

# Interface Specification

## Engineering Fusion

### Bundle Transfer (Buy for another) Service Account Adjust



Group: <b>Engineering</b>	Version: V1.1
Division <b>NSD: Network Service Development</b>	Department: Business Support Systems
Author: Hlengiwe Mbhele	

Revisions	Description of document history	Author	Date
V1.0	Initial draft	Hlengiwe Mbhele	26/05/2022
V1.1	Updated version	Hlengiwe Mbhele	17/06/2022

DISTRIBUTION LIST		
Copy Number	Name	Group/ Division/Organisation
1	Nozipho Nyandoro	SD-BSS Manager
2	SD-BSS	Engineering: Network Service Development

ABBREVIATIONS	
iCAP	Integrated Customer Administration and Provisioning
USSD	Unstructured Supplementary Service Data
CCS	Converged Charging Service
Eng	Engineering
CRM	Customer Relationship Management
CDR	Call Data Record

## 1. INTRODUCTION

This document defines an application programming interface (API) for the account adjustment service. The service will be invoked by various channels to request bundle transfer. Engineering fusion will manage, maintain and orchestrate all bundle transfers requests between channels and the charging system.

The API is an enhancement on the current account adjustment API for bundle transfers.

### 1.1. ENG FUSION INTERFACE

Eng Fusion will communicate with purchasing channels using SOAP (Simple Object Access Protocol) over HTTP.

### 1.2. AUTHENTICATION AND AUTHORIZATION

#### 1.2.1. *Authentication*

The consumer of the Web service needs to be registered and be provided with the username and password. The service consumer, which will, verified if the server certificate meets the following conditions:

- is issued by a trusted provider (i.e. CA)
- is not expired
- is not revoked
- matches the domain name of the service
- The server has proven that it has the private key associated with the public key certificate (by properly signing something or successfully decrypting something encrypted with the associated public key).

#### 1.2.2. *Invalid Credentials*

Authenticating with invalid credentials will result in HTTP error code 401 Unauthorized: HTTP/1.0 401 Unauthorized

#### 1.2.3. *Authorization*

In addition to the service consumer being authenticated, the user need to be authorized to call a specific service or operation. An error response will be return if the authenticated user is not allowed to invoke the operation.

#### 1.2.4. Protocol

ENG Fusion to expose a SOAP API to enable other systems to perform subscriber request on behalf of subscribers

## 2. BUNDLE TRANSFER

Vodacom offers a solution called bundle transfer whereby prepaid and hybrid subscribers are able to buy for another Vodacom prepaid and hybrid subscribers bundle such as Data, SMS and MMS. The solution is also best known as 'Buy for Another'.

Currently channels are sending the size and type for bundle transfer. Engineering Fusion has made an enhancement on the current Service Account Adjustment API whereby channels will now be able to send offering code (SOID) of the bundle that is being transferred on the request or size.

If the SOID is present on the request, then SOID will be prioritised and used to purchase the bundle for B-party. The size will be ignored.

