intouch
COMMUNICATIONS

HTTP INTERFACE TO INTOUCHPAY PAYMENTS GATEWAY

1. API FUNCTIONS

The IntouchPay payments gateway provides application programming interfaces (APIs) for third-party applications (App for short) to connect to it and use its payments processing capability to send and receive payments. The App is generally developed by various partners of theIntouchpay gateway.

Table 1 describes functions of the gateway APIs provided by the IntouchPay.

Table 1 Functions of gateway capability APIs

FUNCTION	DESCRIPTION	API
Receiving Payment	The App (functioning as the client) invokes the RequestPayment API to initiate a payment request to a subscriber on Intouchpay (functioning as the server). The intouchpay gateway will then respond with a pending status to the App awaiting for subscriber confirmation of the transaction. After confirmation the Intouchpay gateway will invoke the App on the App transaction status url with the status of the transaction.	• RequestPayment
Sending Payment	The App (functioning as the client) invokes the RequestDeposit API to initiate a deposit request to a subscriber on Intouchpay (functioning as the server). The intouchpay gateway will then process the transaction and respond with a transaction status response.	• RequestDeposit

1.1. Level of Requirement for Parameters

The App developer must develop APIs based on the level of requirement for each parameter.

Type	Description
Mandatory	A parameter is always mandatory in a request. Parameters with the Mandatory requirement are used for access authentication or service processing. If a parameter with the Mandatory requirement is left empty in a request, access authentication or service processing fails and the request fails.
Conditional	A parameter is mandatory or optional in specified conditions. Parameters with the Conditional requirement are used for access authentication or service processing in specified conditions. If the specified conditions is met but a parameter with the Conditional requirement is left empty in a request, access authentication or service processing fails and the request fails.
Optional	A parameter is always optional. Parameters with the Optional requirement are not used for service processing.

1.2. Request Format

Parameters are submitted to the intouchpayurlas http-form post.

1.3. Response Format

The Intouchpay gateway will provide a response in the json format.

