Dialog Idea Mart CAAS API Guide

for Dialog Axiata PLC

Product Version 1.6.0

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Change Control

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1.6.0	27/03/14	Updated Direct Debit response for eZcash integration.	Kalpanie Ratnayake

About this document

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

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.
CAAS	This chapter gives a brief description of CAAS 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.

- **Get Payment Instrument List Service** - This service facilitates to obtain a list of payment instruments available for a particular subscriber.

- **Charging Notification** - This service facilitates SDP in sending the payment's status to the application, which sends a charging request.

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 CAAS

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

3.1 Query Balance

This service retrieves the account balance and other related information of a given subscriber MSISDN. Account information comprises of Account type (Pre paid or Post paid) and Account's status (Activate or Disable).

The URL for Query Balance service is as follows:

http:// <ip>:port /caas/ balance/query

NOTE:

< *ip* > 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 < *ip* >.

3.1.1 Request

Following is a sample request for query balance service.

```
{
"applicationId":"APP_000018",
"password":"95904999aa8edb0c038b3295fdd271de",
"subscriberId":"94776351232"
}
```

Following are the Request parameters of send service.

Parameter Name	Description	Type	M / O
applicationId	Used to identify the application. This is a unique identifier generated while provisioning an application. Only a single value can be sent per request.	String (32)	M
password	Used to authenticate the application originated message against the service providers credentials. Encoded, single value.	String(32)	M
subscriberId	This can be the MSISDN or the Username of the subscriber whose account balance is being queried. **Note**: tel might be a masked number depending on the type of the application Only a single value can be sent per request.	String	M
paymentInstrumentName	The name of the payment instrument. Only a single value can be sent per request.	Enumerator	M
accountId	The account of the payment instrument. Only a single value can be sent per request.	String	O
currency	The currency of the amount. Only a single value can be sent per request. Only 'LKR' is allowed.	String	O

Comprehensive sample request:

```
{
"applicationId":"APP_000018",
"password":"95904999aa8edb0c038b3295fdd271de",
"subscriberId":"94776351232",
"paymentInstrumentName":"MobileAccount",
"accountId":"12345",
"currency":"LKR"
}
```

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3.1.2 Response

Following are the response parameters of query balance service.

Parameter Name	Description	Type	M / O
accountType	Account type of the subscriber id. E.g. Prepaid/Post paid for GSM domain. Only a single set of elements can be sent per request.	String	M
accountStatus	Account status of the subscriber ID Only a single set of elements can be sent per request	String	M
statusCode	Status of the operation. Only a single set of elements can be sent per request.	String	M
statusDetail	The textual description of the operation's status. Only a single set of elements can be sent per request.	String	M
chargeableBalance	Available chargeable balance of the subscriber. Refers to either remaining account balance (prepaid user) or the difference between credit limit and outstanding bill (postpaid user). Only a single value can be sent per request.	String (rounded up to two decimal points)	M

Comprehensive sample response:

```
{
"chargeableBalance":"300.0",
"statusCode":"S1000",
"statusDetail":"Success",
"accountStatus":"Active",
"accountType":"Pre Paid"
}
```

3.2 Direct Debit

This service charges a specific amount from a subscriber's account.

The URL for Direct Debit service is as follows:

http:// <ip>:port /caas/direct/debit

NOTE:

< ip > 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 *< ip >*.

3.2.1 Request

Following is a sample request for direct debit service.

```
{
"applicationId":"APP_000017",
"password":"95904999aa8edb0c038b3295fdd271de",
"externalTrxId":"123456789012345678901234567890123456789012",
"subscriberId":"94776351232",
"amount":"100"
}
```

Following are the request parameters of Direct Debit service.

Parameter Name	Description	Type	M / O
applicationId	Used to identify the application. This is a unique identifier generated by the SDP when provisioning an application. Only a single value can be sent per request.	String(32)	M
password	Used to authenticate the application originated message against the service providers credentials. Encoded, single value.	String(32)	M

externalTrxId	This is the transaction ID generated by the application to map the request with the response. This is needed to avoid any conflicts when SP inquires about a transaction. Only a single value can be sent per request.	String(32)	M
subscriberId	This can be the MSISDN the subscriber to be charged. This is a unique identifier. Tel: is for MSISDN tel:947758456325 **Note**: tel might be a masked number depending on the type of the application Only a single value can be sent per request.	String	M
paymentInstrumentName	The name of the payment instrument. Only a single value can be sent per request.	Enumerator	M
accountId	The account of the payment instrument. Only a single value can be sent per request.	String	O
amount	Amount to be reserved for charging. Only a single value can be sent per request.	String (rounded up to two decimal points)	M
currency	The currency of the amount. Only a single value can be sent per request. Only 'LKR' is allowed.	String	O

additionalParams	A Json object with key value pairs for additional parameters.
	
