



1. Content

1.	Content	2
2.	Change history	2
3.	Overview	3
4.	Context.....	3
5.	Introduction	3
6.	Available number ranges	3
6.1	Dedicated short codes	3
6.2	Shared short code – keyword service.....	4
7.	How outbound messaging works	4
8.	How inbound messaging works	4
8.1	Method 1: The mobile user initiates the conversation	4
8.2	Method 2: Your application initiates the conversation	5
9.	How to configure your application	5
9.1	How to set the MO parameter	5
9.2	How to configure the sender ID	5
9.3	Methods.....	6
9.3.1	HTTP.....	7
9.3.2	FTP log file	8
9.3.3	SMPP (for advanced users).....	8
9.3.4	XML (over HTTP/S)	8
9.3.5	SOAP	9
9.3.6	Online reports only	9
9.4	Shared short code - keyword service.....	9
9.5	Important notice about testing:	10
10.	Stop command.....	10
10.1	Stop commands - automatic unsubscribe.....	10
10.1.1	STOP command implementation – short codes & MO numbers	10
10.1.2	STOP command - Shared short codes.....	10
11.	How billing works	11
12.	Examples.....	11
12.1	Read first.....	11
12.2	Dedicated short code	11
12.2.1	Example 1: Mobile users SMS in to a short code to enter a competition	11
12.2.2	Example 2: Mobile users reply to a message you have sent them	12
12.3	Shared short code-keyword service	13
12.3.1	Example 3: Mobile users SMS in to a short code to enter a competition	13
12.3.2	Example 4: users reply to a message you have sent them	13
13.	Terminology.....	14

2. Change history

Approximately six (6) months of changes are reflected:

Visit http://www.clickatell.com/downloads/Clickatell_SA_shortcode_MO_technical_guide.pdf to check for updates to this document.

Version	Date	Section	Changes to documentation
1.6	18 July 2008	10.3.5	Added SOAP MO callback format

3. Overview

This technical document is intended for users who wish to implement standard rate and premium rate messaging within South Africa through the use of short codes.

It states what number types, including shared short codes (keywords), are available. It explains how inbound and outbound messaging works and how the API you have chosen needs to be configured to enable two-way messaging within South Africa using short codes.

4. Context

This document is designed to follow from Clickatell's HTTP, SMTP, FTP, XML, SMPP, SOAP and COM API specification documents. It is presumed that the reader has a thorough understanding of these documents (whichever may be appropriate) prior to reading this addendum. These documents are available on the Clickatell website at <http://www.clickatell.com/developers.php>.

As you will need to configure your numbers within Clickatell Central, it is suggested that you read the online help on configuring two-way messaging within Clickatell Central.

5. Introduction

There are various applications and services that are associated with the use of standard rated and premium rated short codes within South Africa. Clickatell's role in this regard is to act as a conduit between the mobile user and your application. We will also route any responses from your application back to mobile recipients and vice versa. There is a predefined set of variables that Clickatell will pass back to your application when a message is received. You will need to ensure that your application is capable of interpreting these and responding accordingly.

6. Available number ranges

Clickatell offers the following number ranges for short codes within South Africa:

6.1 Dedicated short codes

This is a short number that can be used across multiple operators in a specific region.

Important Note: Each short code has a dedicated long number per operator that the short code covers. This is required in order to facilitate two-way messaging capabilities.

Example: **Short code:** 36000
Associated Long Numbers:
Operator 1: 27831234567
Operator 2: 27821111111
Operator 3: 27849999999

6.2 Shared short code – keyword service

This is a short code that is shared. A keyword is used to differentiate between clients. The keyword is case-insensitive. These also have associated long numbers. See the examples for more detail.

Example: 36000: NEWS

7. How outbound messaging works

MT messages are delivered by your application to the user via the Clickatell Gateway. There are a number of ways of routing these messages to the Clickatell Gateway for delivery:

- SMTP (E-MAIL to SMS) - enabling a server or client-generated e-mail to be delivered as an SMS.
- HTTP/S - submitting either a POST or GET to the API server.
- FTP Upload – uploading a text file to Clickatell's FTP Server.
- COM Object – windows based application development.
- XML – XML wrapper over HTTP.
- SOAP – submit SOAP packets over HTTP/S.
- SMPP - Short Message Peer to Peer (SMPP) protocol.

