

# Interface Specification

## Financial Institution

### Bundle purchase and Airtime allocation



Group: <b>Engineering</b>	Version: 4.2
Division <b>NSD: Network Service Development</b>	Department: Business Support Systems
Author: SD BSS	

**Table 1: Document history**

Version	Description	Author	Date
0.1	Draft version of document	Nozipho Nyandoro	09/06/2018
0.2	Updated samples	Harvey Gathercole	19/06/2018
0.3	Added flow chart and changed order of flow	Harvey Gathercole	11/07/2018
0.4	Updated error responses	Harvey Gathercole	23/08/2018
0.5	Added JSON examples	Harvey Gathercole	23/10/2018
06	Updated JSON examples	Vusi Sibeko	08/11/2018
07	Added format	Harvey Gathercole	09/11/2018
1.0	Final	Harvey Gathercole	09/11/2018
1.1	Added return code 28	Harvey Gathercole	23/11/2018
2.0	Final	Harvey Gathercole	23/11/2018
3.0	Updated Json XML	Harvey Gathercole	19-02-2019
3.1	Updated section 3.7 to include zero value	Harvey Gathercole	27-02-2019
3.2	Fixed spelling of "ConversationID"	Harvey Gathercole	27-03-2019
3.3	Updated "error codes"	Harvey Gathercole	20-05-2019
3.4	Updated Header info	Harvey Gathercole	23-05-2019
3.5	Updated retries with 24hr	Harvey Gathercole	10-07-2019
3.6	Added Base64 encryption	Harvey Gathercole	22-10-2019
3.7	Changed "debit" to "credit" for bundle purchase	Harvey Gathercole	15-11-2019
3.8	Updated Bundle purchase and Account adjust payload: added Price, validity ,dealerID and Allowance	Enock Maswanganyi	23-01-2020
3.9	Updated Bundle Product list and Bundle purchase header	Enock Maswanganyi	24-01-2020
4.2	Correct the endpoint under section 3.5.1	Enock Maswanganyi	10-03-2020
4.3	Added error code 03	Patrick Maloma	11-05-2020
4.5	Revised error responses	Patrick Maloma	08-12-2020

**Table 2: List of Abbreviations / Acronyms / Definitions**

Abbreviation	Description
--------------	-------------

FMW	Fusion Middleware
Eng.	Engineering
OTT	Over The Top
CDR	Call Data Record
RTI	Real time Integration
FI	Financial institution

**Table 3: List of key project stakeholders and contributors**

Person(s)	Function	Area
Nyandoro, Nozipho	Senior Specialist	Engineering
Pillay, Nethisha	Manager	Engineering
Harvey Gathercole	Principle Specialist	Engineering

## 1 Interface

The protocol to be used to communicate between Eng. Fusion and the channels is based on SOAP (Simple Object Access Protocol) and REST over HTTP.

### 1.1 AUTHENTICATION AND AUTHORIZATION

#### ***Authentication***

The consumer of the Web service needs to be registered and be provided with the username and password. TLS v1.2 will be utilised to authenticate the service provider to the service consumer which will verify the following concerning the server certificate:

- 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).

#### ***Invalid Credentials***

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

HTTP/1.0 401 Unauthorized

***Base64 encryption applies, single authentication string (User name and PWD)***

#### ***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.

The following info concerning the server certificate has to be verified:

- 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).

## **Security**

To ensure transport layer security for web services two-way TLS1.2 authentication will be utilized. The TLS client application verifies the identity of the TLS server application, and the TLS server application verifies the identity of the TLS client application using certificates.

Public-Key Infrastructure (PKI) will be used for encryption. Private key/public key pair will ensure that the data can be encrypted by one key but can only be decrypted by the other key pair.

### **Invalid Credentials**

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

HTTP/1.0 401 Unauthorized

### **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 VALIDATION**

The Financial institution should ensure the following info is sent correctly.

- Valid Financial Institution ID code
- Valid Channel ID
- Unique Transaction ID
- Valid Recharge Amount (This is optional)

The financial institution should verify that an MSISDN is an active Vodacom pre-paid/hybrid subscriber number (MSISDN) before sending a purchase request. The subscriber profile lookup will be used for this customer verification

## **2 Retries**

Financial institution should retry a transaction after 5 seconds, with a maximum of three retries, if they don't get a successful response from fusion. If a retry is sent, the MESS\_ID must be 001 with the same Transaction ID (Conversation ID). FMW will first perform a query against CCS to check if the transaction ID is the same, if the transaction ID is the same an error 26 response (Duplicate transaction) is returned. Once



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the charging system is on CCS-C a maximum of 24 hours is allowed for a retry, after 24 hours has elapsed the retry will be seen as a new transactions, the 24 hour period is specific per transaction.

