



SOA SERVICE SPECIFICATION

PurchaseInitiate_2_0

Service Id: 3022

Version 1.0

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1 BUSINESS CONTEXT

PurchaseInitiate_2_0 service is used by third-party Merchant applications to collect payment for goods and services by initiating a USSD push to the subscriber to authorize the payment by entering his/her PIN.

This service creates an entry of the transaction in the MW database and respond to the calling application with an acknowledgment. It sends a request to the USSD push application which internally handles USSD push to the subscriber for transaction approval with PIN and fulfilment of payment on the payment platform (Mobiquity).

In the event of no successful subscriber authorization with PIN, the service sends a SMS notification to the subscriber with the USSD string to dial to approve/decline the pending transaction.

2 DEFINITIONS AND ABBREVIATIONS

Term	Definition
SMS	Short Message Service
USSD	Unstructured Supplementary Service Data
MSISDN	Mobile Station International Subscriber Directory Number
SOA	Service Oriented Architecture.
SOAP	Simple Object Access Protocol
OSB	Oracle Service Bus
OWSM	Oracle Web Service Manager
API	Application Program Interface
1..1	Mandatory element
0..1	Optional element

3 SERVICE OVERVIEW

PurchaseInitiate_2_0 service will be used by AirtelTigo merchant applications to fulfil subscriber payment for a purchase transaction. This service will create an entry of the transaction in the MW database and also respond to the calling application with an acknowledgment. It will send a request to the USSD push application which will internally handle USSD push to the subscriber to approve the payment to the Merchant using his/her PIN.

The service fulfils the payment transaction based on the subscriber input and sends a callback to the calling Merchant with the transaction result.

It sends a SMS notification to the subscriber with instruction to follow and approve the pending transaction in the event of no successful subscriber authorization with PIN.

3.1 NAMESPACES

Namespace URI	Prefix
http://xmlns.tigo.com/MFS/PurchaseInitiateRequest/V1	pi1
http://www.w3.org/2001/Schema	xsd
http://xmlns.tigo.com/RequestHeader/V3	headerRequest
http://xmlns.tigo.com/MFS/PurchaseInitiateResponse/V1	pi2
http://xmlns.tigo.com/ResponseHeader/V3	headerResponse

http://xmlns.tigo.com/Service/PurchaseInitiate/V1	pis
http://xmlns.tigo.com/MFS/PurchaseInitiateFault/V1	pif

3.2 PURCHASEINITIATE

PurchaseInitiate_2_0 service will be used to initiate the purchase request from AirtelTigo merchant applications.

When a user in a third-party transaction chooses to make a payment using AirtelTigo Money account, this service will be invoked by the third-party application to initiate the payment request.

The service will authenticate the merchant and then create an entry of the transaction in the MW database and respond to the calling application with an acknowledgment. It will then send a USSD push via the USSD gateway to the user for payment authorization with PIN which will then handle the fulfillment of payment on the Mobiquity payment platform.

In the event of no successful subscriber authorization with PIN, the service sends a SMS notification to the subscriber with the USSD string to dial to approve/decline the pending transaction.

3.2.1 INPUT MESSAGE: PURCHASEINITIATEREQUEST

Element Name	Element Type	Occurrence	Description
PurchaseInitiateRequest	pi1:PurchaseInitiateRequest	1..1	This element contains information about the user and the merchant to initiate the payment process.

3.2.2 OUTPUT MESSAGE: PURCHASEINITIATERESPONSE

Element Name	Element Type	Occurrence	Description
PurchaseInitiateResponse	pi2:PurchaseInitiateResponse	1..1	This element contains the success response elements

3.2.3 REFERENCED FAULTS

Element Name	Element Type	Occurrence	Description
PurchaseInitiateFault	pif:PurchaseInitiateFault	NA	Fault wrapped into SOAP fault.

3.2.4 MESSAGE/DATA SECURITY

SSL/TLS Security and Consumer authentication will be used to ensure service security.

3.2.5 SERVICE SECURITY

The Consuming Applications must authenticate against the OSB layer using OWSM-Security by providing their username and password. The password is in plain text format. The username and password are issued by the Service Factory team to the consuming application.

The authentication credentials (OWSM - Security username and password) must be stored in a secure manner and encrypted whilst stored on the consuming application platform.

