Integration for 3PPs for USSD & SMS for Nigeria

The following highlights the steps required for onboarding of a 3PP to the USSD & SMS APIs .

3PP Subscriptions

After obtaining a service code and goinfg through the developer portal registration and aproval process as highlighted here Developers Portal DOCS . 3pps are expected to engage with the mtn stakeholders to route their service codes to the `MADDEV` bind for USSD and `MADGRPTEST` bind for SMS (For Test & integration environments).

For production deployments the 3pps service codes should be routed to the `MADAPIGRP` bind for USSD & `MADAPIGRP` bind for SMS .

The endpoint for integration and development can be located here .

```
https://preprod.api.mtn.com/messages/ussd/subscription
```

The expected request body is shown below for requests sent to the subscriptions endpoint .

Where service code is the service code that has been already routed by the mtn gateway team .

callbackUrl is the http endpoint of your ussd menu application hosted by the 3pp.

targetSystem is the name of the your system for tracing purposes.

```
{
  "serviceCode": "2001",
  "callbackUrl": "https://my.ussd.app",
  "targetSystem": "MADAPI-LABS"
}
```

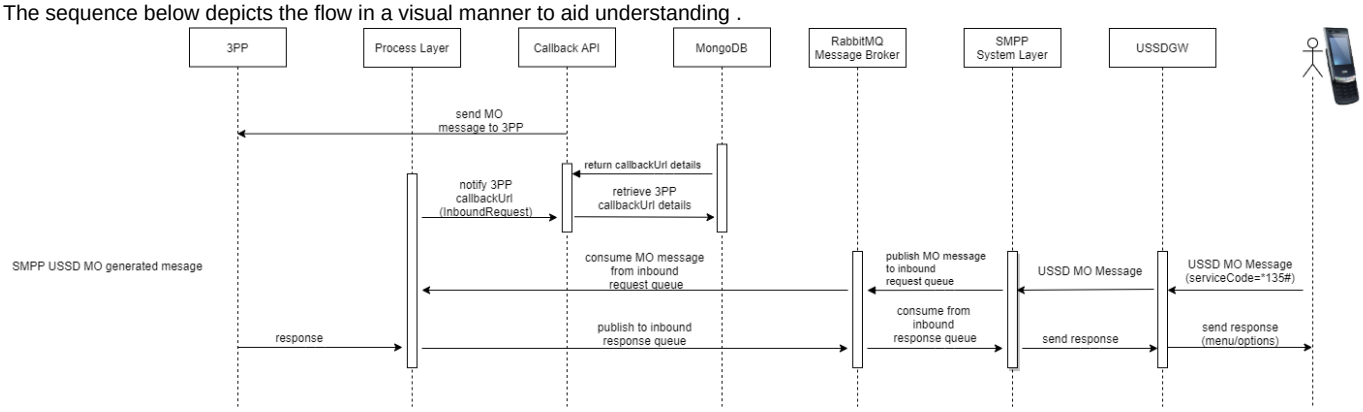
Integrations to USSD & SMS API

3PP applications should be developed in a non-blocking manner to ensure that they respond in a timely fashion . This is due to the nature of a ussd session that is typically short lived .

3PP Applications using java can achieve this with reactive means . If 3pp applications needs to make another call to third party systems this should also be done in a non-blocking fashion to ensure that 3pp application is not waiting for responses from their backends. This would improve the overall customer experience .

When a subscriber dials the routed & subscribed service codes . The requests gaets to the mtns core network which routes it to the USSD gateway . The gateway then routes the service code to the specific binds based on the environemnt as highlighted above .

The sequence below depicts the flow in a visual manner to aid understanding .



A typical inbound request from the USSD API to the 3pp application comes in the following form

```
{"ussdRequest":{"msisdn":"2349061153963","sessionId":"3239343338","
messageType":0,"cellId":null,"ussdString":"*119#","serviceCode":"119","
language":null,"imsi":null},"operation":"USSD_PCM"}}
```

On the subscribers first dial the messageType is set to 0 and subsequently 1 by the USSD API.

0 is a signal for the 3pp application to begin the session in which the subscriber is expected to return an InboundResponse in json in the following structure .

```
{
    "statusCode": "0000",
    "data": {
        "inboundResponse": "Welcome to MTN on Demand.\n1. Buy
Airtime\n2. Buy Data Plan\n3. Buy Xtra Value Bundle\n4. Buy HynetFlex
Bundles\n5. Awuf4U\n6. Next",
        "userInputRequired": true,
        "serviceCode": "2001",
        "messageType": 0,
        "msisdn": "2348032002907",
        "sessionId": "3239343338"
    },
    "statusMessage": "Success.",
    "_link": {
        "self": {
            "href": "https://staging-nigeria.api.mtn.com/payments/ussd
/inbound"
        }
    }
}
```

The 3pp application is also required to send the sessionId, msisdn it got from the USSD API for any InboundResponse sent back to the USSD API.

Subsequently when the subscriber responds to the begin session requests , The 3pp application is expected to return a messageType of 1 for continue except for cases where there needs to be an abort and 2 for ending the session .

These are the various messageTypes that can be sent in an InboundResponse to the USSD API .

```
/**
     *
     * The ussd message type can be of the following flags .
     * 0 Begins a USSD Session
     * 1 Continues a ussd session.
     * 2 Ends a USSD Session.
     * 3 Sends a flash notification to the USSD Gateway.
     * 4 Cancel or abort.
     * 5 Timeout .
     * 6 Redirect.
     */
```