### 2.1. CALL FLOW

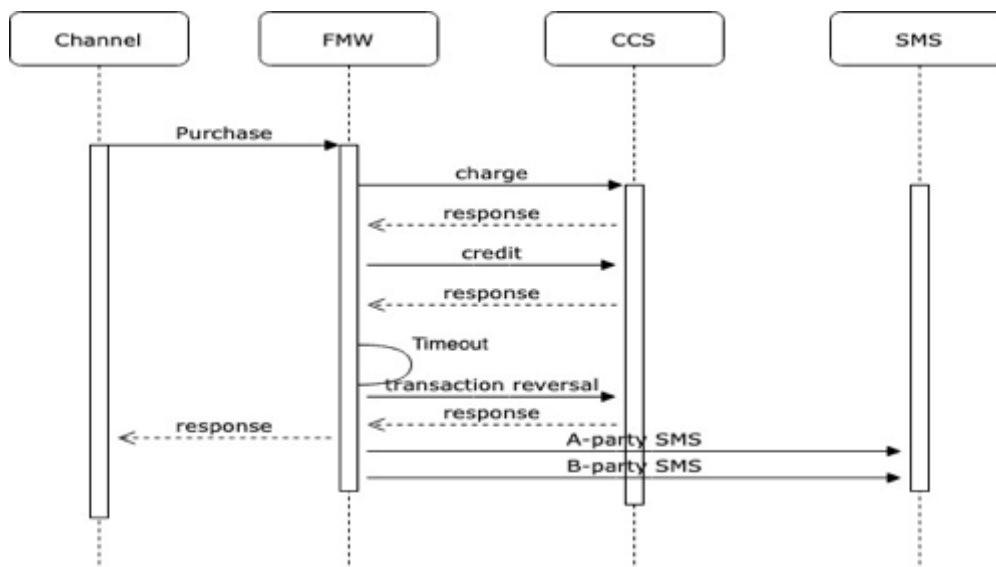


Figure 1 – Buy for Another

- Channel sends Buy for Another Request To Fusion, with the type and the either offeringcode or size to purchase
- Fusion sends a Charge(deduction on ccs for the A-party(sender)
- On Success,

- 1) If the Soid is present, Fusion sends bundle purchase request to CCS using the Soid provided.
  - 2) If the Soid is not present, Fusion looks up the DVM using the 'size' and 'type' provided.
- On Success Fusion sends and SMS to the sender and receiver as defined in the document.

## 2.2. HEADER PARAMETERS

The following header parameters is to identify the system, department making the call. It will be static information based on the system used. ConversationID/UID however will be systems generated and must be unique for easy identification, All the SOAP CSM API's will require these Header Parameters

Field Name	Data Type	M/O	Description/Possible Values
CountryCode	String	Mandatory	"ZA"
LanguageCode	String	Optional	"en"
Operator	String	Mandatory	"Vodacom"
Division	String	Optional	"Channels Division "
System	String	Mandatory	"iCap "
ConversationID	String	Mandatory	<b>TID prefixed</b> Unique transaction Id

### 2.3.REQUEST PARAMETERS

Field Name	Data Type	M/O	Description/Possible Values
Type	String	Mandatory	transfer
Parts/Adjust/ID	String	Mandatory	B-party i.e Receiving MSISDN, eg 27829807711
schemeName	String	Mandatory	schemeName="SubscriberID"
schemeAgencyName	String	Mandatory	schemeAgencyName="Vodafone"
Parts/Adjust/TransferFrom	String	Mandatory	A-party's MSISDN. The MSISDN transferring the bundle. i.e. Funds will be deducted on this subscriber's MSISDN. 27829802011
TransferFrom.Type	String	Mandatory	Type of transfer. For airtime transfer, value is airtime and for bundle transfer value is data. For MBB value is MBB
TransferFrom.Quantity	String	Mandatory	Quantity of data to be transferred in MB or GB or KB. To be populated with the size of the bundle of Soid used.
offeringCode	String	Mandatory	Soid e.g D034 If the Soid is present it will be prioritised and used to purchase the bundle for B-party
cost	String	Mandatory	The price in rands of the bundle transferred
expiryDate	date	Mandatory	To be populated with the expiry date of the bundle .eg 2022-05-30T23:59:59
Channel ID	String	Optional	Channel identifier or requestor ID of requesting system, for reporting systems.
Revenue	String	Optional	RevenueOriginId. Revenue origin Id for purchases.

### 2.4. SAMPLES

#### Soid BASED PURCHASE REQUEST

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:vho="http://group.vodafone.com/contract/vho/header/v1" xmlns:vbm="http://group.vodafone.com/schema/vbm/service/service-account-adjustment/v1" xmlns:cmn="http://group.vodafone.com/schema/common/v1"
xmlns:urn="urn:un:unece:uncefact:documentation:standard:CoreComponentType:2"
xmlns:vbo="http://group.vodafone.com/schema/vbo/service/service-account-adjustment/v1">
  <soapenv:Header>
```

