

Payment Gateway Generic ATM Specification for MPESA

Generic ATM Specification

6/11/2019

Statement of Confidentiality

1. Document **Information**

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1 INTRODUCTION

This document details the specific API Interface for use by a Partner Bank to carry out generic ATM functionality via the Mpesa environment. It details the methods and policies for integrating with the iNSight Payment Gateway and Partner Banks.

The following functionality will be made available via API and detailed in the document below:

- 1.) Token Redemption
- 2.) Token Expiry/Reversal
- 3.) Token Generation

2 IPG IMPLEMENTED APIS

2.1 TOKEN REDEMPTION (BANK WITHDRAWAL)

API to request a transfer of funds to the subscriber's M-Pesa account. The Bank uses this API call to move funds out of their M-Pesa account to a holding account. This API call is synchronous.

Please note that authentication details (Username and Password) will be shared upon integration of a Bank.

A duplicate check is done on each transaction with the following data fields in the API Request:

- input_CustomerMSISDN
- input_Amount
- input_ThirdPartyReference
- input_Currency
- input_BankTransactionRef

2.1.1 Request Details

URL	TBD
METHOD	POST

Required Request Headers

Content-Type	application/json
--------------	------------------

2.1.2 Request

2.1.2.1 Request Parameters

Name	Notes	Type	Sample Values
input_Username	The Banks username that is set up on the iPG Interface Screen	String Required	fnb
input_Password	The Banks password that is set up on the iPG Interface Screen	String Required	P@ssword123
input_CustomerMSISDN	MSISDN of the customer	String Required	243843330333

	initiating the transaction		
input_Currency	Currency code for the transaction	String Required	USD, CDF
input_BankShortcode	Shortcode of the Bank in M-Pesa where funds will move from	String Required	49272
input_Amount	Amount of the said currency to transfer	String Required	200
input_ThirdPartyReference	Unique transaction reference linked to the transaction when the customer withdraws funds (Maximum 32 characters)	String Required	71c6d1f93910052de053
input_BankTransactionRef	Unique code linked to the token generation call. This field will be used to validate the incoming transaction against the token generation transaction. (Maximum 32 characters)	String Required	12345678123412341234123456789abc

2.1.2.2 Example Request Body JSON

```
{
  "input_Username": "fnb",
  "input_Password": "P@ssword123",
  "input_CustomerMSISDN": "243843330333",
  "input_Currency": "CDF",
```

```
"input_BankShortcode": "49272",  
"input_Amount": "200",  
"input_ThirdPartyReference": "71c6d1f93910052de053",  
"input_BankTransactionRef": "12345678123412341234123456789abc"  
}
```

2.1.3 Response Details - Synchronous

2.1.3.1 Response Body Parameters

Name	Notes	Type	Sample Values
output_ResponseCode	Code indicating the transaction status	String Required	0, -1, -2, -3
output_ResponseDesc	Description showing detail on the code returned	String Required	Success, Failure, Duplicate, Internal Error
output_InsightReference	iNSight transaction reference to third party	String Required	12sdxq3634dadsas242
output_ThirdPartyReference	Unique transaction reference linked to the transaction when the customer withdraws funds	String Required	71c6d1f93910052de053

2.1.3.2 Example Response Body JSON with successful payment

```
{
  "output_ResponseCode": "0",
  "output_ResponseDesc": "Success",
  "output_InsightReference": "12sdxq3634dadsas242",
  "output_ThirdPartyReference": "71c6d1f93910052de053"
}
```

2.1.3.3 Example Response Body JSON with unsuccessful payment

```
{
  "output_ResponseCode": "-1",
  "output_ResponseDesc": "Failure",
  "output_InsightReference": "12sdxq3634dadsas242",
  "output_ThirdPartyReference": "71c6d1f93910052de053"
}
```

2.1.3.4 Example Response Body JSON with a duplicate payment

```
{
  "output_ResponseCode": "-3",
  "output_ResponseDesc": "Duplicate",
  "output_InsightReference": "12sdxq3634dadsas242",
  "output_ThirdPartyReference": "71c6d1f93910052de053"
}
```


2.2 TOKEN REVERSAL (BANK TO IPG)

API to initiate a transactions reversal on G2. It can be utilized by the Banks to inform iPG to perform a reversal API call to G2.

Please note that authentication details (Username and Password) will be shared upon integration of a Bank.

A duplicate check is done on each transaction with the following data fields in the API Request:

- input_TransactionID
- input_ThirdPartyReference

2.2.1 Request Details

URL	TBD
METHOD	POST

Required Request Headers

Content-Type	application/json
--------------	------------------

2.2.2 Request

2.2.2.1 Request Parameters

Name	Notes	Type	Sample Values
input_Username	The Banks username that is set up on the iPG Interface Screen	String Required	fnb
input_Password	The Banks password that is set up on the iPG Interface Screen	String Required	P@ssword123
input_CustomerMSISDN	MSISDN of the customer initiating the transaction	String Required	243843330333
input_Currency	Currency code for the transaction	String Required	USD, CDF

input_BankShortcode	Shortcode of the Bank in M-Pesa where funds will move from	String Required	49272
input_Amount	Amount of the said currency to transfer	String Required	200
input_ThirdPartyReference	Unique transaction reference linked to the transaction when the bank reverses funds (Maximum 32 characters)	String Required	71c6d1f93910052de053
input_BankTransactionRef	Unique code linked to the token generation call. This field will be used to validate the incoming transaction against the token generation transaction. (Maximum 32 characters)	String Required	12345678123412341234123456789abc
input_TransactionID	Original transaction's G2 TransactionID	String Required	BVA12369A