### 3 Retries

Financial institution should retry a transaction after 5 seconds, with a maximum of three retries, if they don't get a successful response from fusion. If a retry is sent, the MESS\_ID must be 001 with the same Transaction ID (Conversation ID). FMW will first perform a query against CCS to check if the transaction ID is the same, if the transaction ID is the same an error 26 response (Duplicate transaction) is returned.

#### 3.1 DUPLICATE TRANSACTIONS

Financial institution receives a time out or no response from Eng. Fusion (FMW). The FI can retry the transaction using the same transaction ID. For a retry or duplicate transaction, the Trans ID must be the same as the previous transaction and the Mess ID must be 001.

#### 3.2 NO RESPONSE

If no response is received for any of the messages, the exact same message must be repeated using the same TID, MSISDN, amount, etc. A response will be returned showing the request as duplicate and what the current status of the transaction is.

#### 3.3 ERROR CODES

Return codes indicate the result of the attempted operation. The following return codes are possible.

Description	Return code	Eligibility request	Adjustment request	Bundle Purchase
Approved validation Or Recharge completed successfully	200	X	X	X
Unauthorised product purchase	03		X	X
Delay in processing the recharge	10		X	X
Invalid Recharge (e.g. Recharge attempt without activation, Business rule violation)	12		X	
Invalid Recharge Denomination	13		X	
Invalid Financial Institution Id	15	X	X	X
<u>Vodacom related problem</u> This response code indicates that the transaction was not successfully processed due to a problem on the back-end system. For single occurrences, the financial institution may re-submit the transaction with a <b>new</b> transaction id. For multiple occurrences in succession, the financial institution must report the problem to Vodacom by following the fault reporting procedure as specified in the SLA.	22	X	X	X
<u>Invalid Retry (Trans_id (Conversation ID and mess id 001) ARE NOT the same)</u> <u>The FI Trans_ID is the different</u>	25		X	X
Duplicate transaction (Mess ID 001 same Trans ID))	26		X	X
No. of retries exceeded. Max (3) retries	27		X	X

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This is the result of a duplicate retry with Mess_ID 001, the transaction ID exists but the full transaction failed, FI must submit a NEW transaction with a NEW TID.	28		X	X
Invalid MSISDN	42	X	X	X
<u>Vodacom related problem</u>  This response code indicates that the back-end system is either unavailable or did not respond in time.  For single occurrences, the financial institution may re-submit the transaction with the <b>same</b> transaction id. For multiple occurrences in succession, the financial institution must report the problem to Vodacom by following the fault reporting procedure as specified in the SLA.	500	X	X	X

## 1 Bundle Purchase

Vodacom channels will be able to purchase bundles and Airtime via Eng. Fusion using the CSM *service subscription* API for prepaid, hybrid and post-paid. Charging system categorise bundle as static and dynamic bundles, so third party systems when they send a request for purchasing dynamic bundles should pass the following parameters as Mandatory: Price, validity and allowance. Static bundles, third party are expected to send only SOIDs. Below are the Unit of Measure Data, Voice and SMS bundle.

- Unit of Measure of Data = KB, MB and GB.
- Unit of Measure of SMS = Units.
- Unit of Measure of Voice = Minutes.

### 3.4 DESCRIPTION

This section refers to the general bundle provision for once off and recurring bundles. Bundles will be configured on CCS as static.