```

<vho:Correlation>
  <vho:ConversationID>${=java.util.UUID.randomUUID()}</vho:ConversationID>
</vho:Correlation>
<vho:Source>
  <vho:CountryCode>ZA</vho:CountryCode>
  <vho:Operator>Vodacom</vho:Operator>
  <vho:Division>Engineering</vho:Division>
  <vho:System>FUSION</vho:System>
  <vho:Timestamp>${=new java.text.SimpleDateFormat("yyyy-MM-dd'T'HH:mm:ssZ").format(new Date())}</vho:Timestamp>
</vho:Source>
</soapenv:Header>
<soapenv:Body>
  <vbm:CreateServiceAccountAdjustmentVBMRequest>
    <vbm:ServiceAccountAdjustmentVBO>
      <cmn:Type>transfer</cmn:Type>
      <vbo:Parts>
        <cmn:Adjusts>
          <cmn:IDs>
            <cmn:ID schemeName="SubscriberID" schemeAgencyName="Vodafone">27606360160</cmn:ID>
          </cmn:IDs>
        </cmn:Adjusts>
        <cmn:TransferFrom>
          <cmn:IDs>
            <cmn:ID schemeName="SubscriberID" schemeAgencyName="Vodafone">27829802011</cmn:ID>
          </cmn:IDs>
          <cmn:Type>data</cmn:Type>
          <!--when the SOID is available the size sent is not used, for provisioning,
          Will default to size based provisioning when offeringCode not present-->
          <cmn:Quantity unitCode="GB">2</cmn:Quantity>
        </cmn:TransferFrom>
        <vbo:AdjustmentSpecification>
          <!--when Available the SOID is prioritised and used to purchase the bundle for B-party -->
          <cmn:CharacteristicsValue characteristicName="offeringCode">
            <cmn:Value languageID="en">D034</cmn:Value>
            <cmn:Type>Offering Code</cmn:Type>
          </cmn:CharacteristicsValue>
          <cmn:CharacteristicsValue characteristicName="cost">
            <cmn:Value languageID="en">2.50</cmn:Value>
            <cmn:Type>Cost</cmn:Type>
          </cmn:CharacteristicsValue>
          <cmn:CharacteristicsValue characteristicName="expiryDate">
            <cmn:Type>Validity</cmn:Type>
            <cmn:ValidityPeriod>
              <cmn:ToDate>
                <urn:DateString>2022-05-30T23:59:59</urn:DateString>
              </cmn:ToDate>
            </cmn:ValidityPeriod>
          </cmn:CharacteristicsValue>
          <cmn:CharacteristicsValue characteristicName="ChannelId">
            <cmn:Value languageID="en">A00001</cmn:Value>
            <cmn:Type>Revenue Audit</cmn:Type>
          </cmn:CharacteristicsValue>
          <cmn:CharacteristicsValue characteristicName="RevenueOriginId">
            <cmn:Value languageID="en">1000230</cmn:Value>
            <cmn:Type>Revenue Audit</cmn:Type>
          </cmn:CharacteristicsValue>
        </vbo:AdjustmentSpecification>
      </vbo:Parts>
    </vbm:ServiceAccountAdjustmentVBO>
  </vbm:CreateServiceAccountAdjustmentVBMRequest>
</soapenv:Body>

```

## PURCHASE RESPONSE

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soap-env:Header xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/">
    <vho:Correlation xmlns:vho="http://group.vodafone.com/contract/vho/header/v1">
      <vho:ConversationID>569072fd-c4b1-4ef3-9385-84c6940dee21</vho:ConversationID>
    </vho:Correlation>
    <vho:Destination xmlns:vho="http://group.vodafone.com/contract/vho/header/v1">
      <vho:CountryCode>ZA</vho:CountryCode>
      <vho:LanguageCode>en</vho:LanguageCode>
      <vho:Operator>Vodacom</vho:Operator>
      <vho:Division>Engineering</vho:Division>
      <vho:System>Fusion</vho:System>
      <vho:Timestamp>2022-05-30T14:39:20.882+02:00</vho:Timestamp>
    </vho:Destination>
  </soap-env:Header>
  <soapenv:Body>
    <vbm:CreateServiceAccountAdjustmentVBMResponse xmlns:vbm="http://group.vodafone.com/schema/vbm/service/service-account-adjustment/v1" xmlns:cmn="http://group.vodafone.com/schema/common/v1"
    xmlns:vbo="http://group.vodafone.com/schema/vbo/service/service-account-adjustment/v1">
      <vbm:ServiceAccountAdjustmentVBO>c00d61db-a7e5-44e2-9857-557a041efdcd</vbm:ServiceAccountAdjustmentVBO>
    </vbm:CreateServiceAccountAdjustmentVBMResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

## ERROR PURCHASE RESPONSE

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soap-env:Header xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/">
    <vho:Correlation xmlns:vho="http://group.vodafone.com/contract/vho/header/v1">
      <vho:ConversationID>f88d9487-4ef6-4e4b-825f-b027b78fee0f</vho:ConversationID>
    </vho:Correlation>
    <vho:Destination xmlns:vho="http://group.vodafone.com/contract/vho/header/v1">
      <vho:CountryCode>ZA</vho:CountryCode>
      <vho:LanguageCode>en</vho:LanguageCode>
      <vho:Operator>Vodacom</vho:Operator>
      <vho:Division>Engineering</vho:Division>
      <vho:System>Fusion</vho:System>
      <vho:Timestamp>2022-05-30T19:22:42.364+02:00</vho:Timestamp>
    </vho:Destination>
  </soap-env:Header>
  <soapenv:Body>
    <soap-env:Fault xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/">
      <faultcode>soap-env:Server</faultcode>
      <faultstring>Offering not found.</faultstring>
      <detail>
        <vfo:Fault xmlns:vfo="http://group.vodafone.com/contract/vfo/fault/v1"
        xmlns:cmn="http://group.vodafone.com/schema/common/v1" xmlns:ws-bf="http://docs.oasis-open.org/wsrf/bf-2"
        xmlns:wsa="http://www.w3.org/2005/08/addressing" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
          <ws-bf:Timestamp>2022-05-30T19:22:42.184+02:00</ws-bf:Timestamp>
          <ws-bf:ErrorCode dialect="CSM Error Code">500</ws-bf:ErrorCode>
          <ws-bf:Description xml:lang="en">A general backend system error was encountered.</ws-bf:Description>
          <vfo:Name>Back End System Error</vfo:Name>
          <vfo:Severity>Critical</vfo:Severity>
          <vfo:Category>Technical</vfo:Category>
          <vfo:Message>Offering not found.</vfo:Message>
        </vfo:Fault>
      </detail>
    </soap-env:Fault>
  </soapenv:Body>
</soapenv:Envelope>
```



```

</soap-env:Fault>
</soapenv:Body>
</soapenv:Envelope>

