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GLO Ghana

User Manual – Web Services

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Document history

Version	Date	Comments
V 1	08-12-2016	Initial Draft
V 1.1	09-12-2016	Minor Updates
V 1.2	09-02-2017	Minor Updates
V 1.3	09-02-2017	Addition of new result codes
V 1.4	20-08-2018	Updated with Data bundle purchase
V 1.5	29-08-2018	Updated with New Data bundles
V1.6	17-09-2108	Updated with Balance Enquiry API
V1.7	09-11-2018	Correct the 300MB bundles

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Contents

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1 Overview

ERS Web Services act as an intermediary service to serve requests from external clients seeking services from ERS. ERS Web Services enable operators or third party applications to communicate with ERS System. This service will take the client requests and call ERS after mapping the request. After execution of this service, it will convert ERS response to client's desired response and send it back to client application.

1.1 Purpose

ERS Web Services APIs enable operators or third party applications to communicate with ERS System. The purpose of this service is to enable web services through our system. The system takes the client's web services requests and calls ERS after mapping the request. After execution of this service, it will convert ERS response to client's desired response and send it back to client application.

1.2 Intended Audience

This document serves as a guide to enable Third Party Platforms (3PPs) and integrate those platforms with ERS to enable web services. The document provides information to the technical personnel of third party service providers who wish to get information about the ERS system's third party service enablers and the steps involved in carrying out requests and responses when a third party application communicates with the ERS system to carry out a web service. ERS system information at the service provider's end is assumed.

2 Server Information

http://x.x.x.x:8913/topupservice/service

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3 General Concepts

This section will explain some common concepts and structures.

3.1 Client context

This is a structure used in all requests to identify and authorize the client performing the transaction. Since all production transactions take place over a secure channel (typically HTTPS), this is sent in clear text.

Client context fields	
Name	**Description**
clientId	This is the unique id of the client that is performing the transaction, this will be provided by the owner of the ERS for the specific client.
clientUserId	The client user id that is performing the transaction, a list of users available for the client will be provided by the owner of the ERS for the specific client.
password	The password associated with the client and the client user specified
clientRequestTimeout	The client side timeout for the request. If the server takes longer time than this to process the request it will attempt to abort or rollback the request.

3.1.1 clientId

clientId will contain type of client and unique id of the client. Client Type is appended before the client unique id and separated with ":"

Example clientId

RESELLERMSISDN: 233230190277

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clientId Type		
Name	**Description**	**clientUserId (Mandatory)**
TERMINALID	This type should be used when reseller will use his terminal id	No
ADMINUSER	This type should be used when an admin user is using the service	No
RESELLERMSISDN	This type should be used when reseller will use his MSISDN	No
RESELLERUSER	This type should be used when reseller will use one of his user account	Yes

3.1.2 clientUserId

clientUserId is a specific user of a reseller (client). clientUserId can be mandatory based on the clientId Type.

3.2 Client transaction data

This is a structure used in most requests that are not only reading data. It can be used for the client to send data to identify the transaction afterwards using references and tags that the client system recognizes.

The client transaction data has the following fields:

3.2.1 clientReference

The client reference for the transaction should be unique at least for the specific client id to be usable.

The maximum length allowed for this field is 32 characters.

3.2.2 clientTag

Tag(s) that the client wants to associate with this transaction, expressed as a single string. This will typically (if used) not be unique per transaction and can be used to label transaction that can then be reported as part of transaction clearing, reports and/or invoicing. If multiple tags are desired, it is up to the client to partition this string with delimiters, fixed lengths etc.

The maximum allowed length field is 128 characters.

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3.2.3 clientComment

Comment that the client wants to assign to this transaction. The maximum allowed length field is 256 characters.

4 General Services

Serial No.	General Services Offered
1.	Topup Service
2.	Credit Transfer Service
3.	Voucher Purchase Service (VOD)

Below chapters contain detailed description of each of these services including the request and response details to carry out these services.