2.2.2.2 Example Request Body JSON

```
{
  "input_Username": "fnb",
  "input_Password": "P@ssword123",
  "input_CustomerMSISDN": "243843330333",
  "input_Currency": "CDF",
  "input_BankShortcode": "49272",
  "input_Amount": "200",
  "input_ThirdPartyReference": "71c6d1f93910052de053",
  "input_BankTransactionRef": "12345678123412341234123456789abc",
```

```
"input_TransactionID": "BVA12369A"  
}
```

2.2.3 Response Details - Synchronous

2.2.3.1 Response Body Parameters

Name	Notes	Type	Sample Values
output_ResponseCode	Code indicating the transaction status	String Required	0, -1, -2, -3
output_ResponseDesc	Description showing detail on the code returned	String Required	Success, Failure, Duplicate, Internal Error
output_InsightReference	iNSight transaction reference to third party	String Required	12sdxq3634dadsas242
output_ThirdPartyReference	Unique transaction reference linked to the transaction when the bank reverses funds	String Required	71c6d1f93910052de053

2.2.3.2 Example Response Body JSON with a successful reversal

```
{
  "output_ResponseCode": "0",
  "output_ResponseDesc": "Success",
  "output_InsightReference": "12sdxq3634dadsas242",
  "output_ThirdPartyReference": "71c6d1f93910052de053"
}
```

2.2.3.3 Example Response Body JSON with an unsuccessful reversal

```
{
  "output_ResponseCode": "-1",
  "output_ResponseDesc": "Failure",
  "output_InsightReference": "12sdxq3634dadsas242",
  "output_ThirdPartyReference": "71c6d1f93910052de053"
}
```

2.2.3.4 Example Response Body JSON with a duplicate reversal

```
{
  "output_ResponseCode": "-3",
  "output_ResponseDesc": "Duplicate",
  "output_InsightReference": "12sdxq3634dadsas242",
  "output_ThirdPartyReference": "71c6d1f93910052de053"
}
```

3 BANK IMPLEMENTED APIS

3.1 TOKEN GENERATION

API is actioned when a request of a token is sent to a Bank. The Bank uses this API call for token generation. This API call is synchronous.

A duplicate check is done on each transaction with the following data fields in the API Request:

- CustomerMSISDN
- Amount
- TransactionID
- Currency
- BankShortcode

3.1.1 Request Details

URL	TBD
METHOD	POST

Required Request Headers

Content-Type	application/json
--------------	------------------

3.1.2 Request

3.1.2.1 Request Parameters

Name	Notes	Type	Sample Values
input_AccountNumber	Unique M-Pesa Account Number linked to the currency account of the bank in M-Pesa	String Optional	85000001222840
input_CustomerMSISDN	MSISDN of the customer initiating the transaction	String Required	243843330333

input_Amount	Amount of the said currency to transfer	String Required	200
input_Currency	Currency Code for the transaction.	String Required	CDF
input_TransactionID	The unique transaction ID on the mobile money platform	String Required	BVA12369A

3.1.2.2 Example Request Body JSON

```
{
  "input_AccountNumber": "85000001222840",
  "input_CustomerMSISDN": "243843330333",
  "input_Amount": "200",
  "input_Currency": "CDF",
  "input_TransactionID": "BVA12369A"
}
```

3.1.3 Response Details - Synchronous

3.1.3.1 Response Body Parameters

Name	Notes	Type	Sample Values
output_ResponseCode	Code indicating the transaction status	String Required	0, -1, -2, -3
output_ResponseDesc	Description showing detail on the code returned	String Required	Success, Failure, Duplicate, Internal Error
output_BankTransactionRef	Reference ID from the Bank. This same value to be used with Token Redemption and Token Reversal API calls (32 characters)	String Required	12345678123412341234123456789abc
output_BankDateTime	Date of the transaction. Format YYYYMMDD HH24MISS.	String Required	20190611 223210

3.1.3.2 Example Response Body JSON with a successful token generation

```
{
  "output_ResponseCode": "0",
  "output_ResponseDesc": "Success",
  "output_BankTransactionRef": "12345678123412341234123456789abc",
  "output_BankDateTime": "20190611 223210"
}
```

3.1.3.3 Example Response Body JSON with an unsuccessful token generation

```
{
  "output_ResponseCode": "-1",
  "output_ResponseDesc": "Failure",
  "output_BankTransactionRef": "12345678123412341234123456789abc",
  "output_BankDateTime": "20190611 223210"
}
```

3.1.3.4 Example Response Body JSON with a duplicate token generation

```
{
  "output_ResponseCode": "-3",
  "output_ResponseDesc": "Duplicate",
  "output_BankTransactionRef": "12345678123412341234123456789abc",
  "output_BankDateTime": "20190611 223210"
}
```

4 RESPONSE CODE MAPPING

Code	Description	Comment
0	Success	Successful Response
-1	Failure	Unsuccessful Response
-2	G2 Error	Any G2 related error will be populated in Response Description
-3	Duplicate	Duplicate Transaction
-4	Authentication Failed	Bank's username and password is incorrect
-5	Bank Details Invalid	Bank shortcode does not match shortcode linked to username and password
-6	Request Time Out	G2 Request timed out
-7	System Too Busy	System is overloaded. Try again later.
-8	API Offline	One or more of the APIs to be used is offline at the moment.
-9	Transaction Details Not Found	Transaction, looked up against the original bank reference within the last 2 days, is not found.