```

## ERROR PURCHASE RESPONSE

```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soap-env:Header xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/">
    <vho:Correlation xmlns:vho="http://group.vodafone.com/contract/vho/header/v1">
      <vho:ConversationID>2d9d6fef-5cf9-4d9d-8b40-3594aea0f545</vho:ConversationID>
    </vho:Correlation>
    <vho:Destination xmlns:vho="http://group.vodafone.com/contract/vho/header/v1">
      <vho:CountryCode>ZA</vho:CountryCode>
      <vho:LanguageCode>en</vho:LanguageCode>
      <vho:Operator>Vodacom</vho:Operator>
      <vho:Division>Engineering</vho:Division>
      <vho:System>Fusion</vho:System>
      <vho:Timestamp>2022-05-30T19:24:01.201+02:00</vho:Timestamp>
    </vho:Destination>
  </soap-env:Header>
  <soapenv:Body>
    <soap-env:Fault xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/">
      <faultcode>soap-env:Server</faultcode>
      <faultstring>Invalid request</faultstring>
      <detail>
        <vfo:Fault xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:wsa="http://www.w3.org/2005/08/addressing"
xmlns:ws-bf="http://docs.oasis-open.org/wsrf/bf-2" xmlns:cmn="http://group.vodafone.com/schema/common/v1"
xmlns:vfo="http://group.vodafone.com/contract/vfo/fault/v1">
          <ws-bf:Timestamp>2022-05-30T19:24:01.196+02:00</ws-bf:Timestamp>
          <ws-bf:Originator>
            <wsa:Address>acct:create</wsa:Address>
          </ws-bf:Originator>
          <ws-bf:ErrorCode dialect="CSM Error Code">101</ws-bf:ErrorCode>
          <ws-bf:Description xml:lang="en">A request validation exception was thrown.</ws-bf:Description>
          <vfo:Name>Invalid request</vfo:Name>
          <vfo:Severity>Critical</vfo:Severity>
          <vfo:Category>Business</vfo:Category>
          <vfo:Message>Invalid request</vfo:Message>
          <vfo:Failures>
            <vfo:Failure>
              <vfo:Code>101</vfo:Code>
              <vfo:Text>The size specified not found.</vfo:Text>
              <vfo>DataRef>
                <vfo:PathName>/ServiceAccountAdjustmentVBO/Details/AdjustmentQuantity</vfo:PathName>
                <vfo:PathValueText>1.5</vfo:PathValueText>
              </vfo>DataRef>
            </vfo:Failure>
          </vfo:Failures>
        </vfo:Fault>
      </detail>
    </soap-env:Fault>
  </soapenv:Body>
</soapenv:Envelope>

```

## ENDPOINT:

<http://fusion-test.vodacom.co.za:9100/enterprise-services/ppd/service/service-account-adjustment/v1>