4.1 Topup Service

Through this service, a reseller can recharge a subscriber's airtime account. The webmethod used for this service is **requestTopUp.**

4.1.1 Topup Request Field

Request field for **requestTopup** is given below:

Name	Description
context	The client context
senderPrincipalId	The id of the sender reseller. This has to be prefixed with the type of the id (which is typically RESELLERUSER) and UserId defines which user made the topup.
topupPrincipalId	The id of the receiving subscriber. This has to be prefixed with the type of the id, which is typically SUBSCRIBERMSISDN or SUBSCRIBERANONYMOUSID
senderAccountSpecifier	Account type of sender reseller
topupAccountSpecifier	Account type of receiver subscriber
productId	ID of the product, which is typically Topup
amount	The amount to be topped up

4.1.2 Topup Response Field

The response to topup request is **topupResponse**. Breakdown of this return field is explained below:

Name	Description
resultCode	A numerical value indicating the end result of the request that was last processed. See the *Result Codes* section
ersReference	Unique ERS transaction reference which is used for topup
resultDescription	Result message of the transaction. This usually elaborates the result code
requestedTopupAmount	Requested amount to be topped up
senderPrincipal	Sender account information with account details from which the amount is deducted for topup
topupAccountSpecifier	The account to which the topup amount is credited
topupAmount	Amount which is topped up
topupPrincipal	Topup receiver principal with details of the account to which the topup amount is credited

4.1.3 SOAP Request & Response Examples

SOAP Request

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ext="http://external.interfaces.ers.seamless.com/">
  <soapenv:Header/>
  <soapenv:Body>
    <ext:requestTopup>
      <context>
        <channel>GLOWEBSERVICE</channel>
        <clientComment>Testing topup</clientComment>
        <clientId>Etopup Systems</clientId>
          <prepareOnly>false</prepareOnly>
        <clientReference>12345678</clientReference>
        <clientRequestTimeout>10000</clientRequestTimeout>
```

```xml
        <initiatorPrincipalId>
          <id>dealer1</id>
          <type>RESELLERUSER</type>
          <userId>webuser</userId>
        </initiatorPrincipalId>
        <password>xxxxxxxx</password>
          <transactionProperties>
        </transactionProperties>
      </context>
      <senderPrincipalId>
        <id>dealer1</id>
        <type>RESELLERUSER</type>
        <userId>webuser</userId>
      </senderPrincipalId>
      <topupPrincipalId>
        <id>230089518</id>
        <type>SUBSCRIBERMSISDN</type>
        <userId>?</userId>
      </topupPrincipalId>
      <senderAccountSpecifier>
        <accountId>?</accountId>
        <accountTypeId>RESELLER</accountTypeId>
      </senderAccountSpecifier>
      <topupAccountSpecifier>
        <accountId>?</accountId>
        <accountTypeId>AIRTIME</accountTypeId>
      </topupAccountSpecifier>
      <productId>TOPUP</productId>
      <amount>
        <currency>GHS</currency>
        <value>0.1</value>
      </amount>
    </ext:requestTopup>
  </soapenv:Body>
```

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SOAP Response

```xml
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <ns2:requestTopupResponse
xmlns:ns2="http://external.interfaces.ers.seamless.com/">
      <return>
        <ersReference>201702090952218990100347</ersReference>
        <resultCode>0</resultCode>
        <resultDescription>SUCCESS</resultDescription>
        <requestedTopupAmount>
          <currency>GHS</currency>
          <value>0.1</value>
        </requestedTopupAmount>
        <senderPrincipal>
          <principalId>
            <id>dealer1</id>
            <type>RESELLERID</type>
          </principalId>
          <principalName>TEST-RES5</principalName>
          <accounts>
            <account>
              <accountSpecifier>
                <accountId>dealer1</accountId>
                <accountTypeId>RESELLER</accountTypeId>
              </accountSpecifier>
              <balance>
                <currency>GHS</currency>
                <value>4.90</value>
              </balance>
            </account>
          </accounts>
          <status>Active</status>
          <msisdn>233236464648</msisdn>
        </senderPrincipal>
```

