mobiyo

# Integration document — SMSC — Synchronous http Routing

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# INTRODUCTION

The information contained in this document describes the interface between the Mobiyo's SMS platform and other computer systems and applications. The interface is based on Web Services, of which there are several types : REST, XML-RPC, SOAP, etc. Mobiyo offers an API based on widespred system : REST to connect to its SMS Center (SMSC)

## 1. 1Who is this document aimed at ?

This document is intended for anyone involved in the design and implemntation of applications on computer systems that need to interact with the SMSC.

Knowledge and prerequisites ;

- HTPP protocol (http://en.wikipedia.org/wiki/Hypertext_Transfer_Protocol )
- An understanding of web servicess (http://www.w3schools.com/webservices),
- Knowing how th handle a file or a XML steam (http://www.w3schools.com/xml)
- How to master programming language allowing the use of web services
- Hosting a web server

## 2. Technical support

This document is sufficient to allow a developer to use Mobiyo's customisable services in the development of an application or APIs, to interface with the SMSC. It is advisable to read this guide in its entirety before undertaking any development.

However, if the developer of the application encounters a problem that cannot be solved by this document, then IT support is available.

When any contact with the support team is made, then certain information will be requested, including the timestamps of the various tests carried out. In order to process the request quickly, it is necessary to have the maximum of information about the test environment and any furher information that will be useful in the diagnosis of the problem.

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# PRESENTATION

## 3. What is "SMS+" ?

SMS+ is a method of payment to monetize a product and develop interactive exchanges with its customers. Simple, universal and quick, the SMS is aimed at all mobile users. The purchase takes place with the round-trips (1 round trip = 1 session) in accordance with the legal limitations of the target country. Easy to access thanks to a short number of 5 digits, the SMS multiplies the possible service offerings to be proposed to all mobile subscribers. You can choose the price and the billing method for your service, upon the action or the subscription.

## 4. What is "HTTP Routing"

The routing operator Allopass aggregates several operators worldwide around its SMS processing centre (SMSC) and facilitates the use of its resources through its web services. In this way, SMS are sent to merchants in a uniform manner through a HTTP request. The purpose of this method is to allow merchants to interact with SMS from their own platform, to be autonomous, and to offer a personalized, added value service to its customers.

## 5. What is "synchronous HTTP Routing" ?

Synchronous' routing is a method of communication between the Allopass SMSC (Mobiyo) and the platform managed by the merchant using the principle of mono-transactional exchange.

The incoming SMS (MO) sent by the user is routed to the merchant through a web page that is accessible from a URL that will return the contents of the outgoing SMS (MT) to return to the user. The transaction takes place once and upon 1 request.

This communication model is preferred for simplifying exchanges between two communicating systems, as it allows exchanges to be reduced, maximizes the quality of the service and minimizes network-related errors.

Sample application: Access code, reloading of an account, astrology, current events...

This system is opposed to the asynchronous method, which is used for the services of the following type: Chat, Subscriptions, Alerts...

## 6. What do I need ?

A server to host the processing scripts accessible from a public URL. What will be requested of the merchant:

- A public URL that points to their processing scripts that Mobiyo will use for the notification of the messages.
- -Authorise the Allopass IPs to access the aforementioned URL (the Allopass IPs will be provided once the contract has been signed)

## 7. 2.5. General operation

The merchant declares a routing service on the Mobiyo SMS interconnection for external management; in other words, since their own platform is hosted outside the SMSC.

Sample service: Reloading of user account credit.


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**1. The user sends an SMS:** The service is identified by the first word before a space — called the key word — contained in the SMS, which in this case is: MYBRAND. The reference 123456 is an internal user ID of the information system of the merchant that will allow the user's purchase and the user's account to be linked.

```
Send "MYBRAND 123456" to 81015
```

**2. 2. The merchant responds to the request** via a confirmation message and credits the account of the user. The merchant will then notified of whether or not the message was well received 2 by the user's terminal.

```
MYBRAND: Your account has been recharged with X coins. Thank you for using our services. XX,XX euro/pr of an SMS
```

