

**Route Mobile Limited**

# **SMPP Gateway Manual**

**(Document version 1.5)**

This document describes how to interface to and use the Route Mobile Limited Messaging Platform for connecting to the Route Mobile Limited Network for Mobile Originated and Mobile Terminated SMS services.

## 1. Introduction

The Route Mobile Limited® Messaging Platform uses the SMPP v3.4 Protocol Specification Issue 1.5, However it has been designed to be backward compatible with SMPP v3.3.

This document should be read in conjunction with SMPP v3.4 Specification v1.5 and assumes with SMPP a level of familiarity functionality.

## 2. Connecting to the Service

Clients may connect to the Route Mobile Limited® Messaging Platform Server multiple numbers of times. This may be of importance if the client wishes to deploy multiple applications simultaneously. To connect to the Route Mobile Limited® Messaging Platform one needs to specify the following parameters:

**IP Address and Port :** This is the TCP/IP endpoint on which the ESME should connect to the Route Mobile Limited® Messaging Platform.

**system\_id :** This is the username of your account configured on the Route Mobile Limited® Messaging Platform.

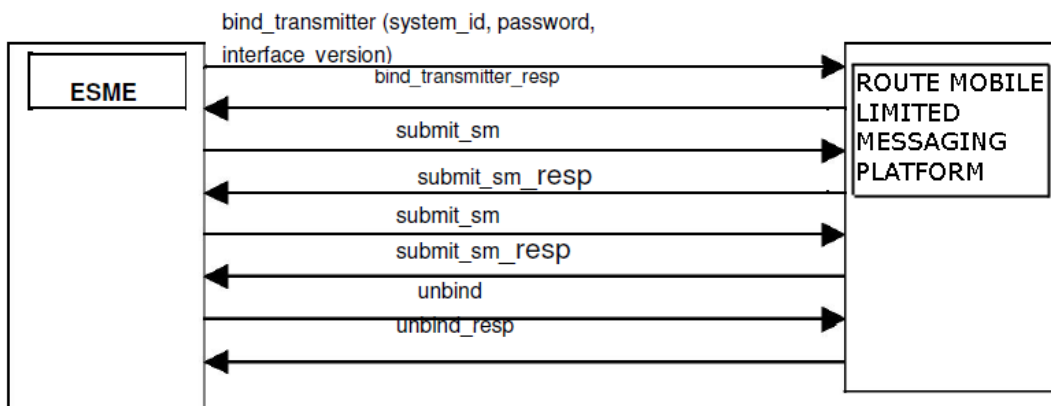
**password :** Password for the above account. Required for security reasons to prevent unauthorized access to your account.

**system\_type :** This field is not used by us, hence set to null.

**interface\_version:** The client application should connect with the interface\_version field set to 0x34 (52 decimal), if it is using SMPP v3.4, otherwise the Route Mobile Limited® Messaging Platform assumes that the application is using SMPP v3.3.

If the application uses SMPP v3.3 then the optional fields cannot be used. These optional fields may be required to implement extra facilities like long SMS, etc.

**enquire\_link:** The application should issue an *enquire\_link* every minute. This will ensure the link stays active even when it is not in use. The Route Mobile Limited® Messaging Platform will automatically disconnect any link which is inactive for more than 5mins.



### 3. Submitting Messages

#### Submission Types:

Messages may be submitted with either *submit\_sm* or *data\_sm*, using either the *short\_message* or *message\_payload* fields. The message length may not exceed the byte limit for the network that the message is being sent to (for example 140 bytes on GSM networks).

The Route Mobile Limited® Messaging Platform does not support *submit\_multi*. If the same message has to be sent to multiple destinations, each message must be sent separately.

The *sar* optional parameters are also not supported.

Concatenated messages are supported by using the User Data Header (UDH), which is included in the message size byte limit.

#### Submit Responses:

A positive response to a submit will contain an error code of zero and a non null message reference.

A negative response will contain a Route Mobile Limited® vendor specific error code. The complete set of SMPP Error Codes and their associated values are defined in the following table.

Error Code	Value	Description
ESME_ROK	0x00000000	No Error.
ESME_RINVMGLEN	0x00000001	Message Length is invalid.
ESME_RINVCMDLEN	0x00000002	Command Length is invalid.
ESME_RINVCMDID	0x00000003	Invalid Command ID.
ESME_RINVBNDSTS	0x00000004	Incorrect BIND Status for given command.
ESME_RALYBND	0x00000005	ESME Already in Bound State.
ESME_RINVPRTFLG	0x00000006	Invalid Priority Flag.
ESME_RINVREGDLVFLG	0x00000007	Invalid Registered Delivery Flag.
ESME_RSYSERR	0x00000008	System Error.
ESME_RINVSRCADR	0x0000000A	Invalid Source Address.
ESME_RINVDSTADR	0x0000000B	Invalid Dest Addr.
ESME_RINVMGID	0x0000000C	Message ID is invalid.
ESME_RBINDFAIL	0x0000000D	Bind Failed.
ESME_RINVPASWD	0x0000000E	Invalid Password.
ESME_RINVSYSID	0x0000000F	Invalid System ID.
ESME_RINVSERTYP	0x00000015	Invalid Service Type.