```
<topupAccountSpecifier>
  <accountId>233230089518</accountId>
  <accountTypeId>AIRTIME</accountTypeId>
</topupAccountSpecifier>
<topupAmount>
  <currency>GHS</currency>
  <value>0.10</value>
</topupAmount>
<topupPrincipal>
  <principalId>
    <id>233230089518</id>
    <type>SUBSCRIBERID</type>
  </principalId>
  <principalName/>
  <accounts>
    <account>
      <accountSpecifier>
        <accountId>233230089518</accountId>
        <accountTypeId>AIRTIME</accountTypeId>
      </accountSpecifier>
    </account>
    <account>
      <accountSpecifier>
        <accountId>233230089518</accountId>
        <accountTypeId>MOBILEMONEY</accountTypeId>
      </accountSpecifier>
    </account>
  </accounts>
</topupPrincipal>
      </return>
    </ns2:requestTopupResponse>
  </soap:Body>
</soap:Envelope>
```

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4.2 Transfer Service

The transfer function allows a reseller to transfer airtime to child reseller account, using his credit. The webmethod used for transfer service is **requestTransfer**.

4.2.1 Transfer Request Field

Request field for **requestTransfer** is given below:

Name	Description
context	The client context
senderPrincipalId	The id of the sender reseller. This has to be prefixed with the type of the id (which is typically RESELLERUSER) and UserId defines which user made this transfer
receiverPrincipalId	The id of the receiving reseller. This has to be prefixed with the type of the id, which is typically RESELLERUSER
senderAccountSpecifier	Account Type of Sender reseller
receiverAccountSpecifier	Account Type of Receiver reseller
productId	ID of the product, which is typically TRANSFER
amount	The amount to be transferred

4.2.2 Transfer Response Field

The response to transfer request is **transferResponse**. Breakdown of this return field is explained below:

Name	Description
resultCode	A numerical value indicating the end result of the request that was last processed. See the *Result Codes* section
ersReference	Unique ERS transaction reference which is used for this transfer.
resultDescription	Result message of the transaction. This usually elaborates the result code.

receivedAmount	This is received amount. It is of type Amount, which is value and currency.
receiverPrincipal	Receiver account information with account details to which amount is credited for transfer
requestedTransferAmount	This is requested amount for transfer. It is of type Amount, which as value and currency.
senderPrincipal	Sender account information with account details from which the amount is debited for transfer.

4.2.3 SOAP Request & Response Examples

SOAP Request

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ext="http://external.interfaces.ers.seamless.com/">
  <soapenv:Header/>
  <soapenv:Body>
    <ext:requestTransfer>
      <context>
        <channel>GLOWEBSERVICE </channel>
        <clientComment>Testing transfer</clientComment>
        <clientId>Etopup  Systems</clientId>
        <clientReference>12345678</clientReference>
        <clientRequestTimeout>1</clientRequestTimeout>
        <initiatorPrincipalId>
          <id>dealer1</id>
          <type>RESELLERUSER</type>
          <userId>webuser</userId>
        </initiatorPrincipalId>
        <password>xxxxxxxx</password>
        <transactionProperties>
        </transactionProperties>
      </context>
      <senderPrincipalId>
```

```
        <id>dealer1</id>
        <type>RESELLERID</type>
        <userId>webuser</userId>
    </senderPrincipalId>
    <receiverPrincipalId>
      <id>0231234520</id>
      <type>RESELLERID</type>
      <userId>?</userId>
    </receiverPrincipalId>
    <senderAccountSpecifier>
      <accountId>dealer1</accountId>
      <accountTypeId>RESELLER</accountTypeId>
    </senderAccountSpecifier>
    <receiverAccountSpecifier>
      <accountId>0231234520</accountId>
      <accountTypeId>RESELLER</accountTypeId>
    </receiverAccountSpecifier>
    <productId>TRANSFER</productId>
    <amount>
      <currency>GHS</currency>
      <value>1</value>
    </amount>
  </ext:requestTransfer>
 </soapenv:Body>
```

SOAP Response

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
 <soap:Body>
   <ns2:requestTopupResponse
xmlns:ns2="http://external.interfaces.ers.seamless.com/">
    <return>
      <ersReference>20170209095453794010000348</ersReference>
      <resultCode>0</resultCode>
      <resultDescription>SUCCESS</resultDescription>
```