	Eg:
	
	{
	
	"ezcashAgentPin":"4444",
	
	"ezcashAgentAlias":"VC_0000"
	
	}
	
	This is used to manage additional parameters specific for eZ cash payment instruments
	
	ezcashAgentPin - ez Cash Agent PIN which is sent by SP.
	
	ezcashAgentAlias - Merchant PIN which is used to uniquely identify the merchant.
		String	Mandatory only if payment instrument is eZ Cash

Comprehensive sample request:

```
{
"applicationId":"APP_000017",
"password":"95904999aa8edb0c038b3295fdd271de",
"externalTrxId":"123456789012345678901234 56789012",
"subscriberId":"94776351232",
"paymentInstrumentName":"MobileAccount",
"accountId":"123456",
"currency":"LKR",
"amount":"100"
}
```

Comprehensive sample request for eZ cash integration:

```
{
"externalTrxId":"456123",
"paymentInstrumentName":"Dialog-Ezcash",
"accountId":"tel:94773687964",
"amount":"10.00",
"currency":"LKR",
"applicationId":"APP_003483",
"password":"10d78f7aba804398e5a6157028f52264",
"subscriberId":"tell:94773687964",
"additionalParams":
    {
     "ezcashAgentPin":"4444",
     "ezcashAgentAlias":"VC_0000"
    }
}
```

NOTE: In eZ cash integration,

The value for 'paymentInstrumentName' should hold `"Dialog-Ezcash".`

Extra parameters; 'ezcashAgentPin' and 'ezcashAgentAlias' are added to eZ cash request to pass merchant Id and eZ cash PIN through NBL.

3.2.2 Response

Following are the response parameters of Direct Debit service.

Parameter Name	Description	Type	M / O
externalTrxId	The transaction ID generated by the application to map the request with the response. Only a single value can be sent per request.	String	M
internalTrxId	Internal Transaction ID generated by the Payment Gateway for the transaction. This is unique per transaction. Only a single value can be sent per request.	String(32)	M
referenceId	Unique number generated by the system for the payment request. This is required to be entered in the external charging system/menu.	8 digits	O
timeStamp	System date and time of success or failed transaction. Only a single value can be sent per request.	Date/Time string in ISO-8601 format e.g.'2011-08-23T16:50:31.418+05:30'	
statusCode	Status of the operation. Only a single set of elements can be sent per request.	String	M
statusDetail	The textual description of the operation's status. Only a single set of elements can be sent per request.	String	M

short Description	Short description. This can be used to send payment instructions to the application user.	String	M for the eZ Cash integration.
longDescription	Long description used in case of asynchronous transactions only. (Future parameter required for m-commerce applications.)	String	M

Comprehensive sample response:

```
{
"statusCode":"S1000",
"timeStamp":"2012-07-30T12:48:10-0400",
"shortDescription":"short Description",
"statusDetail":"Success",
"externalTrxId":"123456789012345678901234567890012",
"longDescription":"Long Description",
"internalTrxId":"321"
}
```

Comprehensive sample response for eZ cash integration:

```
{
"statusCode":"P1003",
"timeStamp":"2014-02-11T14:19:44.656+05:30",
"shortDescription":"\"Please dial #111# and authorize the transaction to
complete the payment; Amount:Rs 8\"",
"externalTrxId":"456123",
"statusDetail":"Request successful. Payment notification pending from
payment instrument",
"longDescription":"Please dial #111# and authorize the transaction to
complete the payment; Amount:Rs 8",
"amountDue":"8",
"internalTrxId":"914021114190001"
}
```

NOTE: In eZcash response, the 'longDescription', which is an unused parameter of the currently available Direct Debit CaaS API, will be set by SDP when responding to the application.

3.3 Get Payment Instrument List Service

This service is provided by IdeaMart to facilitate obtaining the list of payment instruments available for a particular subscriber.

The URL for Get Payment Instrument List service is as follows:

http://<ip>: port /caas/list/pi

NOTE:

< *ip* > 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 < *ip* >.

3.3.1 Request

Following are the request parameters of GetPiList service.