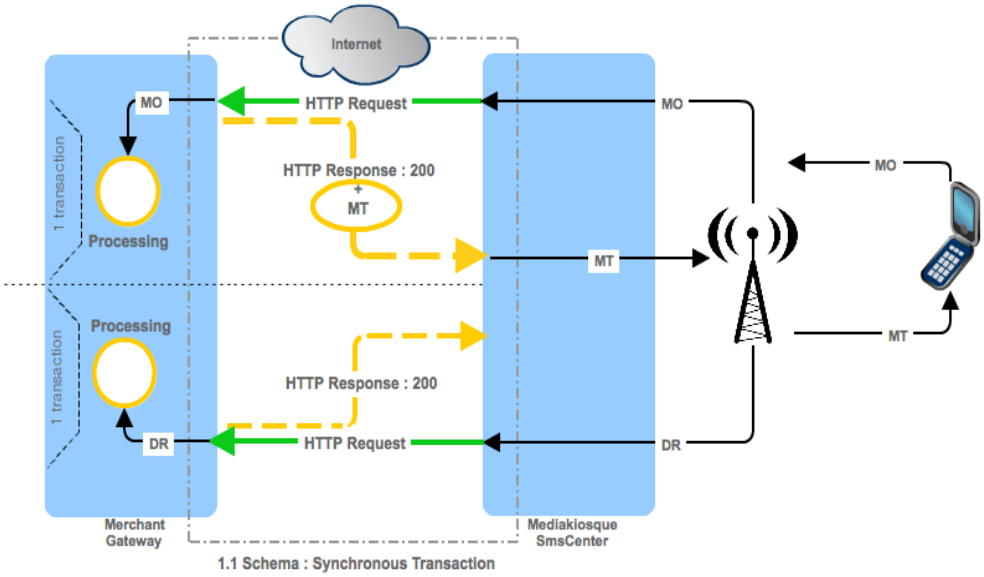
## 8. The session

According to operators and the billing model for the service, the act of purchase is articulated within a session and is defined by the order for content and its delivery. The lifetime of a session is limited between 2 and 48 h, outside of which any billing attempt of the buyer will be rejected. The session ends upon the delivery of the paid content.

With the "synchronous" routing the management of the session is transparent because the response is immediate 6 , and the risk of a billing request being rejected is reduced.

## 9. Notification process

The merchant is notified of a new SMS (MO) via a URL that he acknowledges with a HTTP 200 response in addition to the SMS (MT) contained in the body of this response to be returned to the user. The merchant will be notified 2 later of the status of the reception (DR) of the SMS (MT) sent.



1.1 Schema : Synchronous Transaction


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# Receipt of a new SMS (MO)

Upon receipt of a new SMS, the Mobiyo platform notifies the merchant's url configured for the target service and in this way, notifies the merchant to return the response message to send to the user.

## 10. Mobiyo notifies the merchant

The Mobiyo SMSC contacts the merchant's URL and transfers xml data to them through a variable HTTP and information related to the order placed for the targeted service via the POST or GET method in XML format.

> It is important that the merchant's script has a short response time: the script must fulfil
>
> the notification then carry out the necessary processes. Mobiyo will carry out a new notification of the same SMS (MO) in instances of non-- response or badly formatted responses, up to five times before failing. It is recommended that the merchant incorporates a lock to prevent the processing of the same message. This means that the merchant should check closely that the same transaction identifier is not processed twice

### 10.1. URL

Example of the url that the merchant must configure on their service to receive notifications. *https://mywebsite.com/sms.php*

### 10.2. Parameters of the query

| Parameters | Format | Description | Example |
|---|---|---|---|
| moid | digit | Unique identifier for the transaction (bigint) | 1000000000001 |
| mcc | digit | International code for the country of the operator of the user responsible for sending the SMS | 208 for France |
| mnc | digit | International code for the network of the operator of the user responsible for sending the SM | S 01 for Orange France<br>10 for S France |
| number | text | Telephone number identifying the mobile of the caller; depending on the country it can be an alias. | Alias or local number |
| content | text | Message sent by the user (on request, the message can be encapsulated in a CDATA section) | MYBRAND 123456 |
| shortcode | digit | Number of the destination to which the user has sent his message | 81051 |
| login/password | Text | Identifier that the merchant wants Mobiyo to use to authenticate -- non-- mandatory, highly recommended. | |