```xml
<requestedTopupAmount>
  <currency>GHS</currency>
  <value>0.1</value>
</requestedTopupAmount>
<senderPrincipal>
  <principalId>
    <id>dealer1</id>
    <type>RESELLERID</type>
  </principalId>
  <principalName>TEST-RES5</principalName>
  <accounts>
    <account>
      <accountSpecifier>
        <accountId>dealer1</accountId>
        <accountTypeId>RESELLER</accountTypeId>
      </accountSpecifier>
      <balance>
        <currency>GHS</currency>
        <value>4.80</value>
      </balance>
    </account>
  </accounts>
  <status>Active</status>
  <msisdn>233236464648</msisdn>
</senderPrincipal>
<topupAccountSpecifier>
  <accountId>233230089518</accountId>
  <accountTypeId>AIRTIME</accountTypeId>
</topupAccountSpecifier>
<topupAmount>
  <currency>GHS</currency>
  <value>0.10</value>
</topupAmount>
<topupPrincipal>
```

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```xml
<principalId>
  <id>233230089518</id>
  <type>SUBSCRIBERID</type>
</principalId>
<principalName/>
<accounts>
  <account>
    <accountSpecifier>
      <accountId>233230089518</accountId>
      <accountTypeId>AIRTIME</accountTypeId>
    </accountSpecifier>
  </account>
  <account>
    <accountSpecifier>
      <accountId>233230089518</accountId>
      <accountTypeId>MOBILEMONEY</accountTypeId>
    </accountSpecifier>
  </account>
</accounts>
</topupPrincipal>
</return>
</ns2:requestTopupResponse>
</soap:Body>
</soap:Envelope>
```

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4.3 Voucher Purchase Service (VOD)

The transfer function allows a reseller to transfer airtime to child reseller account, using his credit. The webmethod used for transfer service is **requestTransfer**.

4.3.1 Purchase Request Field

Request field for **requestTransfer** is given below:

Name	Description
context	The client context
senderPrincipalId	The id of the sender reseller. This has to be prefixed with the type of the id (which is typically RESELLERUSER) and UserId defines which user made this transfer
receiverPrincipalId	The id of the receiving reseller. This has to be prefixed with the type of the id, which is typically RESELLERUSER
senderAccountSpecifier	Account Type of Sender reseller
receiverAccountSpecifier	Account Type of Receiver reseller
productId	ID of the product, which is typically TRANSFER
amount	The amount to be transferred

4.3.2 Purchase Response Field

The response to purchase request is **purchaseResponse**. Breakdown of this return field is explained below:

Name	Description
resultCode	A numerical value indicating the end result of the request that was last processed. See the *Result Codes* section
ersReference	Unique ERS transaction reference which is used for this transfer.
resultDescription	Result message of the transaction. This usually elaborates the result code.

receivedAmount	This is received amount. It is of type Amount, which is value and currency.
receiverPrincipal	Receiver account information with account details to which amount is credited for transfer
requestedPurchaseAmount	This is requested amount for transfer. It is of type Amount, which as value and currency.
senderPrincipal	Sender account information with account details from which the amount is debited for transfer.

4.3.3 SOAP Request & Response Examples

SOAP Request:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ext="http://external.interfaces.ers.seamless.com/">
  <soapenv:Header />
  <soapenv:Body>
    <ext:requestPurchase>
      <context>
        <channel>GLOWEBSERVICE</channel>
        <prepareOnly>false</prepareOnly>
        <clientReference>131747</clientReference>
        <clientRequestTimeout>500</clientRequestTimeout>
        <initiatorPrincipalId>
          <id>dealer1</id>
          <type>RESELLERUSER</type>
          <userId>webuser</userId>
        </initiatorPrincipalId>
        <password>xxxxxxxx</password>
        <transactionProperties>
          <entry>
            <key>preferredLanguage</key>
            <value>en</value>
          </entry>
```

```xml
        <entry>
          <key>productSKU</key>
          <value>VOS</value>
        </entry>
        <entry>
          <key>currency</key>
          <value>GHS</value>
        </entry>
        <entry>
          <key>purchaseAmount</key>
          <value>0.1</value>
        </entry>
      </transactionProperties>
    </context>
    <senderPrincipalId>
      <id>dealer1</id>
      <type>RESELLERID</type>
      <userId>webuser</userId>
    </senderPrincipalId>
    <receiverPrincipalId>
      <id>236464642</id>
      <type>SUBSCRIBERMSISDN</type>
    </receiverPrincipalId>
    <senderAccountSpecifier>
      <accountTypeId>RESELLER</accountTypeId>
    </senderAccountSpecifier>
    <purchaseOrder>
      <productSpecifier>
        <productId>VOS</productId>
        <productIdType>VOD</productIdType>
      </productSpecifier>
      <purchaseCount>1</purchaseCount>
    </purchaseOrder>
  </ext:requestPurchase>
```

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</soapenv:Body>

</soapenv:Envelope>

SOAP Response:

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">

  <soap:Body>

    <ns2:requestPurchaseResponse
xmlns:ns2="http://external.interfaces.ers.seamless.com/">

      <return>

        <ersReference>201702090909453005901000346</ersReference>

        <resultCode>0</resultCode>

        <resultDescription>Voucher Generated:

Amount: 0.1 GHS

Expiry Date: 14-02-2017

Serial: 1486633530195

Your balance is 1,243.55 GHS.</resultDescription>

        <receiverPrincipal>

         <principalId>

          <id>233236464642</id>

          <type>SUBSCRIBERID</type>

         </principalId>

         <principalName/>

         <accounts>

          <account>

           <accountSpecifier>

            <accountId>233236464642</accountId>

            <accountTypeId>AIRTIME</accountTypeId>

           </accountSpecifier>

           <balance>

            <currency>GHS</currency>

            <value>0.0919</value>

           </balance>

          </account>