Username and Password has to be sent as part of SOAP Header while invoking this service.

Below is a sample SOAP Header:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope"
xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-
wssecurity-secext-1.0.xsd">
  <soapenv:Header>
    <wsse:Security>
      <wsse:UsernameToken>
        <wsse:Username></wsse:Username>
        <wsse:Password></wsse:Password>
      </wsse:UsernameToken>
    </wsse:Security>
  </soapenv:Header>
  <soapenv:Body>
    <!--request body-->
  </soapenv:Body>
</soapenv:Envelope>
```

3.2.6 TIMEOUT AND RETRY

This operation is an idempotent operation. Upon timeout of a service request, the consuming application must understand the request may yet be processed but they can still safely retry with no risk of unwanted result. When timeout occurs, the consuming application should inform the consumer and ask them to try again later.

For an already initiated transaction that is pending consumer approval with PIN, a SMS notification is sent to the consumer with instructions to follow and approve the pending transaction within a specified transaction expiry period.

On retry of an already initiated or successfully processed PurchaseInitiate transaction (with reference to the same payment reference ID), the calling application is prompted about the duplicate transaction and the state of the initial transaction is maintained.

*Idempotent means where multiple invocations of the operation does not change the result.

3.2.7 SUCCESS STATUS CODES

On successful operation execution the API will return the success code.

Code	Description
purchaseinitiate-3022-0001-S	Your payment request has been initiated.

3.2.8 ERROR CODES

This operation returns errors or failures in the standard SOAP format as per the xsd. The error codes and short descriptions are listed below.

Error Code	Error Description	Country	Error Category
purchaseinitiate-3022-4501-V	Invalid Request. Please verify the request and resubmit.	GHA	OSB validation failed
purchaseinitiate-3022-3001-E	<Backend error description> or Request was not successful. Backend error has occurred.	GHA	Any unmapped backend error would be returned under this error code.
purchaseinitiate-3022-3002-E	Merchant authentication failed	GHA	When Merchant authentication fails on the payment platform.
purchaseinitiate-3022-4502-V	Invalid ISD code passed in the MSISDN	GHA	When an invalid ISD (Country) code is sent in the MSISDN.
purchaseinitiate-3022-4503-V	Web service implementation is not available for this country	GHA	When the country in the request is other than GHA
purchaseinitiate-3022-4506-V	Invalid consumerId passed in the request.	GHA	When consumerID passed in the request is other than the defined values.
purchaseinitiate-3022-4001-V	Invalid amount value passed in the request. Amount should be a positive number.	GHA	When the amount value in the request is not greater than zero (0).
purchaseinitiate-3022-4002-V	Merchant account details not passed in the request.	GHA	If merchant (authentication details), webuser/webpassword are not passed in the request
purchaseinitiate-3022-2505-F	Service authentication failed.	GHA	OWSM security authentication failure
purchaseinitiate-3022-2506-F	Consumer is not authorized to use the service.	GHA	When a valid consumer is trying to access this API for whom there is no authorization
purchaseinitiate-3022-3602-E	Internal service error.	GHA	OSB service error
purchaseinitiate-3022-3999-E	Unknown/Uncaught error has occurred.	GHA	To be mapped in unknown section. The failure reason is not defined.

purchaseinitiate-3022-4507-V	Duplicate payment reference id passed in the request	GHA	When the payment reference id passed in the request has already been used by the same Merchant.
purchaseinitiate-3022-4512-V	Invalid Merchant specific consumerID passed in the request.	GHA	When the consumerID/Merchant MSISDN passed in the request does not matched the values stored for the calling merchant.
purchaseinitiate-3022-4511-V	Invalid AuthorizationCode passed in the request	GHA	When invalid AuthorizationCode is passed in the request. Or when the AuthorizationCode in the request does not match the value stored for the calling Merchant.
purchaseinitiate-3022-3003-E	Merchant wallet does not exist, Please contact AirtelTigo Support Team.	GHA	When the initiator/Merchant MSISDN is invalid

3.2.9 SAMPLE MESSAGES

Sample request:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:v1="http://xmlns.tigo.com/MFS/PurchaseInitiateRequest/V1"
xmlns:v3="http://xmlns.tigo.com/RequestHeader/V3"
xmlns:v2="http://xmlns.tigo.com/ParameterType/V2">
  <soapenv:Header xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">
    <cor:debugFlag
xmlns:cor="http://soa.mic.co.af/coredata_1">true</cor:debugFlag>
    <wsse:Security>
      <wsse:UsernameToken>
        <wsse:Username>test_mw_osb</wsse:Username>
        <wsse:Password>tigo1234</wsse:Password>
      </wsse:UsernameToken>
    </wsse:Security>
  </soapenv:Header>
  <soapenv:Body>
    <v1:PurchaseInitiateRequest>
      <v3:RequestHeader>
        <v3:GeneralConsumerInformation>
          <v3:consumerID>TIGO</v3:consumerID>
          <!--Optional:-->
          <v3:transactionID>2435399942588</v3:transactionID>
          <v3:country>GHA</v3:country>
          <v3:correlationID>3552990003</v3:correlationID>
        </v3:GeneralConsumerInformation>
      </v3:RequestHeader>
      <v1:requestBody>
        <v1:customerAccount>
          <!--You have a CHOICE of the next 2 items at this level-->
          <v1:msisdn>233561234567</v1:msisdn>
        </v1:customerAccount>
      </v1:requestBody>
    </v1:PurchaseInitiateRequest>
  </soapenv:Body>
</soapenv:Envelope>
```



```

    <v1:initiatorAccount>
      <!--You have a CHOICE of the next 2 items at this level-->
      <v1:msisdn>233276781234</v1:msisdn>
    </v1:initiatorAccount>

    <v1:paymentReference>7112556943392279</v1:paymentReference>
    <!--Optional:-->
    <v1:externalCategory>tigo_portal</v1:externalCategory>
    <!--Optional:-->
    <v1:externalChannel>hybrid</v1:externalChannel>
    <!--Optional:-->
    <v1:webUser>thstest</v1:webUser>
    <!--Optional:-->
    <v1:webPassword>Passw@1</v1:webPassword>
    <!--Optional:-->
    <v1:merchantName>ebay34</v1:merchantName>
    <!--Optional:-->
    <v1:merchantMsisdn>233123456963</v1:merchantMsisdn>
    <!--Optional:-->
    <v1:itemName>TV34</v1:itemName>
    <v1:amount>1</v1:amount>
    <!--Optional:-->
    <v1:minutesToExpire>10</v1:minutesToExpire>
    <v1:notificationChannel>1</v1:notificationChannel>

  <v1:AuthorizationCode>dGVzdF9tdl9vc2ln6dGlnbzEyMzQ=</v1:AuthorizationCode>
</v1:requestBody>
</v1:PurchaseInitiateRequest>
</soapenv:Body>
</soapenv:Envelope>