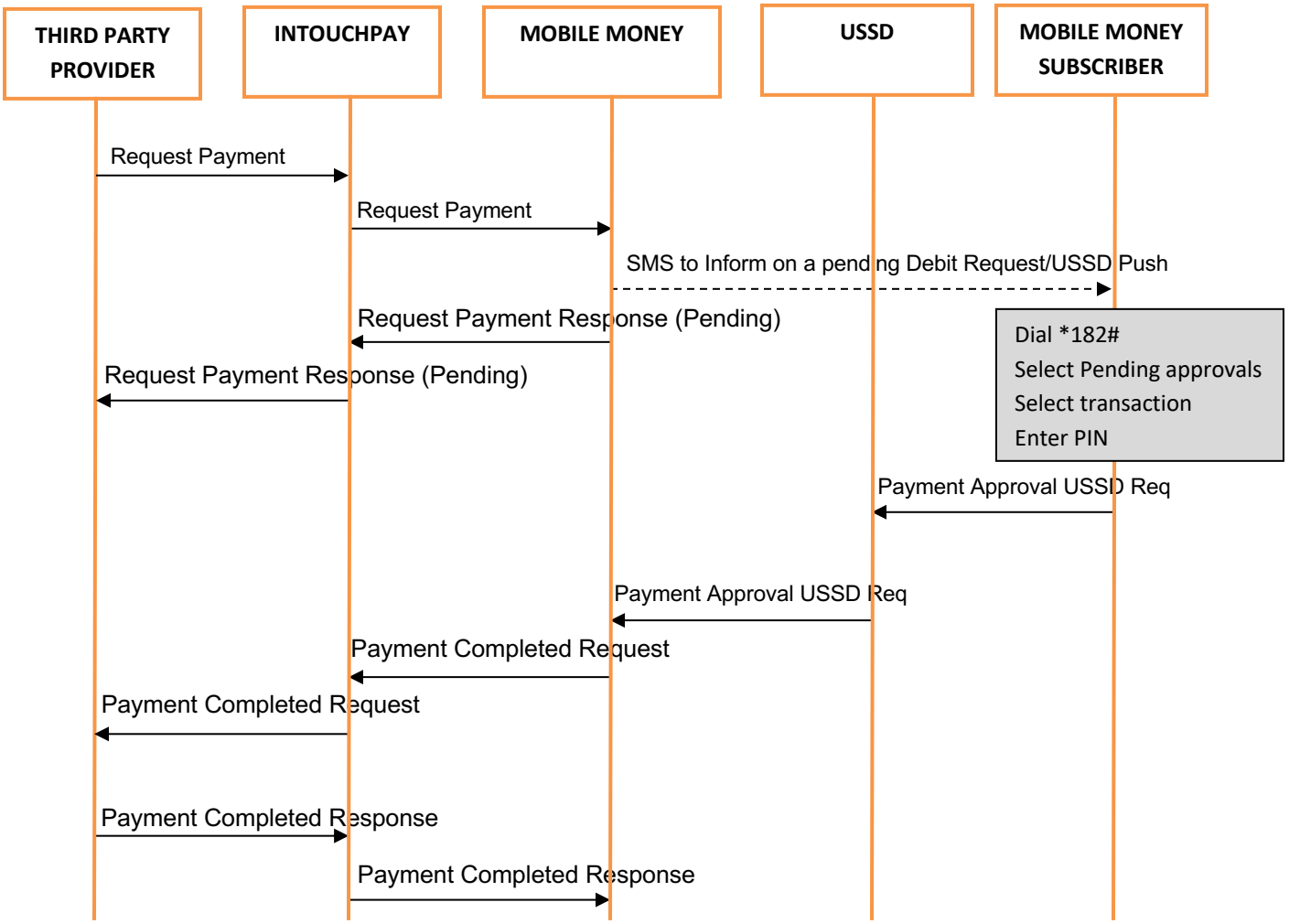
2. RECEIVING PAYMENT REQUEST

2.1. Function

The App (functioning as the client) invokes the RequestPayment API to initiate a payment request to a subscriber on Intouchpay (functioning as the server).

The intouchpay gateway will then respond with a pending status to the App awaiting for subscriber confirmation of the transaction. After confirmation the Intouchpay gateway will invoke the App on the App transaction status url with the status of the transaction.

Partners must code the App based on the API field requirements so that the App can send correct requests to IntouchPay. Intouchpay sends a response within 60 seconds by default.



2.2. Request URI

The request URI is the destination URI of the requestpaymentrequest sent by the App to the IntouchPay to enable a payment request to be sent to the subscriber. The URI is provided by Intouchpay in the following format:

http://IP:Port/api/requestpayment/

In the format, IP and Port indicate the service IP address and port number of the API provided by the Intouchpay. Contact carriers to obtain the IP address and port number.

2.3. Request

The App functions as the client and sends a requestpaymentmessage to intouchpayto enable a payment request to be sent to the subscriber.

Example in Python Programming language

```
data={
        'username':'bob',
        'timestamp':'20161231115242',
        'amount':100,
        'password': 'd3cfd05492a2376003f5af9e2e6643b67',
        'mobilephone': 250785971082,
        'requesttransactionid':34555,
        'callbackurl':'your_callback_url'
    }
response=requests.post('https://www.intouchpay.co.rw/api/requestpayment/', data=data)
```

2.4. Password Generation

The request password is generated as per the steps below.

1. Username+accountno+partnerpassword+timestamp
2. Encrypt the resulting string using SHA256 encryption
3. Get the hexdigest of the resulting encryption

Example in Python

```
password = hashlib.sha256(username+accountno+partnerpassword+timestamp).hexdigest()
```

2.5. Request Parameters

Parameter Name	Data Format	Description	Mandatory
username	string	User name assigned to your account	Yes
timestamp	string	Timestamp of the transaction preferably in UTC formatted as yyyymmddhhmmss	Yes
amount	string/Float/Integer	Amount to be paid	Yes
mobilephoneno	String	Mobile phone number making the payment	Yes
requesttransactionid	string	Unique request transaction id of the transaction from the App	Yes
accountno	string	Account number of your account	Yes

password	string	The password of your account	Yes
callbackurl	string	Your callback url or webhook	No

2.6. **RECEIVING PAYMENT RESPONSE**

The intouchpay gateway will respond with a json response as below and an HTTP response 200 OK.

```
{
    'status': 'Pending',
    'requesttransactionid': '4522233',
    'success': True,
    'responsecode': '1000',
    'transactionid': 1425,
    'message': 'Transaction Pending'
}
```

2.7. RECEIVING PAYMENT REQUEST COMPLETION

The intouchpaygateway acts as a client and Invokes the App by sending it the status of the pending transaction via an HTTP post. Which can either be successfull or failed. Partners are required to provide an end point url to which the intouchpay gateway will submit the request.