### 3.5 CALL FLOW

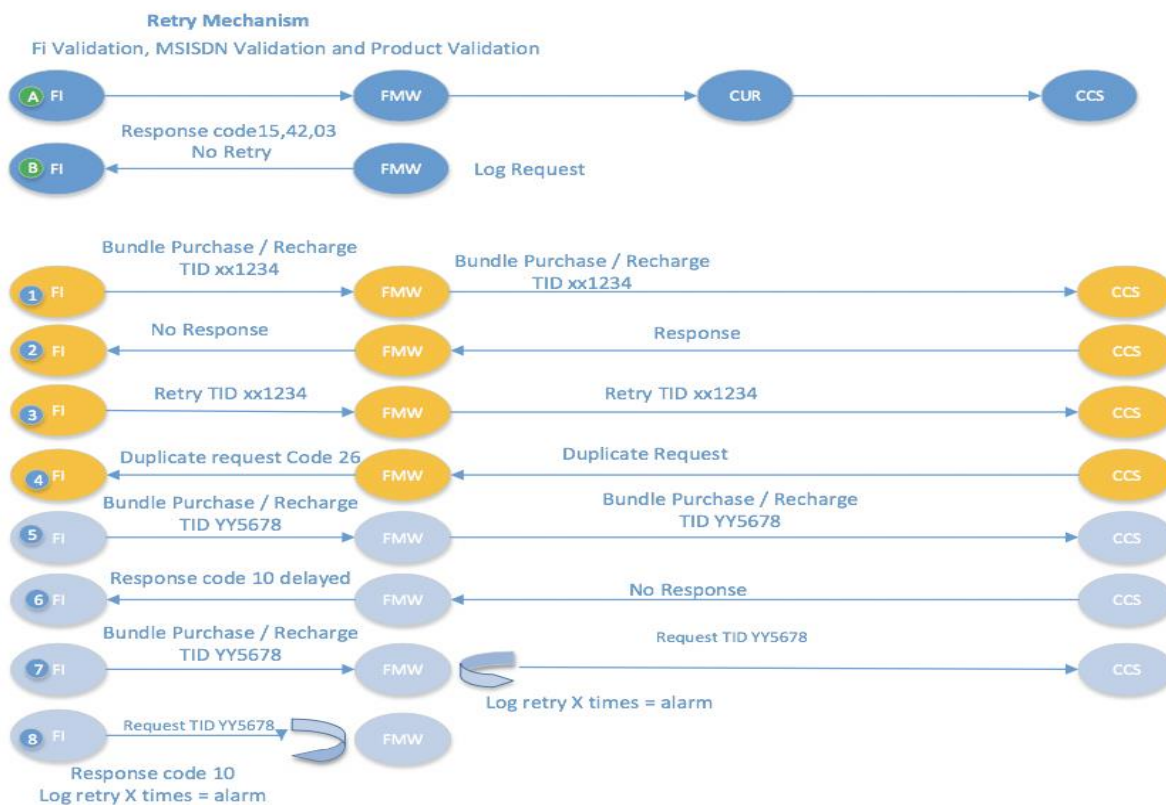
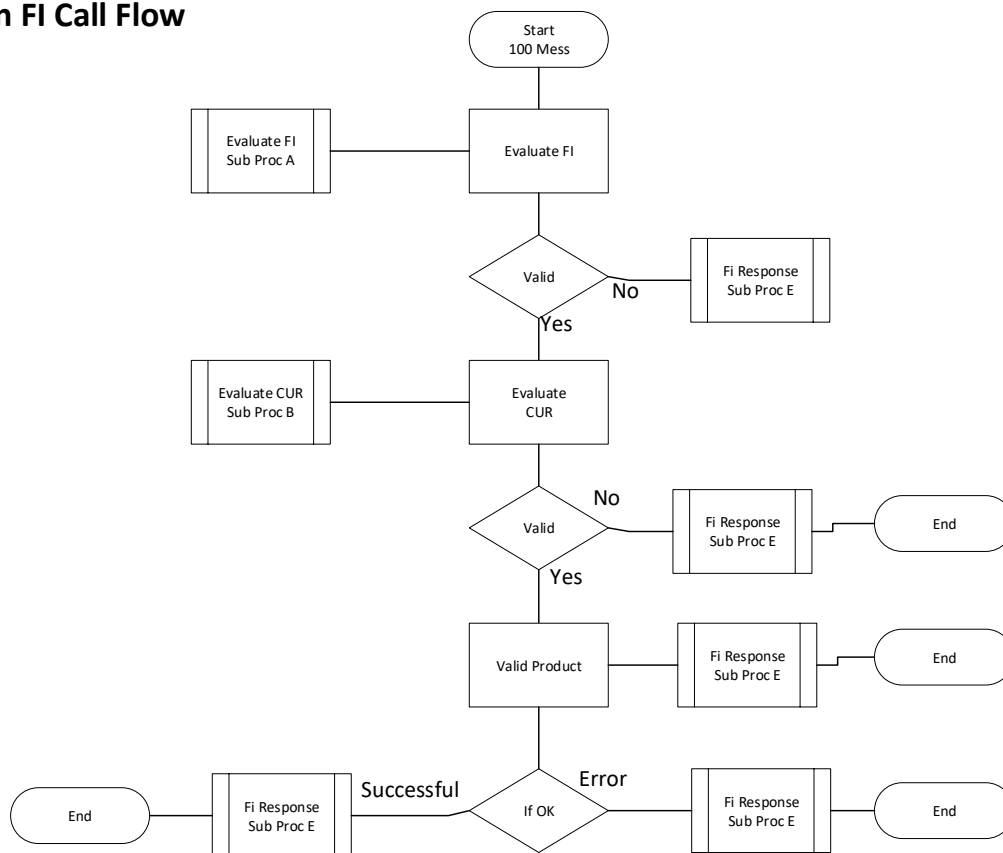