Parameter Name	Description	Type	M / O
applicationId	appId of the app	String	M
password	Password of the app	String	M
subscriberId	This can be the MSISDN or the Username of the subscriber. This is a unique identifier. Tel: is for MSISDN, tel: 94772345678 **Note**: tel might be a masked number depending on the type of the application	String	M

type	Payment instrument type	Enum sync async all	O
	Possible values:		
	- sync		
	- async		
	- all		
	(by default: all)		

Comprehensive sample request for GetPiList service is as follows.

```
{
"applicationId":"APP_003360",
"password":"ed3e96aca9ad2be1d22731bb0e8420c3",
"subscriberId":"tel:94772345678",
"type":"all"
}
```

3.3.2 Response

Following are the response parameters of GetPiList service.

Parameter Name	Description	Type	M / O
paymentInstrumentList	This is the list of payment instruments configured to the subscriber. It should be as follows. Eg: [{"name":"Mobile account", "type":"sync"}, {"name":""Dialog-Ezcash"", "type":"async"}] Only a single set of elements per request	String	M
statusCode	Status of the operation	String	M
statusDetail	The textual description of the operation's status	String	M

Comprehensive sample response for GetPiList service is as follows.

```
{
"statusCode":"S1000",
"statusDetail":"Success",
"paymentInstrumentList":[{"type":"ASYNC","name":"Dialog-Ezcash"}]
}
```

3.4 Charging Notification

This service is provided through the CAAS API and facilitates SDP in sending the payment's status to the application, which sends a charging request.

After the subscriber sends a charging request, the application will receive a charging notification. If there are partial and (or) over payments done to a particular referenceId, then the notification sent to the application will contain a cumulative total for the particular referenceId.

NOTE: The charging notification is received to the URL which is configured when provisioning.

3.4.1 Request

Following is a sample request for charging notification service.

Parameter Name	Description	Type	M / O
externalTrxId	This is the transaction ID generated by the application to map the request with the response. Only a single value can be sent per request.	String	M
internalTrxId	Internal Transaction ID. Only a single value can be sent per request.	String	M
referenceId	Transaction ID sent from EZ Cash. Only a single value can be sent per request.	8 digits	Mandatory if response is received from EZ Cash
paidAmount	Exact amount paid by subscriber	String	M
currency	The currency of the amount	String	M

totalAmount	Accumulated partial or overpayments made by subscriber for the same referenceId. This must be specified if partial and (or) over payments are allowed	String	M
balanceDue	The balance that must be paid by the subscriber This must be specified if over payments are not allowed and partial payments allowed	String	M
statusCode	Status of the operation	String	M
statusDetail	The textual description of the operation's status.	String	M
timestamp	Date and time of the payment according to external PI system.		M

Comprehensive sample request for success scenario is as follows.

```
{
paidAmount='25.00',
externalTrxId='456123',
internalTrxId='913100816320004',
referenceId='17839448',
totalAmount='25',
balanceDue='0.00',
currency='LKR',
statusCode='S1000',
statusDetail='Request was Successfully processed, Due amount fully
paid.',
timeStamp='08-Oct-2013 16:32'
}
```

Comprehensive sample request for failed scenario is as follows.

```
{
paidAmount='25.00', externalTrxId='456123',
internalTrxId='913100816290003',
referenceId='17839448',
totalAmount='0',
balanceDue='25.00',
currency='LKR',
statusCode='E1404',
statusDetail='Charging request failed',
timeStamp='08-Oct-2013 16:29'
}
```

3.4.2 Response

Following is a sample response for charging notification service.

Parameter Name	Description	Type	M / O
statusCode	Status code indicating if the notification was received.	String	M
statusDetail	The textual description of the status.	String	M

Comprehensive sample response is as follows.

```
{
    "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.
E1311	Mobile terminated SMS messages have not enabled. Check your NCS configuration in provisioning.
E1315	Cannot find the requested service SMS or it is not active.
E1317	<MSISDN> in request is invalid or not allowed.
E1328	Charging operation {operation} not allowed. Please check the NCS configuration.

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>
E1335	SMS sent to <application name> application could not be processed as the advertisement message length is too long. Maximum message length allowed for advertisements is <specify_max_adv_limit>
E1337	Duplicate request.
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"
E1331	<sourceAddress> is not allowed. Please use one of the values configured in alias configuration in the SLAs or send the request without <sourceAddress>, so Idea Mart will use the default source address to send the message to subscriber.
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
E1326	Insufficient balance.
E1602	Message delivery failed. Please retry
E1603	Temporary System Error occurred while delivering your request.

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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