Below is an example in Python programming language

```
data = {
    'requesttransactionid':"4522233',
    'transactionid':'6004994884',
    'responsecode' :'01',
    'status':'Successfull',
    'statusdesc':'Successfully Processed Transaction',
    'referenceno':'312333883'
     }

r = requests.post(url, json={'jsonpayload':data},headers={'content-
type':"application/json"},verify=False)
```

or

```
r = requests.post(url,json={'jsonpayload':data},auth=(username, password),headers={'content-
type':"application/json"},verify=False)
```

2.8. COMPLETE RECEIVING PAYMENT REQUEST COMPLETION RESPONSE

The App will respond with an HTTP 200 OK response and the following parameters in json format

{

'message': 'success',

'success': True

,'request_id': '4522233'

}

2.9. Response Codes

Below is a table showing the response codes for the Receiving Payment response

RESPONSE CODE	DESCRIPTION
1000	Pending
01	Successfull
0002	Missing Username Information
0003	Missing Password Information
0004	Missing Date Information
0005	Invalid Password
0006	User Does not have an intouchPay Account
0007	No such user
0008	Failed to Authenticate
2100	Amount should be greater than 0
2200	Amount below minimum
2300	Amount above maximum
2400	Duplicate Transaciton ID
2500	Route Not Found
2600	Operation Not Allowed
2700	Failed to Complete Transaction
1005	Failed Due to Insufficient Funds
1002	Mobile number not registered on mobile money.
1008	General Failure
1200	Invalid Number
1100	Number not supported on this Mobile money network
1300	Failed to Complete Transaction, Unkown Exception

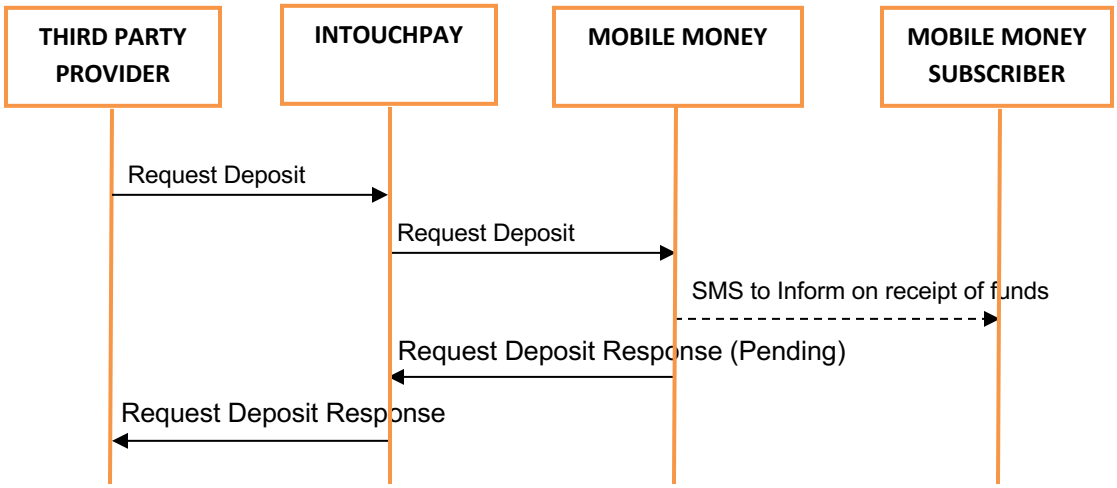
3. SENDING PAYMENT REQUEST

3.1. Function

The App (functioning as the client) invokes the RequestDeposit API to initiate a deposit request to a subscriber on Intouchpay (functioning as the server).

The intouchpay gateway will then attempt to perform the deposit transaction as per request, and will invoke the App with the response of the deposit request status.

Partners must code the App based on the API field requirements so that the App can send correct requests to IntouchPay. Intouchpay sends a response within 60 seconds by default.



3.2. Request URI

The request URI is the destination URI of the requestdeposit request sent by the App to the IntouchPay to enable a deposit transaction to be made to the subscriber. The URI is provided by Intouchpay in the following format:

http://IP:Port/api/requestdeposit/

In the format, IP and Port indicate the service IP address and port number of the API provided by the Intouchpay. Contact carriers to obtain the IP address and port number.