The API you choose to send these outbound messages must be linked by Clickatell to the short code and long numbers you use. This can be done within Clickatell Central.

Step 1: Log into your account at: <http://www.clickatell.com/login.php>

Step 2: On the main screen, select **Manage My Products**.

Step 3: On the left select **Two-Way Messaging**.

Step 4: Click Edit on the number you want to configure and choose the API you want to link it to from the drop down box provided.

Please review your chosen API specification document for more information on how to implement outbound messaging.

8. How inbound messaging works

Inbound messages to your application can arise in two ways:

8.1 Method 1: The mobile user initiates the conversation

A mobile handset user will create and send a text message to a predefined, published short code. This will be routed to your application by Clickatell.

Example: A mobile user sees an advertisement on TV stating that they should send an SMS to the number 36000 to stand a chance of winning a prize. They then send an SMS to 36000.

8.2 Method 2: Your application initiates the conversation

Your application sends a message via the Clickatell Gateway to the user with the Sender ID set to your short code. The user then replies to the message which is routed back to your application via the Clickatell Gateway.

For this, Clickatell will route your messages through a specific carrier that will enable the ability for mobile users to reply to your allocated number. Depending on the arrangement between Clickatell and the Carrier this may or may not match the short code issued to you.

Example: You send out a message to your users who have already opted-in to receive your service. It states "Reply now with the word NEWS to receive the latest news". The user replies to the message with the word "NEWS" and gets sent an SMS with the latest news.

Note: That message will appear to come from an associated long number linked to a specific short code for the Network that the user is on. In other words if the user was with MTN in South Africa then they would reply to a long number such as 278312345678 and not a short code such as 36000.

9. How to configure your application

NB: It is assumed that you have already integrated your chosen API and are able to send messages.

9.1 How to set the MO parameter

When sending messages to mobile users that should be able to reply, the MO parameter must be set to 1. If you use SMPP the MO parameter is automatically set to 1. For more information on how to set this for your chosen API see the API specification document.

When this parameter is set to 1 Clickatell will:

- Use a specific carrier to deliver the message.
- Set the correct Sender ID when sending to the handset.

Note: Destination addresses (the mobile number you are sending to) must be in international format when setting this parameter to 1.

9.2 How to configure the sender ID

Please note that when you send a message where you may need a reply, you will need to set the correct Sender ID (pre-configured short code) and set the MO parameter to 1. The pre-configured short code is the number that you have chosen to link to the API that you use to send outbound (MT) messages.

If the MO parameter is set to 1 and you specify a Sender ID that is different from the pre-configured Sender ID, then your setting will take preference. Clickatell will still use a specific carrier to try and enable the ability for the user to reply to the message. If however, your Sender ID is not supported by the carrier being used, the message will fail.

When Clickatell delivers the message the Sender ID may be changed as follows.

Your Sender ID	Sender ID set by Clickatell	
	If MO=1	If MO=0 or not set
If you set an alpha Sender ID (e.g. from=abc)	We will try to set the Sender ID you submitted. If we cannot, we will set a default Clickatell number.	We will try to set the Sender ID you submitted. If we cannot, we will set a default Clickatell number.
If you set a numeric Sender ID that is not a configured MO number.	We will try to set the Sender ID you submitted. If we cannot, we will set a default Clickatell number.	We will try to set the Sender ID you submitted. If we cannot, we will set a default Clickatell number.
If you set a configured MO number.	We will try to set the Sender ID you submitted.	We will try to set the Sender ID you submitted. If we cannot, we will set a default Clickatell number.
If you set a Short code as the Sender ID field.	We will look up the correct corresponding Long code and set the correct one. We will not set the Short code.	We will try to set the Sender ID you submitted. If we cannot, we will set a default Clickatell number.
If you do not set anything as the Sender ID field.	We will set a default Clickatell number – you will not receive the replies.	We will set a default Clickatell number – you will not receive the replies.