Figure 1 - FI Eligibility, Purchase, Recharge and Retry

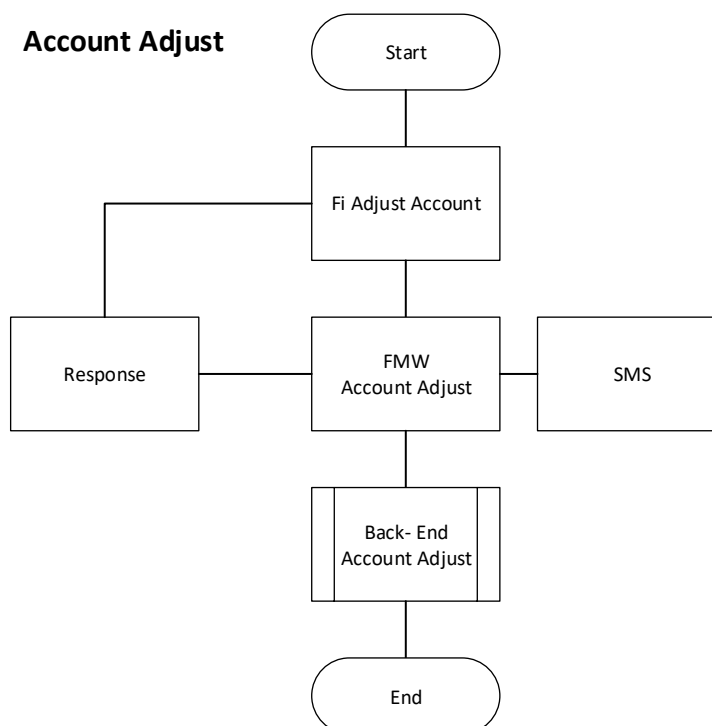


## Validate Transaction.

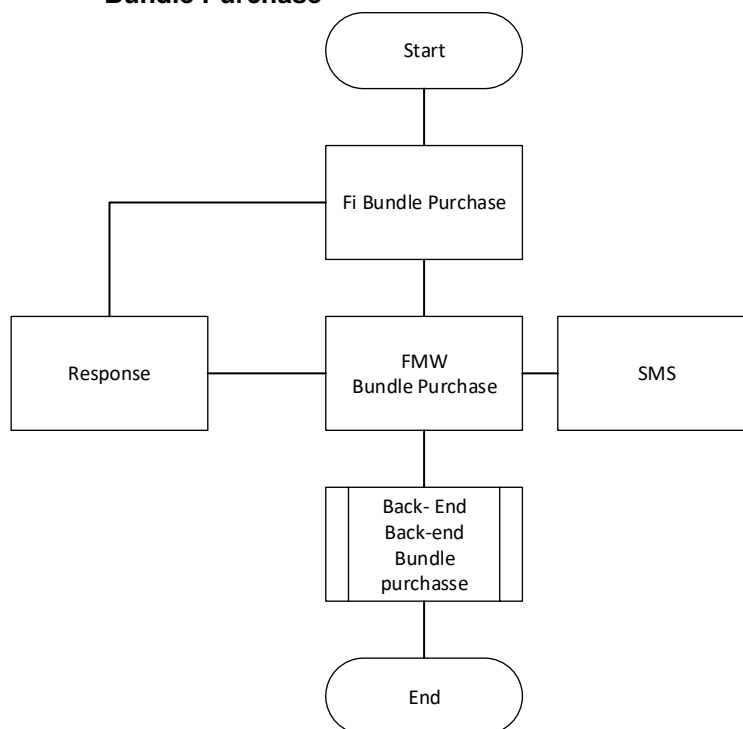
### Main FI Call Flow



### Account Adjust



### Bundle Purchase



#### 3.5.1 HEADER PARAMETERS

The following header parameters is to identify the system or department making the call. It will be static information based on the system used. ConversationID/UID however will be system generated and must be unique to identify each transaction.