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Example of a request received by the merchant

```
xmldata =
<sms>
 <login>smsc_Mobiyo</login>
 <password>XghY767</password>
 <mo>
 <moid>10000006677001</moid>
 <number>321782726120</number>
 <mcc>208</mcc>
 <mnc>01</mnc>
 <shortcode>81015</shortcode>
 <content>MYBRAND 123456</content>
 </mo>
</sms>
```

## 11. Response that the merchant's script must return to Mobiyo

It is necessary to check if the moid has already been processed. If the merchant's site slows down, the notification sent by Mobiyo could fail (beyond 5 seconds, Mobiyo considers the notification to have failed due to the response time being too long). In this case, the Mobiyo SMSC will again attempt to send the same message to the merchant, who might nevertheless, have processed it at the time of the previous notification; it remains up to the merchant to pay for the new notification and to process it in error.

### 11.1. Description of the response expected by Mobiyo

The HTTP code of the Header must be equal to 200 and contain in the Body the SMS (MT) to send to the user in the expected format.

| Parameters | Format | Description | Example |
|---|---|---|---|
| status | text | Response status | 0 or 1 |
| code | digit | In the case of an error, it contains the description of the error. | Already Processed<br>Service Not Found |
| messageList | xml | List of messages to send to the user | |

### 11.2. Status

| Value | Description | Context |
|---|---|---|
| 0 | OK | The new message has been taken into account. |
| 1 | Failure | An error occurred during initialisation of the transaction. |


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The status 0 or 1 is an acknowledgement of the transaction. The transaction is considered to be a failure in the instance of non-response, a HTTP return different by 200, or an unexpected response format.

### 11.3. messageList contains a list of messages

| Parameters | Format | Description | Example |
|---|---|---|---|
| message | xml | ontains a message 5 to send to the user | <message><br><text>Message text 1</text><br><billing>0</billing><br><mtid>xxxxxxxxx</mtid><br></message> |

### 11.4. message contains the parameters on SMS (MT) to send to the user

| Parameters | Format | Description | Example |
|---|---|---|---|
| text | text | Contains the text of the message[5] send to the user | MYBRAND your account has been credited with X coins. Thank you for using our services. XX,XX euro + pr of an SMS. |
| billing[4] | boolean | Indicates the application of a surcharge to the 0 message without<br>surcharge message. According to the billing method | 1 message with surcharge[4] |
| mtid | digital | *R*eference for MT message for the merchant. Non-obligatory, returned to the merchant in the notification of acknowledgement of receipt. | 9876543 |

Example of response expected by Mobiyo containing a message for the user.

```
<?xml version="1.0" encoding="utf-8"  ?>
<response>
 <status>0</status >
 <messageList>
 <message>
 <text><![CDATA[Votre compte a été crédité de X tokens. Merci d'utiliser nos services.]]></text>
 <billing>1</billing>
 <mtid><![CDATA[9876543]]></mtid>
 </message>
```

```
</messageList>
</response>
```

Example of response expected by Mobiyo containing several messages 5 for the user.

```
<?xml version="1.0" encoding="utf-8"  ?>
<response>
 <status>0</status >
 <messageList>
 <message>
 <text><![CDATA[Votre compte a été crédité de X tokens. Merci d'utiliser nos services.]]></text>
 <billing>1</billing>
 <mtid><![CDATA[9876543]]></mtid>
 </message>
 <message>
 <text><![CDATA[Exclusif pour notre anniversaire doublez vos crédits en répondant OK. prix]]></text>
 <billing>0</billing>
 <mtid><![CDATA[9876544]]></mtid>
 </message>
</messageList>
</response>
```

Example response expected by Mobiyo if the merchant wishes to reject the message. The merchant can personalize their response in the <error> tag

```
<error>
<?xml version="1.0" encoding="utf-8"  ?>
<return>
 <status>1</status>
 <error><![CDATA[Service Not found]]></error>
</return >
```


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# Aknowledgment of receipt

Mobiyo notifies the merchant to inform them of the status of the reception of the SMS (MT) by the user's terminal in the form of an acknowledgement of receipt through the URL configured to this end. This step is dependent upon the technical limits of the operators.