```

Sample response:

```

<soapenv:Envelope
xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header xmlns:wss="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd"
xmlns:v1="http://xmlns.tigo.com/MFS/PurchaseInitiateRequest/V1"
xmlns:v3="http://xmlns.tigo.com/RequestHeader/V3"
xmlns:v2="http://xmlns.tigo.com/ParameterType/V2">
    <cor:SOATransactionID
xmlns:cor="http://soa.mic.co.af/coredata_1">aa86447a-bca0-4e83-9ce5-c5b934aa39c1</cor:SOATransactionID>
  </soapenv:Header>
  <soapenv:Body
xmlns:v1="http://xmlns.tigo.com/MFS/PurchaseInitiateRequest/V1"
xmlns:v3="http://xmlns.tigo.com/RequestHeader/V3"
xmlns:v2="http://xmlns.tigo.com/ParameterType/V2">
    <v1:PurchaseInitiateResponse
xmlns:v11="http://xmlns.tigo.com/MFS/PurchaseInitiateResponse/V1">
      <v31:ResponseHeader
xmlns:v31="http://xmlns.tigo.com/ResponseHeader/V3">
        <v31:GeneralResponse>
          <v31:correlationID>3552990003</v31:correlationID>
          <v31:status>OK</v31:status>
          <v31:code>purchaseinitiate-3022-0001-S</v31:code>
          <v31:description>Your payment request has been
initiated.</v31:description>
        </v31:GeneralResponse>
      </v31:ResponseHeader>
      <v11:responseBody>
        <v11:paymentId>3084</v11:paymentId>

