GW assigns to the application for the duration of the session	String	M
ussdOperation	USSD operation mo-init: Idea Mart to assign when a USSD session is initiated by subscriber mo-cont: IDEA MART to assign for any USSD message originated from subscriber, that comes after a init mt-init: App to assign when a USSD session is initiated by an application mt-cont: App to assign for any USSD message originated from application, that comes after a init mt-fin: App to assign when session ends in final message	Integer	M
sourceAddress	sender address sourceAddress: tel:94771122336	String	M
vlrAddress	VLR address of the sender	String	O
message	Message as sent from the user	String	M
encoding	Encoding scheme used in the message 440 - Plain ASCII characters	Enumerated	M
requestId	Request ID to uniquely Identify the request within the Idea Mart	String	M

Comprehensive sample request:

```
{
  "message": "*141#",
  "ussdOperation": "mo-init",
  "requestId": 1330933229901,
  "vlrAddress": "some vlr address",
  "sessionId": "1330929317043",
  "encoding": "440",
  "sourceAddress": "tel:94771122336",
  "applicationId": "APP_000001",
  "version": "1.0"
}
```

3.2.2 Response

Deliver-USSD-Response should be the response given by the Application to the **Idea Mart** as an acknowledgement on the receipt of a MO message submitted by **Idea Mart**.

Following are the response parameters of deliver service.

Parameter Name	Description	Type	M / O
statusCode	The status code for the entire request	String	M
statusDetail	The status detail for the entire request	String	M

Comprehensive sample response:

```
{
  "statusCode": "S1000",
  "statusDetail": "Success"
}
```

Appendix a

Status Codes and Error Codes

Status Codes (Non Retry able)

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

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 SMS service is not allowed for this Application. Please check the issue with Idea Mart system administrator.
E1315	Cannot find the requested service SMS or it is not active.
E1317	<MSISDN> in request is invalid or not allowed.
E1341	Request failed. Errors occurred while sending the request for all the destinations.

E1334	SMS sent to <application name> application could not be processed as the message length is too long. Maximum message length allowed is <specify_max_limit>
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"
E1308	Permanent charging error due <specify_reason E.g., Insufficient Balance>.

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.

Appendix b

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

- NCS – Network Capability Service
- SMS – Simple Message Service
- HTTP – Hyper Text Transfer Protocol
- MO – Mobile Originated
- MT – Mobile Terminated
- MSISDN – Mobile Station Integrated Services Digital Network
- SLA – Service Level Agreement