Field Name	Data Type	M/O	Description/Possible Values
CountryCode	String	Mandatory	Defined as "ZA", length of 2
LanguageCode	String	Optional	Defined as "en" length of 2
Operator	String	Mandatory	Example "Vodacom" or "ABSA"
Division	String	Optional	Defined as "Channels Division " e.g. telecommunications
MessID	String	Mandatory	Messid-000 Initial, Messid-001 Retry. For each initial message the ID = 000, for a retry message the ID = 001 length of 3
System	String	Mandatory	Defined as the systems using the service length of 6, e.g. FI_FNB
X-Correlation-ConversationID	String	Mandatory	Unique Transaction ID

## Format

Field Name	Data Type	Value
X-Correlation-ConversationID	String	The Unique ID generated by a 3 <sup>rd</sup> party conforming to the following format: YYMMDDHHMMSSabcde with abcde a random generated number. (17 digit number) eg 20052011214412345

Header Example:

**Note: The format is the same for Eligibility, Account Adjust and Bundle Purchase**

```
POST http://fusionfi-test.vodacom.co.za:7003/api/vbs/bundle/purchase/v1 HTTP/1.1
Accept-Encoding: gzip,deflate
Content-Type: application/json
X-Global-Transaction-ID: 3a22c0065c9b6b710914a2f7
LanguageCode: en
CountyCode: ZA
Operator: FNB
MessID: 000
System: FNB
X-Correlation-ConversationID: 190523110592312345
Content-Length: 1273
Host: fusionfi-test.vodacom.co.za:7003
Connection: Keep-Alive
User-Agent: Apache-HttpClient/4.1.1 (java 1.5)
```

## Response

```
HTTP/1.1 200 OK
Date: Thu, 23 May 2019 08:53:33 GMT
Transfer-Encoding: chunked
Content-Type: application/json; charset=utf-8
X-ORACLE-DMS-ECID: 484e581d-08bb-4a18-92b9-fa0313f31ac8-000ae323
X-ORACLE-DMS-RID: 0

{
  "SubscriptionVBO" : {
    "IDs" : {
      "ID" : [ {
        "$" : "190523110592312345"
      } ]
    }
  }
}
```

## 4 Eligibility Check Request

The financial institution should verify that an MSISDN is an active Vodacom pre-paid/hybrid subscriber before sending a purchase request. The eligibility check will be used for this customer verification, a check is also made for a valid product code and a valid FI.

Parameter Value	Type	M/O	Json Mapping	Mapping and Description
MSISDN	Integer	M	/CustomerEligibilityVBO/Parts/Subscriptions/SubscriptionID	(A subscriber's MSISDN) E.164 format
Product Code	String	O	/CustomerEligibilityVBO/Parts/Channel/IDs/ID	(Data Bundle Purchase product code (CCS SOID OFFER ID) as per Bundle product List. Section 6)
FI Code	String	M	/CustomerEligibilityVBO/Parts/Channel/IDs/ID	(Financial Institute code) as provided by Vodacom

### 4.1 JSON SAMPLE ELIGIBILITY CHECK REQUEST

```
{
  "Criteria": {
    "QueryExpression": {
      "QueryExpression": {
        "@LogicalOperatorCode": "AND",
        "ValueExpression": [
          {
            "@Path": "/CustomerEligibilityVBO/Parts/Subscriptions/Subscription/ID",
            "@QueryOperatorCode": "EQUALS",
            "Value": "27824778761"
          },
          {
            "@Path": "/CustomerEligibilityVBO/Parts/Channel/IDs/ID",
            "@QueryOperatorCode": "EQUALS",
            "Value": "901063"
          },
          {
            "@Path": "/CustomerEligibilityVBO/Parts/ProductOffering/IDs/ID",
            "@QueryOperatorCode": "EQUALS",
            "Value": "D039"
          }
        ]
      }
    }
  }
}
```

### 4.2 JSON ELIGIBILITY RESPONSE

```
{
  "CustomerEligibilityVBO" : [
    {
```

```

    "Parts": {
      "Subscriptions": {
        "Subscription": [
          {
            "IDs": {
              "ID": [
                {
                  "@schemeName": "Mobile",
                  "$": "27824778761"
                }
              ]
            },
            "EligibilitySpecification": {
              "EligibilityIndicator": {
                "Indicator": true
              }
            }
          }
        ]
      }
    }
  }
}

```

#### 4.3 JSON ELIGIBILITY CHECK ERROR RESPONSE INVALID MSISDN

```

{
  "Timestamp": "2020-12-08T10:13:19.949+02:00",
  "ErrorCode": {
    "@dialect": "CSM Error Code",
    "$": "500"
  },
  "Description": [
    {
      "$": "Business Validation Error/s"
    }
  ],
  "Severity": "Critical",
  "Category": "Business",
  "Failures": {
    "Failure": [
      {
        "Code": "42",
        "Text": "Invalid MSISDN",
        "DataRef": {
          "PathName": "/CustomerEligibilityVBO/Parts/Subscriptions/Subscription/ID",
          "PathValueText": "278298099438"
        }
      }
    ]
  }
}