ESME_RINVESMCLASS	0x00000043	Invalid <i>esm_class</i> field data.
ESME_RSUBMITFAIL	0x00000045	<b>submit_sm</b> failed
ESME_RINVSRCNPI	0x00000048	Invalid Source address TON
ESME_RINVSRCNPI	0x00000049	Invalid Source address NPI
ESME_RINVDSTTON	0x00000050	Invalid Destination address TON
ESME_RINVDSTNPI	0x00000051	Invalid Destination address NPI
ESME_RINVSYSTYP	0x00000053	Invalid <i>system_type</i> field
ESME_RTHROTTLED	0x00000058	Throttling error (ESME has exceeded allowed message limits)
ESME_RINVEXPYRY	0x00000062	Invalid message validity period (Expiry time)
ESME_RINVOPTPARSTREAM	0x000000C0	Error in the optional part of the PDU Body.
ESME_ROPTPARNOTALLWD	0x000000C1	Optional Parameter not allowed
ESME_RINVPARLEN	0x000000C2	Invalid Parameter Length
ESME_RMISSINGOPTPARAM	0x000000C3	Expected Optional Parameter missing.
ESME_RINVOPTPARAMVAL	0x000000C4	Invalid Optional Parameter Value
ESME_RDELIVERYFAILURE	0x000000FE	Delivery Failure (used for <b>data_sm_resp</b> )
ESME_CREDIT_ERROR	0x00000401	Credits are over.
ESME_SPAM_MESSAGE	0x00000404	Spam content.
ESME_RINVSMLLEN	0x00000405	Message length is exceeding in <i>short_sm</i> (e.g. for message type text max message length is 160 char).
ESME_RINVUDHLEN	0x00000406	Invalid UDH length indicator (Currently we allow 05, 06 with all type of data coding and 0b with data coding 245).
ESME_RINSMSEEMPTY	0x00000407	Message body not found in either <i>short_sm</i> or <i>message_payload</i> .
ESME_RINDSTDND	0x00000408	Destination in DND.
ESME_RINSRCMSG	0x00000409	Invalid source/template.
ESME_RINSRCMSG	0x00000410	Source/Template long message error code
ESME_RINSRCMSG	0x00000411	Duplicate Submission
ESME_RINSRCMSG	0x00000412	Destination Barred/Source Barred

### Character Sets, Class and Data Coding:

The Route Mobile Limited® Messaging Platform supports the following two types of data coding schemes:

- GSM 03.38 Encoding (default)
- Latin 1 (ISO-8859-1) encoding

The default character set is GSM 338. Although for `data_coding=1` the character set GSM 03.38 is supported it is **NOT RECOMMENDED**, as it is known to cause problems with character encoding. Please set `data_coding = 3` for ISO-8859-1 (if and only if told so explicitly) encoded messages and `data_coding=0` for GSM 03.38 encoded messages.

For Unicode messages you have to set `data_coding = 8` and the message is expected in UTF-16 Big Endian format.

### Originators and Destination:

The default originator type is full International MSISDN. Alpha numeric or network short code originators can be sent by using the following ton values in `source_addr_ton` field.

Alpha-numeric	5
National / Network Short Code	3
International MSISDN	1

Destination Address types are not supported. They can be set to any value but are always interpreted as 1. This requires all the destination numbers to be sent in an international format without the leading 00.

### Long Messages:

Long Messages as the name suggests are messages whose length exceeds the normal length imposed on short messages (160 for text and 70 for Unicode).

The user can send long messages via the Route Mobile Limited® Messaging Platform using the following two methods:

#### Concatenated Messages

In this method the long message is sent in parts as multiple short messages which are then joined together on the mobile (If the mobile supports long messages, else each message part will be displayed as a separate message).

In this method the client sends the UDH (User Data Header) as part of the `short_message` field. The UDH contains all the details required for the mobile join the parts and make the complete message at its end. In this method the client has to set the `esm_class` field in the `submit_sm` pdu to 0x43 (Store and Forward with UDHI)

### Message Payload

Here the Route Mobile Limited® Messaging Platform can accept a message with length up to 64K octets. In this method the client uses the optional *message\_payload* of the *submit\_sm* pdu. To use this method the client should set the *interface\_version* to 0x34; else this field will not be available for sending messages.