9.3 Methods

In order to receive inbound messages, one of the methods below can be used. You can change which method you wish to use at any time. Configuration is done through Clickatell Central. Go to https://www.clickatell.com/central/twoway/twoway_central.php and select the number you wish to configure.

MO callback methods:

- HTTP GET
- HTTP POST
- SMPP
- XML GET
- XML POST
- FTP
- SOAP GET

- SOAP POST
- Online Reports

All inbound messages are recorded on your Clickatell account, which can be viewed and downloaded through **Reports** within Clickatell Central. This is useful if you do not wish to receive inbound messages into your application.

Extended length messages will be sent to you as individual messages. The last two digits of the UDH header will indicate which message part it is. The remaining part of the UDH header will be identical for all messages that are part of the extended message.

Example UDH header for message part 1: 050003330201

Example UDH header for message part 2: 050003330202

9.3.1 HTTP

Callback URLs will be used to send messages back to applications via a standard HTTP GET or POST. The reply-path URL is set by you within Central. The URL must begin with http://. HTTPS is accepted but only encryption is supported. Variables are passed back by the API on message response.

The variables returned to the URL are:

- Api_id (api_id=)
- MO message ID (moMsgId)
- Originating ISDN (from=)
- Destination ISDN (to=)
- Date and Time [MySQL format, GMT + 0200] (timestamp=)
- DCS Character Coding (charset=) [when applicable]
- Header Data [e.g. UDH etc.] (udh=) [when applicable]
- Message Data (text=)

Example: If you provide this URL <http://www.yourdomain.com/sms/sms.asp> then we will do a POST or GET as follows:

https://www.yourdomain.com/sms/sms.asp?api_id=12345&from=279991235642&to=27123456789×tamp=2008-08-0609:43:50&text=Hereisthe%20messagetext&charset=ISO-8859-1&udh=&moMsgId=b2aee337abd962489b123fda9c3480fa

What happens when we are unable to connect to your server?

Clickatell provides retries of MO callbacks. We follow retry as follows:

1. 2 minutes after the original attempt
2. 4 minutes after last retry
3. 8 minutes after last retry
4. 16 minutes after last retry
5. 25 minutes after last retry (max retries reached)

After this, we do not retry again.

9.3.2 FTP log file

As an alternative to using a callback URL, replies can be logged to an FTP file. The FTP file will be a text file, which can be retrieved manually, or via a script. The fields in the text file will match those listed above. If necessary, an example of a text file will be provided on request

If you don't already have an FTP account, you can add an FTP product within your Central account under **My Connections**.

```
Text file name: mo.log
Example of text within text-file:
2005-01-06[space]12:26:18[space]handset_number_here[tab]mo_number_here[tab]text_here
2005-01-06[space]12:27:18[space]handset_number_here[tab]mo_number_here[tab]text_here2
2005-01-06[space]12:28:18[space]handset_number_here[tab]mo_number_here[tab]text_here3
```

9.3.3 SMPP (for advanced users)

We can also send the response back to you via SMPP. Please see our SMPP API specification document for more information.

9.3.4 XML (over HTTP/S)

Callback URLs will be used to post XML formatted messages back to applications via a standard HTTP/S GET or POST. The reply-path URL is set by you within Clickatell Central. The URL must begin with <http://>. HTTPS is accepted but only encryption is supported. Variables are passed back by the API on message response. The data contained in the XML elements is encoded using standard XML entities.

The variables returned to the in the xml <clickmo> packet are:

- Api_id (<api_id>)
- MO message ID (moMsgId)
- Originating ISDN (<from>)
- Destination ISDN (<to>)
- Date and Time [MySQL format, GMT + 0200] (<timestamp>)
- DCS Character Coding (<charset>) [when applicable]
- Header Data [e.g. UDH etc.] (<udh>) [when applicable]
- Message Data (<text>)

Example: If you provide this: <http://www.yourdomain.com/sms/sms.asp> then we will do a post via a standard HTTP POST as follow:

```
data=<?xml version="1.0"?>
<clickmo>
  <api_id>xxx</api_id>
  <moMsgId>fa6ba35b330ce1bc7e2008e5d92d57aa</moMsgId>
  <from>handset_number_here</from>
  <to>mo_number_here</to>
  <timestamp>2007-02-26 14:36:50</timestamp>
  <text>xxx</text>
```

```
<charset>ISO-8859-1</charset>
<udh></udh>
</clickmo>
```