```

```

        <v11:paymentReference>7112556943392279</v11:paymentReference>
    </v11:responseBody>
</v11:PurchaseInitiateResponse>
</soapenv:Body>
</soapenv:Envelope>

```

Sample fault:

```

<soapenv:Envelope
xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
    <soapenv:Header xmlns:wss="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd"
xmlns:v1="http://xmlns.tigo.com/MFS/PurchaseInitiateRequest/V1"
xmlns:cor="http://xmlns.tigo.com/CoreData/V1"
xmlns:v3="http://xmlns.tigo.com/RequestHeader/V3"
xmlns:v2="http://xmlns.tigo.com/ParameterType/V2">
        <cor1:SOATransactionID
xmlns:cor1="http://soa.mic.co.af/coredata_1">c267e36d-de88-4348-8914-
23c0afe15d97</cor1:SOATransactionID>
    </soapenv:Header>
    <soapenv:Body
xmlns:v1="http://xmlns.tigo.com/MFS/PurchaseInitiateRequest/V1"
xmlns:cor="http://xmlns.tigo.com/CoreData/V1"
xmlns:v3="http://xmlns.tigo.com/RequestHeader/V3"
xmlns:v2="http://xmlns.tigo.com/ParameterType/V2">
        <soapenv:Fault>
            <faultcode
xmlns:env="http://schemas.xmlsoap.org/soap/envelope">env:Server</faultcode>
            <faultstring>Invalid Request. Please check the input and
resubmit.</faultstring>
            <detail>
                <ns1:PurchaseInitiateFault
xmlns:ns1="http://xmlns.tigo.com/MFS/PurchaseInitiateFault/V1"
xmlns:cmn="http://xmlns.tigo.com/ResponseHeader/V3">
                    <cmn:ResponseHeader>
                        <cmn:GeneralResponse>
                            <cmn:correlationID>456</cmn:correlationID>
                            <cmn:status>ERROR</cmn:status>
                            <cmn:code>purchaseinitiate-3022-4501-V</cmn:code>
                            <cmn:description>Invalid Request. Please check the
input and resubmit.</cmn:description>
                        </cmn:GeneralResponse>
                    </cmn:ResponseHeader>
                </ns1:PurchaseInitiateFault>
            </detail>
        </soapenv:Fault>
    </soapenv:Body>
</soapenv:Envelope>

```

3.3 XML SCHEMA DATA TYPE DEFINITION

3.3.1 INPUT MESSAGE: PURCHASEINITIATEREQUEST STRUCTURE

Element	Type	Occurrence	Description
RequestHeader	headerRequest: RequestHeader	1..1	This group of data contains information about the system that needs to consume the exposed service by the OSB.
RequestBody	requestBodyType	1..1	Identifies the request elements related to the functionality of the service

3.3.2 OUTPUT MESSAGE : PURCHASEINITIATERESPONSE STRUCTURE

Element Name	Element Type	Occurrence	Description
ResponseHeader	headerResponse:ResponseHeader	1..1	This group of data contains information about the status of the service call along with transaction id
ResponseBody	responseBodyType	1..1	Informes the response status of the service to the calling application

3.3.3 REQUESTHEADER STRUCTURE

Element	Type	Occurrence	Description
GeneralConsumerInformation	Cmn:GeneralConsumerInformationType	1..1	Request header details.

3.3.4 RESPONSEHEADER STRUCTURE

Element Name	Element Type	Occurrence	Description
GeneralResponse	Cmn:GeneralResponseHeaderType	1..1	Response Header details.

3.3.5 GENERICCONSUMERINFORMATIONTYPE STRUCTURE

Element Name	Element Type	Occurrence	Description
consumerID	xsd:string	1..1	It is a unique identifier of the consumer of the service.
transactionID	xsd:string	0..1	Identifies the kind or type of transaction or operation that is taken in the consuming application.
country	cmn:CountryContentType	1..1	International country code (ISO 3166-1 alpha-3 format). Please refer to Appendix for the supported countries.
correlationID	Xsd:string	1..1	Unique identifier of the transaction by the consuming application.