3.3. Request

The App functions as the client and sends a requestdepositmessage to intouchpay to enable a deposit request to be sent to the subscriber.

Example in Python Programming language

```
data={
        'username':'bob',
        'timestamp':'20161231115242',
        'amount':100,
        "withdrawcharge":  1,
```

```
        "reason": "xxxxxxxxxx ",
        "sid":  "1",
        'password': 'd3cfd05492a2376003f5af9e2e6643b67',
        'mobilephone': 250785971082,
        'requesttransactionid':34555,
    }
response=requests.post('https://www.intouchpay.co.rw/api/requestdeposit/', data=data)
```

3.4. Password Generation

The request password is generated as per the steps below.

4. Username+accountno+partnerpassword+timestamp
5. Encrypt the resulting string using SHA256 encryption
6. Get the hexdigest of the resulting encryption

Example in Python

```
password = hashlib.sha256(username+accountno+partnerpassword+timestamp).hexdigest()
```

3.5. Request Parameters

Parameter Name	Data Format	Description	Mandatory
username	string	User name assigned to your account	Yes
timestamp	string	Timestamp of the transaction preferably in UTC formatted as yyyymmddhhmmss	Yes
amount	string/Float/Integer	Amount to be paid	Yes
withdrawcharge	integer	Set to 1 to include Withdraw Charges in amount sent to subscriber	
reason	string	Reason for Sending Payment	
sid	integer	Service ID. Set to 1 For Bulk Payments	
mobilephoneno	String	Mobile phone number making the payment	Yes
requesttransactionid	string	Unique request transaction id of the transaction from the App	Yes
accountno	string	Account number of your account	Yes
password	string	The password of your account	Yes

3.6. MAKING PAYMENT RESPONSE

The intouchpay gateway will respond with a json response as below and an HTTP response 200 OK.

Success response:

```
{
    "requesttransactionid":"1201",
    "referenceid":"1123",
    "responsecode":"2001",
```

```
    "success": true
}
```


Failure response:


```
{
    "requesttransactionid":"1201",
    "success":false,
    "responsecode":"xxxx"
}
```


*Note: **referenceid** is only returned as part of response if the requestdeposit request was successful

3.7. Response Codes

Below is a table showing the response codes for the Sending Payment response

RESPONSE CODE	DESCRIPTION
0002	Missing Username Information
0003	Missing Password Information
0004	Missing Date Information
0005	Invalid Password
0006	User Does not have an intouchPay Account
0007	No such user
0008	Failed to Authenticate
0002	Missing Username Information
0003	Missing Password Information
1100	Error in Request
1101	Service ID not Recognized
1102	Invalid Mobile Phone Number
1103	Payment Above Allowed Maximum
1104	Payment Below Allowed Minimum
1105	Network Not Supported
1106	Operation Not Permitted
1107	Payment Account Not Configured
1108	Insufficient Account Balance
1110	Duplicate Remit ID
2001	Request Successful
2003	Transaction Not Allowed
2102	Subscriber Could not be Identified
2105	Non Existent Mobile Account
2106	Own Mobile Account Provided
2107	Invalid Amount Format
2108	Insufficient Funds on Source Account

2109	Daily Limit Exceeded
2110	Source Account Not Active
2111	Mobile Account Not Active
2000	General Failure
2500	Service Failure
2510	Service Temporarily Unavailable
2518	Could Not Perform Operation
2520	Incorrect Account Password
2522	Invalid Amount
2525	Resource Not Active
2600	Network Failure - Request Timed Out
2800	Deposit Channel Failure

4. GET TRANSACTION STATUS

4.1. Function

The App (functioning as the client) invokes the GetTransactionStatus API to query the transaction status on Intouchpay (functioning as the server).

The intouchpay gateway will then attempt to perform the gettransactionstatus transaction as per request, and will invoke the App with the response of the transaction status.

Partners must code the App based on the API field requirements so that the App can send correct requests to IntouchPay. Intouchpay sends a response within 60 seconds by default.

4.2. Request URI

The request URI is the destination URI of the **gettransactionstatus** request sent by the App to the IntouchPay. The URI is provided by Intouchpay in the following format:

http://IP:Port/api/gettransactionstatus/

In the format, IP and Port indicate the service IP address and port number of the API provided by the Intouchpay. Contact carriers to obtain the IP address and port number.