9.3.5 SOAP

SOAP callbacks can be sent as an HTTP GET or POST with in the 'data' parameter (eg: [http://www.yourscript.com/callback.php?data=<?xml version="1.0"](http://www.yourscript.com/callback.php?data=<?xml version=)

```
Example
Data=<?xml version="1.0" encoding="ISO-8859-1"?>
<SOAP-ENV:Envelope SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/" xmlns:tns="clickatell_mo">
<SOAP-ENV:Body>
<tns:mo_callback xmlns:tns="clickatell_mo">
<api_id xsi:type="xsd:int">xyz</api_id>
<from xsi:type="xsd:string">xyz</from>
<to xsi:type="xsd:string">xyz</to>
<timestamp xsi:type="xsd:string">xyz</timestamp>
<charset xsi:type="xsd:string">xyz</charset>
<udh xsi:type="xsd:string">xyz</udh>
<text xsi:type="xsd:string">xyz</text>
<momsgid xsi:type="xsd:string">xyz</momsgid>
</tns:mo_callback>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

9.3.6 Online reports only

All inbound messages are recorded on your Clickatell account, which can be viewed within Clickatell Central. Go to **Message Reports>>Two-Way** and generate a report using the parameters supplied. Choose this option if you do not wish inbound messages to be sent to your application.

9.4 Shared short code - keyword service

The following will happen when a message is received by Clickatell on the shared short code that has been assigned to you and the message contains your keyword followed by a space at the start of the message.

The message will be posted to you with the destination address (the number the message was sent to by the mobile user) as follows:

Destination Address:keyword

Example: Let's say you require a client to SMS in and supply their e-mail address to play a game. A user would type this: "game name@surname.com" and SMS it to the number 36000. Our system will receive the message. Based on the leading keyword "game" we will know who this message belongs to. The Destination Address (the number to which the user sent the message) that we will post back to your application is "36000:game" instead of just 36000, as with dedicated short codes.

9.5 Important notice about testing:

Do not try and send to any of your assigned numbers via the Clickatell system. This may cause your messages to go into a loop.

10. Stop command

10.1 Stop commands - automatic unsubscribe

Clickatell has implemented a stop command system in line with PhonepayPlus & the MDA requirements. The system will ensure that a mobile user's wish to unsubscribe is honoured in the event that your application or service fails to do so.