## 12. Mobiyo notifies the merchant

The Mobiyo SMSC contacts the merchant's URL and transfers xml data to them through a variable HTTP and related data that constitute the acknowledgement of receipt via the POST or GET method in XML format. .

> It is advisable to manage the association of the SMS (MT) sent to the user and the acknowledgement of receipt, thanks to the identifier of the transa ction moid sent by Mobiyo at the time of the request of the MO or to use the mtid identifier of the message on behalf of the merchant. Not obligatory.
> As part of the service offering to reload the account by SMS, the acknowledgement of receipt is required; credit associated with the purchase by sms will be added to the user's account if the message is successfully received.

### 12.1. URL

Example of the url that the merchant must deploy on their service to receive notifications : https://mywebsite.com/confirm.php

### 12.2. Parameters of the request received by the merchant

| Parameters | Format | Description | Example |
|---|---|---|---|
| **status** | text | Notification stage | Delivered<br>Not Delivered |
| **moid** | digital | Identifier of the user's initial order – optional | 10000006677001 |
| **mtid** | digital | Identifier of the message enquired about by the merchant -- only returned if informed of at the time the MO is acknowledged. | 987654 |
| **login /password** | text | *ID authentication for Mobiyo -- not obligatory but highly recommended.* | |

Example of a request received by the merchant

xmldata =

```
<sms>
 <login>smsc_Mobiyo</login>
 <password>XghY767</password>
 <dr>
 <status>Delivered</status>
 <moid>10000006677001</moid>
 <mtid>987654</mtid>
 </dr>
</sms>
```

### 12.3. status, status of the sent message (MT).

| Parameters | Format | Description | Example |
|---|---|---|---|
| **Delivered** | Accepted | Message accepted – final status | Delivered |
| **Not delivered** | Rejected | Message refused – final status | Not delivered |
| **Pending**[3] | None | The message has not yet been approved – in transit statu | **Pending**[3] |
| **Ack**[2] | None | The status of the message is unknown – in transit status | **Ack**[2] |

## 13. Response that the merchant's script must return to Mobiyo

Remember to check if the moid has already been processed. In the instance of no response or a badly formatted response, Mobiyo will conduct a new test for the first notification.

| Parameters | Format | Description | Example |
|---|---|---|---|
| status | boolean | Response status | |
| error | text | In the case of an error, it contains the description of the error. | Already Processed<br>Id not found |

### 13.1. Description of the response expected by Mobiyo

HTTP Header code must be equal to 200.

### 13.2. Status

| Value | Description | Context |
|---|---|---|
| 0 | OK | The notification has been taken into account. |
| 1 | Failure | An error occurred during initialisation of the transaction. |

The status 0 or 1 is an acknowledgement of the transaction. The transaction is considered to have failed in the case of non--response ("time--out" or HTTP code that is different to 200) or a response format that is unexpected.

Example response expected by Mobiyo

```
<?xml version="1.0" encoding="utf-8"  ?>
<return>
 <status>0</status>
 <error></error>
</return>
```


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If the new message is not processed by the merchant platform

```
<?xml version="1.0" encoding="utf-8"  ?>
<return>
 <status>1</status>
 <error><![CDATA[Id Not found]]></error>
</return>
```


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# 5. Appendix

## 14. Lexicon

MT (Mobile Terminated): SMS sent by the merchant to an end user.

AR or DR (acknowledgement of receipt) 2 Status of the message sent to the user. Dependent upon the technical options of the operators.

HTTP: Communication protocol using the Internet network.

POST/GET: Method of transferring data through the HTTP protocol.

URL: Location address of a resource (script, etc.) through a network (internet, etc.).

## 15. Content and legislation

The resources used through SMSC are subject to the laws in force in the countries covered, among which, is the obligation to display legal information in the content of the SMS (MT) and equally in the support media used for promoting the service.

The price and the name of the Publisher of the service form part of this obligatory information and must be identifiable to the user of the service.

Mobiyo reserves the right to tattoo the message sent to the user, which reduces the number of characters available for the content of the MT.