4.3. **Request**

The App functions as the client and sends a **gettransactionstatus** message to intouchpay.

Example in Python Programming language

```
data={
        'username':'bob',
        'timestamp':'20161231115242',
        'password':'d3cfd05492a2376003f5af9e2e6643b67',
        'requesttransactionid':'4093888833',
        'transactionid':20052820200624172842
    }
r=requests.post('https://www.intouchpay.co.rw/api/gettransactionstatus/', json=data)
```

4.4. Password Generation

The request password is generated as per the steps below.

7. Username+accountno+partnerpassword+timestamp
8. Encrypt the resulting string using SHA256 encryption
9. Get the hexdigest of the resulting encryption

Example in Python

```
password = hashlib.sha256(username+accountno+partnerpassword+timestamp).hexdigest()
```

4.5. Request Parameters

Parameter Name	Data Format	Description	Mandatory
username	string	User name assigned to your account	Yes
timestamp	string	Timestamp of the transaction preferably in UTC formatted as yyyymmddss	Yes
requesttransactionid	string	The App transaction id of the transaction to which the status is being requested	Yes
transactionid	string	The IntouchPay transaction id of the transaction to which status is being requested	Yes
password	string	The password of your account	Yes

4.6. GET TRANSACTION STATUS RESPONSE

The intouchpay gateway will respond with a json response as below and an HTTP response 200 OK.

Success response:

```
{
  "success": true,
   "responsecode": "1000”
   "status": "Pending",
   "message": "Pending",
}
```

Failure response:

```
{
  "success": false,
 "responsecode": "3200
   "message": "Transaction Doesn't Exist
}
```

4.7. Response Codes

Below is a table showing the response codes for the Get Transaction Status response

RESPONSE CODE	DESCRIPTION
3000	Missing Transaction ID Information
3200	Missing Request Transaction ID Information
3100	Transacton Doesn't Exist
1000	Transaction Pending
01	Transaction Successful for Payment Transaction
2001	Transaction Successful for Deposit Transaction

5. BALANCE INQUIRY

5.1. Function

The App (functioning as the client) invokes the GetBalance API to query account balance on Intouchpay (functioning as the server).

The intouchpay gateway will then attempt to query the account balance as per request, and will invoke the App with the response of the **getbalance** request status.

Partners must code the App based on the API field requirements so that the App can send correct requests to IntouchPay. Intouchpay sends a response within 60 seconds by default.

5.2. Request URI

The request URI is the destination URI of the **getbalance** request sent by the App to IntouchPay. The URI is provided by Intouchpay in the following format:

http://IP:Port/api/getbalance/

In the format, IP and Port indicate the service IP address and port number of the API provided by the Intouchpay. Contact carriers to obtain the IP address and port number.

5.3. Request

The App functions as the client and sends a **getbalance** message to.

Example in Python Programming language

```
data={
        'username':'bob',
        'timestamp':'20161231115242',
        'password': 'd3cfd05492a2376003f5af9e2e6643b67',
    }
response=requests.post('https://www.intouchpay.co.rw/api/getbalance /', data=data)
```

5.4. Password Generation

The request password is generated as per the steps below.

10. Username+accountno+partnerpassword+timestamp
11. Encrypt the resulting string using SHA256 encryption
12. Get the hexdigest of the resulting encryption

Example in Python

password = hashlib.sha256(username+accountno+partnerpassword+timestamp).hexdigest()

5.5. Request Parameters

Parameter Name	Data Format	Description	Mandatory
username	string	User name assigned to your account	Yes
timestamp	string	Timestamp of the transaction preferably in UTC formatted as yyyymmddss	Yes
accountno	string	Account number of your account	Yes
password	string	The password of your account	Yes

5.6. MAKING PAYMENT RESPONSE

The intouchpay gateway will respond with a json response as below and an HTTP response 200 OK.

Success response:

```
{
    "balance":"0.0"
    "success": true
}
```

Failure response:

```
{
    "success":false,
    "responsecode":"007",
    “message”: “No such user”
}
```

5.7. Response Codes

Below is a table showing the response codes for the Get Balance response

RESPONSE CODE	DESCRIPTION
0002	Missing Username Information
0003	Missing Password Information
0004	Missing Date Information
0005	Invalid Password
0006	User Does not have an intouchPay Account
0007	No such user
0008	Failed to Authenticate
0002	Missing Username Information
0003	Missing Password Information