Note: Clickatell will always deliver all messages that were received from the handset to you, provided you have sufficient credits in your account.

10.1.1 STOP command implementation – short codes & MO numbers

Example: A handset sends in one of the following case-insensitive keywords (STOP, END, CANCEL, UNSUBSCRIBE or QUIT) to a short code.

Clickatell will pass this message on to you. The Clickatell gateway will expect a "confirmation of cancellation" message from you to the handset within a period of 6 hours. This must be sent either from the short code it was sent to, or in the case of MT premium rate short code, it must be sent from a linked standard rate MO number such that the user is not billed.

If no confirmation of cancellation message is sent: You will no longer be able to send MT messages to the mobile number from the short code or MO number you sent it from. Clickatell will also send the message "You will no longer receive messages from the short code xxxxx" to the mobile number on your behalf. This will be billed to your account at normal message rates. This message will be sent from your short code unless the short code is MT premium rated, in which case it will be sent from a linked standard rate MO number such that the handset is not billed. This MO number will be assigned and linked to your short code by Clickatell. If the short code is MO premium rated, then this rule does not apply.

Note: If the handset sends in a new message that does not contain one of the following; **STOP, END, CANCEL, UNSUBSCRIBE, QUIT, STOP STOP or STOP ALL**, then you will once again be allowed to send messages to the mobile number.

If the handset sends in "STOP ALL" or "STOP STOP" to a short code then you will no longer be able to send messages from any of your MO numbers that are linked to your account.

10.1.2 STOP command - Shared short codes

If a shared short code is used, the chosen keyword will be expected to be before or after the STOP command. For example, if your keyword is “Fun” then the message “STOP fun” or “fun STOP” will result in no further messages being sent to the user from the keyword “Fun”. Note that this is also case-insensitive.

If the handset sends in a new message containing your keyword and not containing one of the following; **STOP, END, CANCEL, UNSUBSCRIBE, QUIT, STOP STOP or STOP ALL**, then you will once again be allowed to send messages to the mobile number.

11. How billing works

We automatically deduct the credit charge for each inbound message. Please contact your sales consultant if you are unclear about the charge you pay. The standard charge is a third of a credit, per inbound message.