```
        <account>
          <accountSpecifier>
            <accountId>233236464642</accountId>
            <accountTypeId>MOBILEMONEY</accountTypeId>
          </accountSpecifier>
        </account>
      </accounts>
    </receiverPrincipal>
    <purchasedProducts>
      <purchaseCount>1</purchaseCount>
      <productDetails>
        <map>
          <entry>
            <key>SERIAL</key>
            <value>1486633530195</value>
          </entry>
          <entry>
            <key>EXPIRY_DATE</key>
            <value>Tue Feb 14 00:00:00 GMT 2017</value>
          </entry>
        </map>
      </productDetails>
    </purchasedProducts>
  </return>
</ns2:requestPurchaseResponse>
</soap:Body>
</soap:Envelope>
```

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4.4 Data Bundles Purchase

This method allows the purchase of Data bundles through the Web Services API. The **requestTopup** method is used to achieve this.

4.4.1 Data Bundle Purchase Request Fields

Request fields for **requestTopup** is given below:

Name	Description
context	The client context
initiatorPrincipalId	The id of the initiator of the transaction. This is usually the reseller ID of the user and authenticated by an active username and password.
transactionProperties	This is used to indicate that it is a bundle purchase
senderPrincipalId	The id of the sender reseller. This has to be prefixed with the type of the id (which is typically RESELLERUSER) and UserId defines which user made this transfer
topupPrincipalId	The id of the receiving reseller. This has to be prefixed with the type of the id, which is typically SUBSCRIBERMSISDN
senderAccountSpecifier	Account Type of Sender reseller
topupAccountSpecifier	Account Type of Receiver reseller
productId	ID of the product, which is typically prefixed with BUNDLE_. Check 4.3.7 Available Data bundles and their Product IDs to determine which product id to use for the data bundle purchase
amount	The amount to be transferred

4.4.2 Data Bundle Purchase Response Field

The response to data bundle purchase request is **requestTopupResponse**. Breakdown of this return field is explained below:

Name	Description

resultCode	A numerical value indicating the end result of the request that was last processed. See the *Result Codes* section
ersReference	Unique ERS transaction reference which is used for this transfer.
resultDescription	Result message of the transaction. This usually elaborates the result code.
topupAmount	This is received amount. It is of type Amount, which is value and currency.
topupPrincipal	Receiver account information with account details to which amount is credited for transfer
topupAccountSpecifier	This is requested amount for transfer. It is of type Amount, which as value and currency.
senderPrincipal	Sender account information with account details from which the amount is debited for transfer.

4.4.3 SOAP Request & Response Examples

SOAP Request:

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ext="http://external.interfaces.ers.seamless.com/">

  <soapenv:Header/>

  <soapenv:Body>

    <ext:requestTopup>

      <context>

        <channel>GLOWEBSERVICE</channel>

        <clientComment>Data bundle Purchase</clientComment>

```xml
<clientId>ERS</clientId>
<prepareOnly>?</prepareOnly>
<clientReference>?</clientReference>
<clientRequestTimeout>500</clientRequestTimeout>
<initiatorPrincipalId>
  <id>0236464641</id>
  <type>RESELLERUSER</type>
  <userId>9900</userId>
</initiatorPrincipalId>
<password>XXXX</password>
<transactionProperties>
  <entry>
    <key>TRANSACTION_TYPE</key>
    <value>PRODUCT_RECHARGE</value>
  </entry>
</transactionProperties>
</context>
<senderPrincipalId>
  <id>0236464641</id>
```