3.3.6 REQUESTBODYTYPE STRUCTURE

Element	Type	Occurrence	Description
customerAccount	tns:WalletType	1..1	This is a choice element in which Username or MSISDN of the customer can be sent.
initiatorAccount	tns:WalletType	1..1	The account of the Purchase Initiator (e.g. the merchant)
paymentReference	xsd:string	1..1	Unique identifier sent from the calling application to track the transaction.
externalCategory	Xsd:string	0..1	Category of the Product/ Service/payment
externalChannel	xsd:string	0..1	The channel used by AirtelTigo Money Subscriber to initiate the payment authorization.
webUser	xsd:string	1..1	Username of the merchant on the payment platform (Mobiquity). It is used for authenticating the merchant.

webPassword	xsd:string	1..1	Password of the merchant on the payment platform (Mobiquity). It is used for authenticating the merchant.
merchantName	xsd:string	0..1	The known name of the Merchant that has initiated the purchase request. This is the requesting merchant name sent to the customer for payment authorization.
merchantMsisdn	xsd:string	0..1	Merchant msisdn to which the payment SMS notifications is sent after the transaction.
itemName	xsd:string	0..1	Product name that is being purchased by the customer through the 3 rd party application. This is the product/service name sent to the customer for payment authorization.
amount	Xsd:decimal	1..1	Amount of the product that is being purchased.
minutesToExpire	Xsd:int	0..1	The pending payment transaction can be processed only within this expiry time. This is the hold period for the transaction that has not yet been approved/declined by the customer. The customer can use the dial string to access and process the pending transaction within this period.
notificationChannel	Xsd:int	1..1	Indicates which channel to use for notifying the subscriber: 1: only SMS message with instructions to dial short code (Dial sting). 2: both SMS and USSD push 3. None Default value is "2" (BOTH SMS and USSD)
AuthorizationCode		1..1	Unique Authorizationcode of merchant.
additionalParameters	par:ParameterType	0..1	Additional Information

3.3.7 WALLETTYPE STRUCTURE

Element	Type	Occurrence	Description
msisdn	cor:msisdnType {xsd:string(12)}	1..1	Customer/merchant's MSISDN
username	xsd:string	0..1	Customer/merchant's username. (Some MFS systems can accept Username instead of MSISDN)

3.3.8 GENERALRESPONSEHEADERTYPE STRUCTURE

Element Name	Element Type	Occurrence	Description
correlationID	Xsd:string	0..1	Unique identifier of the transaction by the calling application.

status	cmn:StatusContent Type	0..1	State of the transaction Enumeration values ➤ OK ➤ ERROR
code	Xsd:string	0..1	Code number agreed to identify the success or fail event in the transaction
codeType	xsd:string	0..1	Identifier of the type code agreed under the catalog (It could be on a database level or confluence documentation defined).
description	Xsd:string	0..1	Technical and brief description of the error.
additionalInfo	Xsd:string	0..1	This element is used in case of backend error to return any additional information about the error. In this service, backend service name would be returned in this element.

3.3.9 RESPONSEBODYTYPE STRUCTURE

Element	Type	Occurrence	Description
paymentId	xsd:string	1..1	The unique ID that identifies the transaction in the MW platform
paymentReference	xsd:string	1..1	This will be the unique payment reference sent by the consuming application
additionalResults	par:ParameterType	0..n	Any additional results. Reserved for any future use.

3.3.10 PARAMETER TYPE STRUCTURE

Element	Type	Occurrence	Description
parameterName	xsd:string	1..1	The name of the parameter.
parameterValue	xsd:string	1..1	Value of the parameter.

4 APPENDIX

4.1 COUNTRY CODES

Country code	Country name
SLV	El Salvador
GTM	Guatemala
HND	Honduras
BOL	Bolivia
COL	Colombia
PRY	Paraguay
TCD	Chad
COD	Democratic Republic of Congo
GHA	Ghana
MUS	Mauritius
RWA	Rwanda
SEN	Senegal
TZA	Tanzania

4.2 MSISDN FORMAT

Country name	MSISDN format	Sample
Democratic Republic of Congo	International format	243123456789
Senegal	International format	221123456789
Ghana	International format	233573579125
Tanzania	International format	255123456789