Messages will only be released to your application/online reports when payment has been received for them. The two-way report within Clickatell Central will indicate if you have unreleased messages. You can be notified when your balance goes below a user-defined amount of credits. This can be configured within **Central>>Message Reports>>Two-Way**.

12. Examples

12.1 Read first

Because some operators are unable to provide the ability for users to reply back to messages sent to them with the short code as the Sender ID they provide associated long numbers that have this ability. However we make it easy for you by automatically replacing the short code with the correct long number when you send messages. In the examples below you could also set the long number as the Sender ID but only mobile users who use the same operator as the Long code would be able to reply.

The following is required for the examples below to work as shown:

- The MO parameter is set to 1.
- The short code and associated long numbers are linked to the API you have chosen to send your messages.
- You have configured how Clickatell must send messages to you (through Clickatell Central).

Definitions:

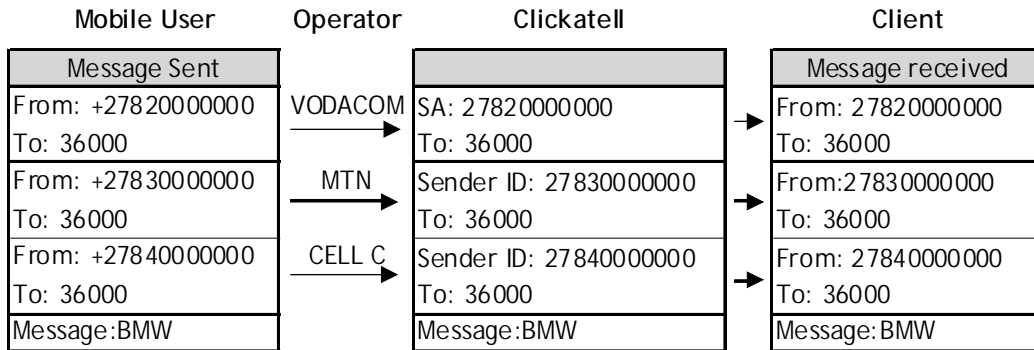
- A Mobile User is interchangeable with the word “handset”.
- SA = Source Address, the handset/mobile number the message comes from.

12.2 Dedicated short code

In the examples below you have rented a dedicated short code. Keywords are not required but your system could use them if you so decided. These examples apply to both standard rate and premium rate.

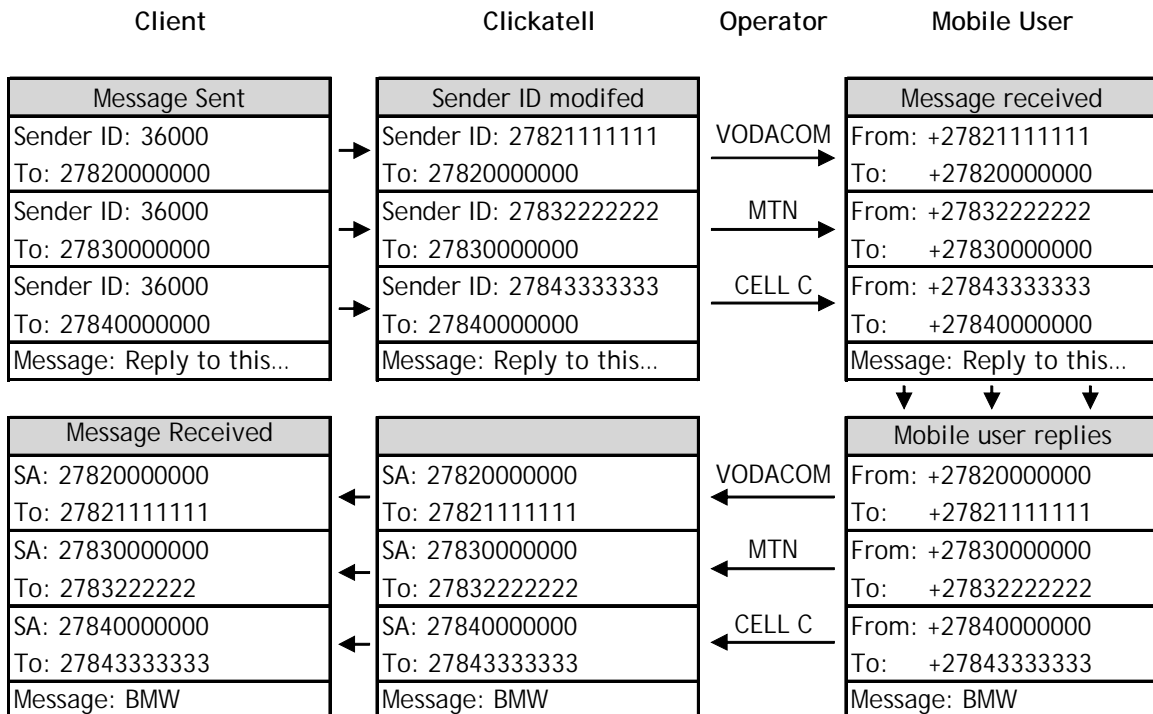
12.2.1 Example 1: Mobile users SMS in to a short code to enter a competition

In this example the Mobile user sees an advertisement in a newspaper that states “SMS 36000 starting with the word BMW to win a new BMW. R5 per SMS”. The message is received from the handset by the Clickatell Gateway (via the Network Operator) and delivered to your application. The user is billed R5 by the operator.



12.2.2 Example 2: Mobile users reply to a message you have sent them

In this example you send out a message to an opt-in user “Reply to this message in order to win a new BMW. Start with the word BMW. R5 per SMS”. The user then replies to the message and is billed R5 by the operator.

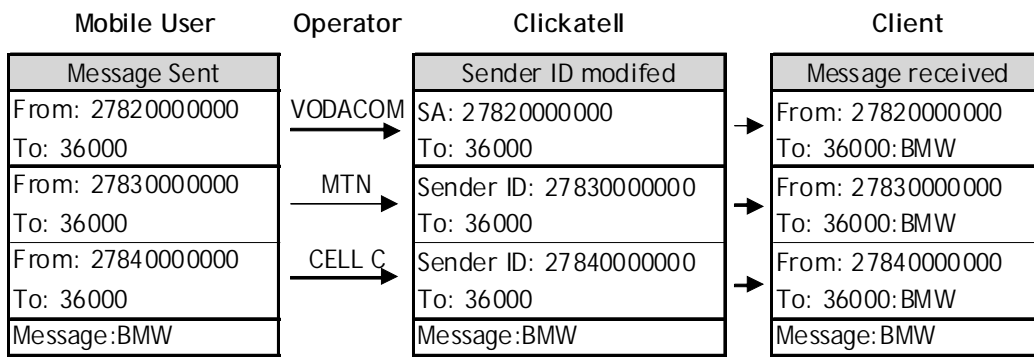


12.3 Shared short code-keyword service

In the examples below you have rented the keyword “BMW” from us on the short code 36000.

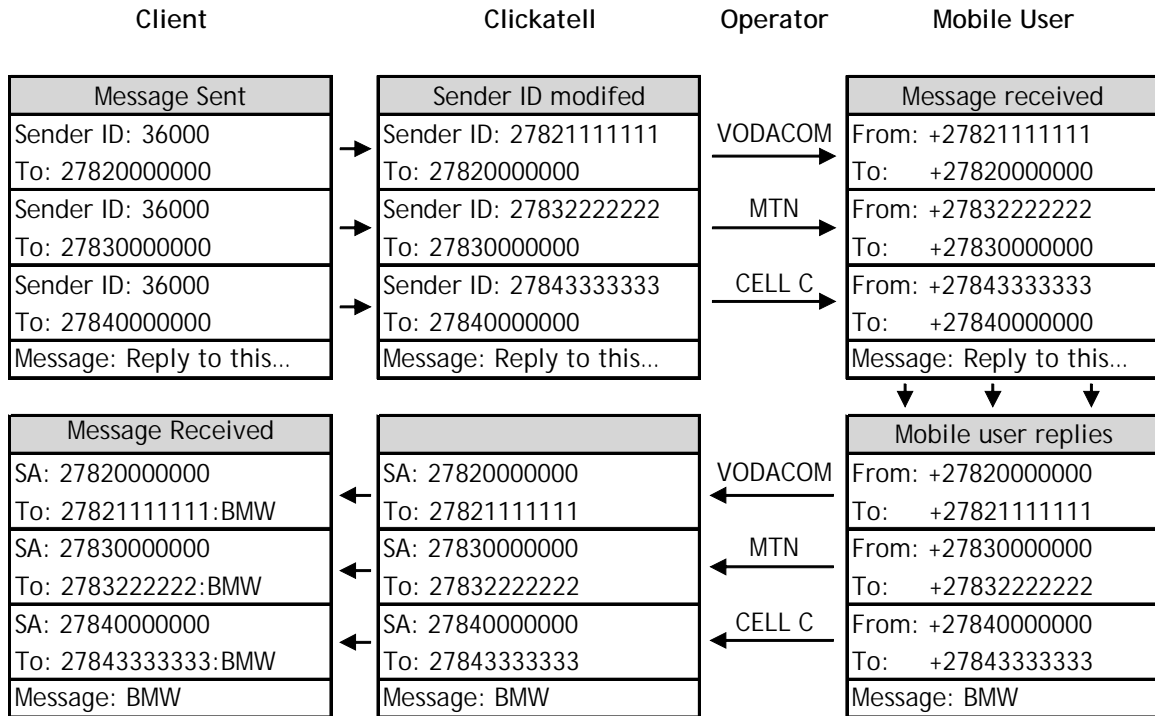