```

#### 4.4 JSON ELIGIBILITY ERROR RESPONSE INVALID PRODUCT

```

{
  "Timestamp": "2020-12-08T10:16:46.431+02:00",
  "ErrorCode": {
    "@dialect": "CSM Error Code",
    "$": "500"
  },
  "Description": [
    {
      "$": "Business Validation Error/s"
    }
  ],
  "Severity": "Critical",
  "Category": "Business",
}

```

```

"Failures": {
  "Failure": [
    {
      "Code": "03",
      "Text": "Unauthorised product purchase",
      "DataRef": {
        "PathName": "/CustomerEligibilityVBO/Parts/ProductOffering/IDs/ID",
        "PathValueText": "10001"
      }
    }
  ]
}

```

#### 4.5 JSON ELIGIBILITY ERROR RESPONSE INVALID FI AND IP ADDRESS

```

{
  "Timestamp": "2020-12-08T10:15:21.912+02:00",
  "ErrorCode": {
    "@dialect": "CSM Error Code",
    "$": "500"
  },
  "Description": [
    {
      "$": "Business Validation Error/s"
    }
  ],
  "Severity": "Critical",
  "Category": "Business",
  "Failures": {
    "Failure": [
      {
        "Code": "15",
        "Text": "Invalid Financial Institution Id",
        "DataRef": {
          "PathName": "/CustomerEligibility/Roles/Customer/IDs/ID",
          "PathValueText": "930627"
        }
      },
      {
        "Code": "15",
        "Text": "Invalid Source IP Address",
        "DataRef": {
          "PathName": "/CustomerEligibility/Roles/Customer/IDs/ID",
          "PathValueText": "10.133.216.189"
        }
      }
    ]
  }
}

```

#### 4.6 BUNDLE PURCHASE REQUEST

Field Name	Data Type	M/O	Json Mapping	Description/Possible Values
MSISDN / Subscription ID	String	Mandatory	/id/details/msisdn	MSISDN as 27821234567
schemeName	String	Optional	/id/details/schemeName	"schemeName": "Customer Product ID",

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ProductID	String	Mandatory	/lineItem/productElement/customerProduct/id/value	where : "schemeName": "Customer Product ID", Vodacom Bundle Product ID
Name	String	Optional	/lineItem/productElement/customerProduct/id/schemeName	Name of the bundle e.g. Just for you
ChannelID	String	Optional	/id/value	where : "schemeName": "ChannelId", Channel identifier or requestor ID of requesting system, for reporting systems.
Revenue	String	Optional	/id/value	Where "schemeName": "RevenueOriginId" RevenueOriginId. Revenue origin Id for purchases.
FI Code	String	Mandatory	/id/value	Where "schemeName": "FI_code", Financial Institution Unique identifier
Price	String	Conditionally Mandatory	/id/value	Cost of the bundle e.g. where "schemeName": "@currencyID" : "ZAR",
Validity	String	Conditionally Mandatory	/id/value	ValidityPeriod e.g. where "schemeName": "FromDate" : { "DateString" : { "\$" : "2020-01-22T23:59:59" }, "ToDate" : { "DateString" : { "\$" : "2020-02-28T23:59:59"
DealerID	String	Optional	/id/value	Where "SchemeName": "Dealer_ID", Dealer_ID of requesting system, for reporting systems.
Allowance	string	Conditionally Mandatory	/id/value	Where "SchemeName": "@unitCode" : "MB", "\$" : "500.00"

#### 4.7 BUNDLE PURCHASE SAMPLE REQUEST

Purchase Sample Request
<pre> {   "SubscriptionVBO" : {     "@actionCode" : "ADD",     "IDs" : {       "ID" : [         {           "@schemeName" : "Subscription ID",           "@schemeAgencyName" : "Vodafone",           "\$" : "27829808020"         }       ]     },     "LinItems" : {       "LinItem" : {         "ProductElement" : {           "CustomerProduct" : {             "@actionCode" : "ADD",             "IDs" : {               "ID" : [                 {                   "\$" : "D176"                 }               ]             }           }         },         "ValidityPeriod" : {           "FromDate" : {             "DateString" : {               "\$" : "2020-01-21T23:59:59"             }           },           "ToDate" : {             "DateString" : {               "\$" : "2020-02-28T23:59:59"             }           }         }       }     },     "Price" : {       "@currencyID" : "ZAR",       "\$" : "100.00"     },     "Allowance" : {       "@unitCode" : "MB",       "\$" : "500.00"     }   } } </pre>



```

    },
    "Extension" : {
      "Specification" : {
        "CharacteristicsValue" : {
          "@characteristicName" : "FI_code",
          "@actionCode" : "ADD",
          "Value" : {
            "@languageID" : "en",
            "$" : "904003"
          }
        },
        "CharacteristicsValue" : {
          "@characteristicName" : "Dealer_ID",
          "@actionCode" : "ADD",
          "Value" : {
            "@languageID" : "en",
            "$" : "904003_Dealer"
          }
        }
      }
    }
  }
}