### Delivery Reports:

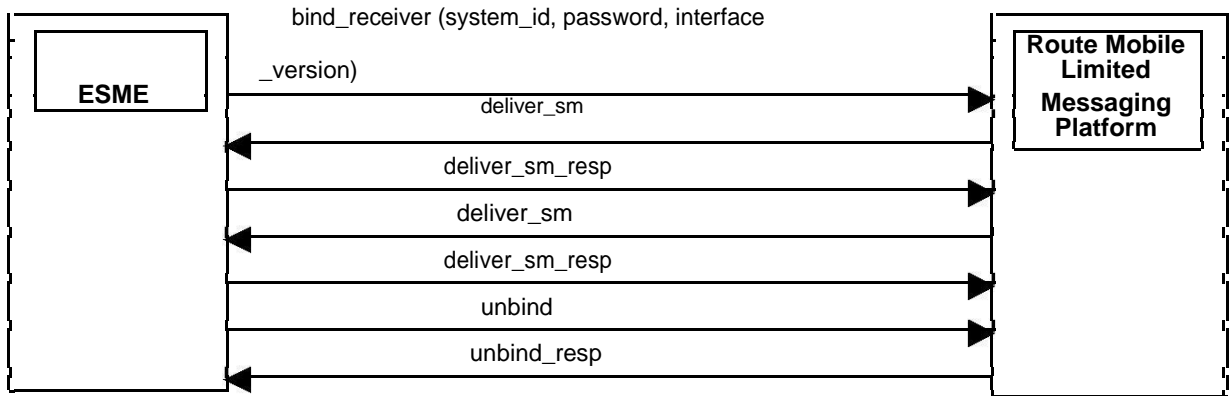
The Route Mobile Limited® Messaging Platform will return a delivery report (Intermediate and/or final depending on the route) for a specific message to the client application when the *registered\_delivery* field, while submitting the message, is set to 1. In order to retrieve the delivery report from our server the client will have to connect to the Route Mobile Limited® Messaging Platform in the receiver or transceiver mode.

Status	Description
DELIVRD	Message delivered to handset
FAILED	Message could not be delivered
EXPIRED	Message validity period expired, before any successful tries of submission
UNDELIV	Message is Undeliverable
REJECTD	Message REJECTD.

Adding status and error code which can be returned by Messaging Platform.

Status Error	Status	Description
000	DELIVRD	Delivered to SIM.
001	UNDELIV	Unidentified subscriber.
005	EXPIRED	Unidentified subscriber.
009	UNDELIV	Illegal subscriber
011	UNDELIV	Tele service not provisioned
012	UNDELIV	Illegal Equipment
013	UNDELIV	Call Barred
021	UNDELIV	Facility not supported
027	EXPIRED	Absent subscriber
031	EXPIRED	Subscriber busy for MT_SMS
032	EXPIRED	SM-Delivery Failure
034	EXPIRED	System failure

035	UNDELIV	Data missing
036	UNDELIV	Unexpected Data value
144	UNDELIV	Unrecognized component
145	UNDELIV	Mistyped Component
146	UNDELIV	Body structured component
160	EXPIRED	Duplicate invoke ID
161	UNDELIV	Unrecognized Operation
162	UNDELIV	Mistyped Parameter
163	EXPIRED	Resource Limitation
164	EXPIRED	Initiating release
165	EXPIRED	Unrecognized linked ID
166	EXPIRED	Linked Response expected
167	EXPIRED	Unexpected linked operation
176	UNDELIV	Unrecognized invoke ID
177	EXPIRED	Return result expected
178	UNDELIV	Mistyped Parameter
192	EXPIRED	Unrecognized invoke ID
193	EXPIRED	Return Error unexpected
194	UNDELIV	Unrecognized error
195	UNDELIV	Unexpected Error
196	UNDELIV	Mistyped parameter
200	UNDELIV	Unable to decode response
201	EXPIRED	Provider Abort
202	UNDELIV	User Abort
203	EXPIRED	Timeout
204	UNDELIV	API error
205	UNDELIV	Unknown Error
404	REJECTD	Invalid message content
408	REJECTD	DND error code
409	REJECTD	Source/template error code
410	REJECTD	Source/Template long message error code
411	REJECTD	Duplicate Submission
412	REJECTD	Destination Barred/Source Barred



**Illustration of how to fetch delivery reports from Route Mobile Limited® Messaging Server**