12.3.1 Example 3: Mobile users SMS in to a short code to enter a competition

In this example the user sees an advertisement in a newspaper that states “SMS 36000 starting with the word BMW to win a new BMW. R5 per SMS”. The user then sends an SMS with the text “BMW” to the number 36000 and is billed R5 by the operator.



12.3.2 Example 4: users reply to a message you have sent them

In this example you send out a message to your opt-in users “Reply to this message in order to win a new BMW. Start with the word BMW. R5 per SMS”. The users then reply to the message and is billed R5 by the operator.



13. Terminology

- **Mobile originated (MO):** A message sent (originating) from a mobile handset to an application via Clickatell.
- **Mobile terminated (MT):** A message sent from an application to (terminating on) a mobile handset via Clickatell.
- **Premium rated message (MO):** A mobile user is charged a premium for the message that they send to a particular short or long code. This service is not available in all regions; please contact an Account Manager for more information.
- **Premium rated message (MT):** A mobile user is charged a premium for a message that they receive from a particular short or long code. This service is not available in all regions; please contact an Account Manager for more information.
- **Revenue share:** This refers to the portion of the premium charge associated with a premium rated message, which is passed on to the content provider.
- **Content provider:** This is the Clickatell customer who is offering one or more services that are usually premium rated SMS system.
- **Customer:** A registered Clickatell customer utilising the Clickatell API for message delivery and receipt.
- **Sender ID:** The “from” address that appears on the user’s handset. This is also known as the message originator or source address. A Sender ID must be registered within your account and approved by us before it may be used.
- **Destination address:** The mobile number/MSISDN of the handset to which the message must be delivered. The number should be in international number format, e.g. country code + local mobile number, excluding the leading zero (0).

- **Source address:** See 'Sender ID' above.
 - **Short code:** A short number which is common across all the operators for a specific region.
 - **Subscriber:** The mobile network subscriber who owns the mobile number (MSISDN) which will send or receive SMSs, or be billed for premium rated services.
 - **Upstream gateway:** A network operator, third party or our own short message service centre (SMSC).
-