```

#### 4.7.1 SAMPLE SUCCESS RESPONSE

Purchase Samples Response
<pre> {"SubscriptionVBO": {"IDs": {"ID": [{"   "@schemeAgencyName": "Vodafone",   "@schemeName": "Subscription ID",   "\$": "27609916197" }]}}} </pre>

#### 4.7.2 SAMPLE FAILURE RESPONSE INVALID MSISDN

Purchase Samples Response
<pre> {   "Timestamp": "2020-12-08T10:13:19.949+02:00",   "ErrorCode": {     "@dialect": "CSM Error Code",     "\$": "500"   },   "Description": [     {       "\$": "Business Validation Error/s"     }   ] } </pre>

```

    }
  },
  "Severity": "Critical",
  "Category": "Business",
  "Failures": {
    "Failure": [
      {
        "Code": "42",
        "Text": "Invalid MSISDN",
        "DataRef": {
          "PathName": "/CustomerEligibilityVBO/Parts/Subscriptions/Subscription/ID",
          "PathValueText": "278298099438"
        }
      }
    ]
  }
}

```

#### 4.7.3 SAMPLE FAILURE RESPONSE INVALID FI AND IP ADDRESS

Purchase Samples Response
<pre> {   "Timestamp": "2020-12-08T10:15:21.912+02:00",   "ErrorCode": {     "@dialect": "CSM Error Code",     "\$": "500"   },   "Description": [     {       "\$": "Business Validation Error/s"     }   ],   "Severity": "Critical",   "Category": "Business",   "Failures": {     "Failure": [       {         "Code": "15",         "Text": "Invalid Financial Institution Id",         "DataRef": {           "PathName": "/CustomerEligibility/Roles/Customer/IDs/ID",           "PathValueText": "930627"         }       },       {         "Code": "15",         "Text": "Invalid Source IP Address",         "DataRef": {           "PathName": "/CustomerEligibility/Roles/Customer/IDs/ID",           "PathValueText": "10.133.216.189"         }       }     ]   } } </pre>

#### 4.7.4 SAMPLE FAILURE RESPONSE INVALID PRODUCT

Purchase Samples Response
<pre>{   "Timestamp": "2020-12-08T10:16:46.431+02:00",   "ErrorCode": {     "@dialect": "CSM Error Code",     "\$": "500"   },   "Description": [     {       "\$": "Business Validation Error/s"     }   ],   "Severity": "Critical",   "Category": "Business",   "Failures": {     "Failure": [       {         "Code": "03",         "Text": "Unauthorised product purchase",         "DataRef": {           "PathName": "/CustomerEligibilityVBO/Parts/ProductOffering/IDs/ID",           "PathValueText": "10001"         }       }     ]   } }</pre>

## 5 Balance Adjust

This operation will use serviceaccountadjustment to adjust the subscriber's airtime balance.  
The function can be used to add airtime for a subscriber

### 5.1.1 BALANCE ADJUST REQUEST

Field Name	Data Type	M/O	Json Mapping	Description/Possible Values
Adjust ID	String	Mandatory	/parts/adjust/id/value	Subscriber MSISDN  MSISDN as 27821234567
AdjustmentAmount	Amount of airtime to be added	5000.00	/details/adjustmentAmount/value	Mandatory
Type	String	Option	/parts/adjust/type/value	FI_recharge
Triggered by	String	Mandatory	/parts/triggeredby/id/value	FI code of the institute performing the purchase
ChannelId	String	Optional	/parts/adjustmentSpecification/characteristicsValue/value	Where : "characteristicName" = "ChannelId",

				The systems channel Identifier to be provided by Vodacom
RevenueOriginId	String	Optional	/parts/adjustmentSpecification/characteristicsValue/value	Where : "characteristicName": "RevenueOriginId",  Revenue origin Id for purchases, to be provided by Vodacom
Dealer_id	string	Optional	/parts/adjustmentSpecification/characteristicsValue/value	Where "SchemeName": "Dealer_ID", Dealer_ID of requesting system for reporting systems.