Mobiyo reserves the right to restrict the service without prior notice in the event of non-compliance with the contract established between the parties, or the rules of professional conduct and in one of the following cases:

- Total or partial absence / error / theft of sender ID
- Total or partial absence / error / inaccuracy of the tariff for the means of access to the service
- Total or partial absence / error / inaccuracy of the commercial name of the service
- Unauthorised modification of the "identification of the sender" field of an SMS-MT
- Unauthorised alteration of the nature of the service.
- Sending of SMS-MT to users who do not correspond to the service category that has been declared

## 16. Length of the message 4 and encoding

The supported encoding is UTF8. This encoding is not to be confused with the encoding of the communication protocol. This here is the encoding of the message to be sent to the user.

Each operator uses specific encoding for communication with their partners. The same message shall not be interpreted in the same way from one operator to another. In general, the table of symbols used is GSM, encoded in 7--bit, yet the SMS memory size is 140B which allows up to 160 characters, however some characters can count for two, which reduces the size of the final message. For example the euro symbol according to the encodings can be interpreted as 1 or 2 bits. Extending the length of the SMS is possible in accordance with the technical limitations of operators. For further information, please contact your account executive.

## 17. Url encoding

The base characters of a URL are between A and Z, a and z, 0 to 9, and :. _ / ~ %--+ & #?=()@. It is possible to use other characters that are not supported, but they must be converted. A “url


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encoding" conversion function is provided by the majority of programming languages. example < will give%3C, space will give%20

## 18. 5.5. MCC / MNC

The MCC and MNC — Mobile Country Code and Mobile Network Code respectively — are international nomenclature, which allows the identification of an operator in a country, used to determine the operator of the user. Example

| MCC | Country | MNC | Carrier | MCC | Country | MNC | Carrier |
|---|---|---|---|---|---|---|---|
| 208 | France | 01 | Orange | 214 | Spain | 01 | Vodafone |
| | | 10 | SFR | | | 03 | Amena |
| | | 15 | FreeMobile | | | 05 | Yoigo |
| | | 20 | BouyguesTelecom | | | 07 | Movistar |
| 206 | Belgium | 01 | Proximus | | | 08 | Euskaltel |
| | | 10 | Mobistar | | | | |
| | | 20 | Base | | | | |

## 19. Please note

This service, as with all Mobiyo services, are subject to technical restrictions and the requirements of the partner operators. In the event of non--compliance with the rules of professional conduct in force, Mobiyo reserves the right to restrict access to the services. Mobiyo channels the flows to redistribute them to the partner operators. Despite Mobiyo's large capacity to absorb commercial flows, the deadline for receipt of messages by the end--user is a function of the storage and accessibility of the operator's platform and that of the user's mobile terminal on the GSM network, which has the effect of deferring the receipt of the message from the date of dispatch.

---

1 The SMS Centre offers alternatives to the HTTP connection. Please contact your account executive who will help you define your needs thereby helping you choose the most suitable solution.

2 Operators do not offer all the acknowledgements of receipt in their premium SMS service. This service is offered according to geographical areas. The status of the acknowledgement of receipt may be: "ACKed" which only confirms the delivery of the message to the operator, and not to the mobile. For more information on the availability of this service, please contact your account executive.

3 An acknowledgement of receipt evolves over time until it reaches its final status: Delivered or not delivered. The pending status indicates that the user has not yet received the message provided that the "acknowledgement of receipt" service is available.


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4 Tagged billing allows the merchant to either apply or not apply the surcharge linked to the user's purchase. This service is available according to the billing method practised by the user's operator. With a billing method upon the sending of the SMS, the user will be charged for their purchase when the message is sent. Otherwise, for billing upon receipt of the SMS, the user is charged upon receipt, depending on this parameter. The merchant can decide not to charge for the purchase in instances where the incorrect order was input, and this gives the option of responding with an error message without a surcharge. (These messages may be subject to additional fees.) Please contact your account executive for further details.

5 The content of the message can contain up to 160 characters coded in 1 bit. It is possible to respond to the user with multiple messages, within the limits of the declared service at the time the contract is implemented. (These messages may be subject to additional fees.) Please contact your account executive for further details.


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Pour toute question, contactez le support ou votre chargé de compte

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