```xml
    <type>RESELLERUSER</type>
    <userId>9900</userId>
  </senderPrincipalId>
  <topupPrincipalId>
    <id>0238754314</id>
    <type>SUBSCRIBERMSISDN</type>
    <userId>?</userId>
  </topupPrincipalId>
  <senderAccountSpecifier>
    <accountId>0236464641</accountId>
    <accountTypeId>RESELLER</accountTypeId>
  </senderAccountSpecifier>
  <topupAccountSpecifier>
    <accountId>0238754314</accountId>
    <accountTypeId>DATA_BUNDLE</accountTypeId>
  </topupAccountSpecifier>
  <productId>BUNDLE_200MB_Plan</productId>
  <amount>
    <currency>GHS</currency>
```

```
        <value>3</value>
      </amount>
    </ext:requestTopup>
  </soapenv:Body>
</soapenv:Envelope>
```

SOAP Response:
```
<?xml version="1.0" encoding="UTF-8"?>
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <ns2:requestTopupResponse
xmlns:ns2="http://external.interfaces.ers.seamless.com/">
      <return>
        <ersReference>201808160905296890100123</ersReference>
        <resultCode>0</resultCode>
        <resultDescription>SUCCESS : You have successfully activated 200MB_Plan
worth 3.00 GHS for 233238754314. Your balance is now 1,080.18 GHS. ref:
201808160905296890100123</resultDescription>
        <requestedTopupAmount>
          <currency>GHS</currency>
          <value>3</value>
        </requestedTopupAmount>
        <senderPrincipal>
          <principalId>
            <id>0236464641</id>
            <type>RESELLERID</type>
          </principalId>
          <principalName>TEST-DIST1</principalName>
          <accounts>
            <account>
              <accountDescription>TEST-SUBDIST1</accountDescription>
              <accountSpecifier>
                <accountId>0236464641</accountId>
                <accountTypeId>RESELLER</accountTypeId>
```

```xml
        </accountSpecifier>
        <balance>
          <currency>GHS</currency>
          <value>1080.18</value>
        </balance>
        <creditLimit>
          <currency>GHS</currency>
          <value>0.00000</value>
        </creditLimit>
      </account>
    </accounts>
    <status>Active</status>
    <msisdn>233236464641</msisdn>
  </senderPrincipal>
  <topupAccountSpecifier>
    <accountId>233238754314</accountId>
    <accountTypeId>DATA_BUNDLE</accountTypeId>
  </topupAccountSpecifier>
  <topupAmount>
    <currency>GHS</currency>
    <value>3</value>
  </topupAmount>
  <topupPrincipal>
    <principalId>
      <id>233238754314</id>
      <type>SUBSCRIBERID</type>
    </principalId>
    <principalName />
    <accounts>
      <account>
        <accountSpecifier>
          <accountId>233238754314</accountId>
          <accountTypeId>AIRTIME</accountTypeId>
        </accountSpecifier>
```

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```
            <balance>

                <currency>GHS</currency>

                <value>5000000.00</value>

            </balance>

        </account>

        <account>

            <accountSpecifier>

                <accountId>233238754314</accountId>

                <accountTypeId>DATA_BUNDLE</accountTypeId>

            </accountSpecifier>

        </account>

        </accounts>

    </topupPrincipal>

  </return>

 </ns2:requestTopupResponse>

 </soap:Body>

</soap:Envelope>
```

4.4.4 Available Data bundles and their Product IDs

The Product ID of a plan is required

Plan Name	Price(GHc)	Volume	Validity	Product ID
Monthly				
1.7GB Plan	10	1.7GB	30days	BUNDLE_1.7GB_Plan
3GB Plan	15	3GB	30days	BUNDLE_3GB_Plan
4.2GB Plan	20	4.2GB	30days	BUNDLE_4.2GB_Plan
5.5GB Plan	25	5.5GB	30days	BUNDLE_5.5GB_Plan
7GB Plan	30	7GB	30days	BUNDLE_7GB_Plan
10GB Plan	40	10GB	30days	BUNDLE_10GB_Plan
15GB Plan	50	15GB	30days	BUNDLE_15GB_Plan
20GB Plan	60	20GB	30days	BUNDLE_20GB_Plan
New 30GB Plan	80	30GB	60days	BUNDLE_New_30GB_Plan
40GB Plan	100	40GB	90days	BUNDLE_40GB_Plan
75GB Plan	150	75GB	90days	BUNDLE_75GB_Plan
UNLIMITED Plan	300	unlimited	30days	BUNDLE_UNLIMITED_Plan