### 5.1.2 BALANCE ADJUST REQUEST

Sample Request
<pre>{   "ServiceAccountAdjustmentVBO" : {     "Type" : "credit",     "Details" : {       "AdjustmentAmount" : {         "@currencyID" : "ZAR",         "\$" : "200.00"       }     },     "Parts" : {       "Adjusts" : {         "@actionCode" : "ADD",         "IDs" : {           "ID" : [ {             "@schemeName" : "Adjusts ID",             "\$" : "27829808020"           } ]         }       },       "Type" : {         "\$" : "FI_airtime"       }     },     "TriggeredBy" : {       "IDs" : {         "ID" : [ {           "@schemeName" : "Triggered By FI Code",           "@schemeAgencyName" : "Vodafone",           "\$" : "904003"         } ],         {           "@schemeName" : "Dealer ID",           "@schemeAgencyName" : "Vodafone",           "\$" : "904003_Dealer"         }       ]     },     "Name" : {       "\$" : "Apple Music"     }   }, }</pre>

```

"Desc": {
  "$": "http://www.apple.com"
},
"AdjustmentSpecification": {
  "CharacteristicsValue": [ {
    "@characteristicName": "ChannelId",
    "Value": {
      "@languageID": "en",
      "$": "A00001"
    },
    "Type": {
      "$": "Revenue Audit"
    }
  },
  {
    "@characteristicName": "RevenueOriginId",
    "Value": {
      "@languageID": "en",
      "$": "1000230"
    },
    "Type": {
      "$": "Revenue Audit"
    }
  }
]
}
}
}

```

## 5.2 JSON SUCCESS RESPONSE

```

{
  "ServiceAccountAdjustmentVBO" : {
    "IDs" : {
      "ID" : [
        {
          "$" : "5260bf5f-3575-41fe-9540-3789594913ab"
        }
      ]
    }
  }
}

```

## 5.3 JSON ERROR RESPONSE INVALID MSISDN

```

{
  "Timestamp": "2020-12-08T10:13:19.949+02:00",
  "ErrorCode": {
    "@dialect": "CSM Error Code",
    "$": "500"
  },
  "Description": [
    {
      "$": "Business Validation Error/s"
    }
  ],
  "Severity": "Critical",
  "Category": "Business",
  "Failures": {
    "Failure": [
      {
        "Code": "42",
        "Text": "Invalid MSISDN",

```

```

        "DataRef": {
            "PathName": "/CustomerEligibilityVBO/Parts/Subscriptions/Subscription/ID",
            "PathValueText": "278298099438"
        }
    }
]
}

```

#### 5.4 JSON ERROR RESPONSE INVALID FI AND IP ADDRESS

```

{
  "Timestamp": "2020-12-08T10:15:21.912+02:00",
  "ErrorCode": {
    "@dialect": "CSM Error Code",
    "$": "500"
  },
  "Description": [
    {
      "$": "Business Validation Error/s"
    }
  ],
  "Severity": "Critical",
  "Category": "Business",
  "Failures": {
    "Failure": [
      {
        "Code": "15",
        "Text": "Invalid Financial Institution Id",
        "DataRef": {
          "PathName": "/CustomerEligibility/Roles/Customer/IDs/ID",
          "PathValueText": "930627"
        }
      },
      {
        "Code": "15",
        "Text": "Invalid Source IP Address",
        "DataRef": {
          "PathName": "/CustomerEligibility/Roles/Customer/IDs/ID",
          "PathValueText": "10.133.216.189"
        }
      }
    ]
  }
}

```

#### 5.5 JSON ERROR RESPONSE INVALID RECHARGE DENOMINATION

```

{
  "Timestamp": "2020-12-08T10:35:02.313+02:00",
  "ErrorCode": {
    "@dialect": "CSM Error Code",
    "$": "500"
  },
  "Description": [
    {
      "$": "Business Validation Error/s"
    }
  ],
  "Severity": "Critical",
  "Category": "Business",
  "Failures": {
    "Failure": [
      {

```

```

    "Code": "13",
    "Text": "Invalid Recharge Denomination",
    "DataRef": {
      "PathName": "/ServiceAccountAdjustmentVBO/Details/AdjustmentAmount",
      "PathValueText": "1"
    }
  ]
}

```

## 6 Bundle Product List

For the full list of products, please refer to the appendix.

## APPENDIX



FI product  
code-V8.2.xlsx