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Night Personal Plan	25	3 Gb	30 Days	BUNDLE_Night_Personal_Plan
Day Business Plan	30	3GB	30days	BUNDLE_Day_Business_Plan
Campus 400MB Plan	5	400Mb	30days	BUNDLE_Campus_400MB_Plan
Campus 850MB Plan	10	850Mb	30days	BUNDLE_Campus_850MB_Plan
Campus 1.5GB Plan	15	1.5GB	30days	BUNDLE_Campus_1.5GB_Plan
Weekly				
50MB Plan	1	50MB	7days	BUNDLE_50MB_Plan
200MB Plan	2	200MB	7days	BUNDLE_200MB_Plan
350MB Plan	3	350MB	7days	BUNDLE_350MB_Plan
700MB Plan	5	700MB	7days	BUNDLE_700MB_Plan
3.7GB Plan	10	3.7GB	3days	BUNDLE_3.7GB_Plan
Wknd Brwsn_3Gb Plan	8	3 Gb	7 Days	BUNDLE_Wkend_3Gb_Plan
Daily				
40MB Plan	0.5	40MB	1day	BUNDLE_40MB_Plan
100MB Plan	1	100MB	1day	BUNDLE_100MB_Plan
300MB Plan	2	300MB	1day	BUNDLE_300MB_2GH_Plan
300MB Plan	3	300MB	3days	BUNDLE_300MB_3GH_Plan
750MB Plan	3	750MB	1day	BUNDLE_750MB_Plan
NiteBrowsing Plan	1	500 Mb	1 Day	BUNDLE_Nite_500MB_Plan
Campus 50MB Plan	1	50Mb	1day	BUNDLE_Campus_50MB_Plan
Campus 100MB Plan	2	100Mb	5days	BUNDLE_Campus_100MB_Plan

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4.5 Balance Enquiry

This method allows the reseller to request for current balance through the Web Services API. The **requestPrincipalInformation** method is used to achieve this.

4.5.1 Balance Enquiry Request Fields

Request fields for **requestPrincipalInformation** is given below:

Name	Description
context	The client context
initiatorPrincipalId	The id of the initiator of the transaction. This is usually the reseller ID of the user and authenticated by an active username and password.
principalId	This is the unique Id of the reseller that wants to request for his/her account balance.

4.5.2 Balance Enquiry Response Field

The response to balance enquiry request is **requestPrincipalInformationResponse**. Breakdown of this return field is explained below:

Name	Description
resultCode	A numerical value indicating the end result of the request that was last processed. See the Result Codes section
ersReference	Unique ERS transaction reference which is used for this transfer.
resultDescription	Result message of the transaction. This usually elaborates the result code.
requestedPrincipal	This contains all the information about the resellers including the current account balance

4.5.3 SOAP Request & Response Examples

SOAP Request:

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```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ext="http://external.interfaces.ers.seamless.com/">

  <soapenv:Header/>

  <soapenv:Body>

    <ext:requestPrincipalInformation>

      <context>

        <channel>WebService</channel>

        <clientComment>Query Balance</clientComment>

        <clientId>Etopup Systems</clientId>

        <prepareOnly>false</prepareOnly>

        <clientReference>12345</clientReference>

        <clientRequestTimeout>10000</clientRequestTimeout>

        <initiatorPrincipalId>

          <id>dealer1</id>

          <type>RESELLERUSER</type>

          <userId>webuser</userId>

        </initiatorPrincipalId>

        <password>xxxxx</password>

      </context>

      <principalId>

        <id>230089521</id>

        <type>RESELLERID</type>

        <userId>?</userId>

      </principalId>

      <nativeReslutCode>?</nativeReslutCode>

    </ext:requestPrincipalInformation>

  </soapenv:Body>

</soapenv:Envelope>
```

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SOAP Response:

```xml
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <ns2:requestPrincipalInformationResponse
xmlns:ns2="http://external.interfaces.ers.seamless.com/">
      <return>
        <ersReference>20180917154155520501000332</ersReference>
        <resultCode>0</resultCode>
        <resultDescription>SUCCESS</resultDescription>
        <requestedPrincipal>
          <principalId>
            <id>dealer1</id>
            <type>RESELLERID</type>
          </principalId>
          <principalName>DEALER1</principalName>
          <accounts>
            <account>
              <accountDescription>RESELLER</accountDescription>
              <accountSpecifier>
                <accountId>dealer1</accountId>
                <accountTypeId>RESELLER</accountTypeId>
              </accountSpecifier>
              <balance>
                <currency>GHS</currency>
                <value>0.50000</value>
              </balance>
              <creditLimit>
                <currency>GHS</currency>
                <value>0.00000</value>
              </creditLimit>
            </account>
          </accounts>
          <status>Active</status>
          <msisdn>233230089521</msisdn>
        </requestedPrincipal>
      </return>
    </ns2:requestPrincipalInformationResponse>
  </soap:Body>
</soap:Envelope>
```

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5 Result Codes

Result codes	
Result code	**Description**
0	SUCCESS
1	PENDING_APPROVAL
2	REPORT_NOT_READY
3	VOUCHER DELIVERED
4	VOUCHER SOLD
10	REJECTED_BUSINESS_LOGIC
11	REJECTED_AMOUNT
12	REJECTED_PAYMENT
13	REJECTED_TOPUP
20	AUTHENTICATION_FAILED
21	ACCESS_DENIED
22	INVALID_NEW_PASSWORD

23	INVALID_ERS_REFERENCE
29	INVALID_INITIATOR_PRINCIPAL_ID
30	INVALID_RECEIVER_PRINCIPAL_ID
31	INVALID_SENDER_PRINCIPAL_ID
32	INVALID_TOPUP_PRINCIPAL_ID
33	INVALID_INITIATOR_PRINCIPAL_STATE
34	INVALID_RECEIVER_PRINCIPAL_STATE
35	INVALID_SENDER_PRINCIPAL_STATE
36	INVALID_TOPUP_PRINCIPAL_STATE
37	INITIATOR_PRINCIPAL_NOT_FOUND
38	RECEIVER_PRINCIPAL_NOT_FOUND
39	SENDER_PRINCIPAL_NOT_FOUND
40	TOPUP_PRINCIPAL_NOT_FOUND
41	INVALID_PRODUCT

42	INVALID_RECEIVER_ACCOUNT_TYPE
43	INVALID_SENDER_ACCOUNT_TYPE
44	INVALID_TOPUP_ACCOUNT_TYPE
45	RECEIVER_ACCOUNT_NOT_FOUND
46	SENDER_ACCOUNT_NOT_FOUND
47	TOPUP_ACCOUNT_NOT_FOUND
48	PAYMENT_IN_PROGRESS
49	INVALID_INVOICE_DATA
50	CANNOT_CANCEL_PAID_INVOICE
51	CANNOT_CANCEL_INVOICE_IN_PROGRESS
52	INVALID_CUSTOMER
53	INVALID_SEQR_ID
54	INVALID_INVOICE_REFERENCE
55	PAYMENT_ALREADY_CANCELLED
56	REGISTRATION_NOT_POSSIBLE
57	REGISTRATION_PRINCIPAL_ALREADY_EXISTS
60	AUTHORIZATION_EXPIRED

61	AUTHORIZATION_CANCELLED
62	AUTHORIZATION_IN_PROGRESS
63	INVALID_AUTHORIZATION_REFERENCE
90	SYSTEM_ERROR
91	UNSUPPORTED_OPERATION
92	LICENSE_REJECTION
93	SYSTEM_BUSY
94	SERVICE_UNAVAILABLE
95	INVOICE_ALREADY_CANCELED
96	INVOICE_STATE_NOT_RESERVED
97	PRODUCT_OUT_OF_STOCK
98	TRANSACTION_ALREADY_REVERSED
100	SUCCESS_CANCELLED
101	RECEIVER_ACCOUNT_DOES_NOT_ALLOW_REFUND
102	LIMIT_EXCEED
103	ACCOUNT_NOT_CREATED
104	INSUFFICIENT_SENDER_CREDIT

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105	ACCOUNTSYSTEM_TIMEOUT
106	ACCOUNTSYSTEM_UNAVAILABLE
107	TRANSACTION_NOT_PENDING
108	COMMITTOPU_WITHOUT_PREPARETOPUP
109	CANCELTOPU_WITHOUT_PREPARETOPUP
901	INVALID_CUSTOMER_PRINCIPAL
530	SENDER_NOT_FOUND
931	TRANSACTION_REVERSAL_ALREADY_REQUESTED
933	TRANSACTION_NOT_FOUND
2016	TRANSACTION_ALREADY_COMPLETED