

VIL DLT SMPP API Specifications

Table of Contents:

1. Introduction	3
2. Assumptions	3
3. Connection Configuration	3
4. Hosts	3
5. Encoding Formats	4
6. Bind Operations	4
7. Session States	4
8. Bind Parameters	5
9. Bind lifetime	5
10. Submit_sm Parameters	5
11. SMPP TLV parameters:	7
12. SMPP Commands	8
13. Command State	9
14. Submitting Messages	10
14.1 Submitting Message	10
14.2 Submit Responses	10
14.3 Message ID	11
15. Delivery Receipts	11
16. Message Status	11
17. Terminology	12
18. Transactional Error Codes(NACK Errors in Decimal format)	13
19. DLT Error codes	14
20. Reference Documents	15

1. Introduction

The SMPP Gateway implementation (SMPPG) has been written to the SMPP Developers Forum SMPP v3.4 Protocol Specification Issue 1.2, although it has been designed to be backward compatible with SMPP v3.3.

The SMPPG makes extensive use of vendor specific optional parameters and error codes to implement the product set. These are only available to applications using v3.4. These may be required to implement Premium SMS services, please see product documentation for details.

This document should be read in conjunction with the SMPP v3.4 Specification v1.2 and assumes a level of familiarity with SMPP functionality and product definitions.

2. Assumptions

It is assumed that readers of this document have a basic understanding of SMPP Protocol specifications v3.4

3. Connection Configuration

SMPP Version	3.4
Bind Type	Transmitter, Receiver or Transceiver
Service Type, auth TON and auth NPI	All values are ignored and can be blank
Maximum allowed sessions	Account specific configuration

4. Hosts

You can connect to any of the following hosts with your given username and password

Host/Domain	Location
dlt1.tanla.net	Hyderabad
dlt2.tanla.net	Mumbai

5. Encoding Formats

Please ensure that you choose the correct data coding scheme as per the below

Message Type	DCS	UDH
Normal Text Message – GSM	0	0
Long SMS – GSM	0	1
Normal Text Message - Latin 1 (ISO-8859-1)	3	0
Long SMS - Latin 1 (ISO-8859-1)	3	1
Unicode Messages	8	0
Flash Messages	240	0

6. Bind Operations

There are three ways to open a connection using SMPP. You can connect as:

Transmitter: Send short messages to SMSC and receive responses from SMSC.

Receiver: receive delivery receipts from the SMSC and return the corresponding responses.

Transceiver: send and receive messages to and from the SMSC over a single SMPP session.

7. Session States

Your connection to our server across an SMPP link can be in one of five states:

OPEN: connected and bind pending

BOUND_TX: connected and requested to bind as a Transmitter

BOUND_RX: connected and requested to bind as a Receiver

BOUND_TRX: connected and requested to bind as a Transceiver
CLOSED: unbound and disconnected

8. Bind Parameters

The syntax for initiating a bind_transmitter, bind_receiver or bind_transceiver instance uses the following parameters:

system_id: identifies the user requesting to bind (username) **password:** password to allow access

system_type: identifies the system type (ignored, set to blank)
interface_version: indicates SMPP version supported by user
addr_ton: identifies user type of number (ignored, set to blank)

addr_npi: numbering plan indicator for user (ignored, set to blank)
address_range: The user address (ignored, set to blank)

9. Bind lifetime

We recommend enquire link for every minute (less than 60 seconds) to keep the bind alive at the server end, failing to do this may cause the bind get disconnected.

10. Submit_SM Parameters

The parameters required for the SUBMIT_SM request (used to send an SMS) are:

service_type: indicates SMS application service

source_addr_ton: type of number for source address

source_addr_npi: numbering plan indicator for source address
source_addr: source address

dest_addr_ton: type of number for destination

dest_addr_npi: numbering plan indicator for destination

destination_addr: destination address of the short message
esm_class: message mode and type

protocol_id: protocol identifier (network specific)

priority_flag: sets the priority of the message (this is ignored)

schedule_delivery_time: set to NULL for immediate delivery (this is ignored)
validity_period: validity period of message

registered_delivery: indicator to signify if an SMSC delivery receipt or acknowledgment is required

replace_if_present_flag: flag indicating if submitted message should replace an existing message (this is ignored)

data_coding: defines the encoding scheme of the SMS message

sm_default_msg_id: indicates short message to send from a predefined list of messages stored on SMSC (this is ignored)

sm_length: length in octets of the short_message user data

short_message: up to 254 octets of short message user data.

user_message_reference: user assigned reference number (this is ignored)

11. SMPP TLV parameters:

For sending messages in Submit_SM using SMPP API, there will be Two mandatory parameters introduced in SMPP PDU.

These new tags are introduced in the optional parameter list. However, the TLV values will be checked by VIL DLT scrubber.

Optional Parameter	Tag value in Hex	Tag Value in Decimal
PE_ID	1400	5120
Template_ID	1401	5121

12. SMPP Commands

The SMS Gateway supports the following SMPP commands:

1. Supported client-to-server commands

BIND_TRANSMITTER	SUMIT_SM
BIND_RECEIVER	ENQUERY_LINK
BIND_TRANSCEIVER	DELIVERY_SM_RESP
UNBIND	

2. Unsupported client-to-server commands

SUBMIT_MULTI	REPLACE_SM
DATA_SM	ALERT_NOTIFICATION
QUERY_SM	

3. Supported server-to-client commands

BIND_TRANSMITTER_RESP	SUBMIT_SM_RESP
BIND_RECEIVER_RESP	UNBIND_RESP
BIND_TRANSCEIVER_RESP	ENQUIRE_LINK_RESP
GENERIC_NACK	DELIVER_SM

13. Command State

SMPP supports the following commands through the following SMPP session states:

Command	Required state
bind_transmitter	OPEN
bind_transmitter_resp	OPEN
bind_receiver	OPEN
bind_receiver_resp	OPEN
bind_transceiver	OPEN
bind_transceiver_resp	OPEN
Unbind	BOUND_TX, BOUND_RX, BOUND_TRX
unbind_resp	BOUND_TX, BOUND_RX, BOUND_TRX
submit_sm	BOUND_TX, BOUND_TRX
submit_sm_resp	BOUND_TX, BOUND_TRX
deliver_sm	BOUND_RX, BOUND_TRX
deliver_sm_resp	BOUND_RX, BOUND_TRX
enquire_link	BOUND_TX, BOUND_RX, BOUND_TRX
enquire_link_resp	BOUND_TX, BOUND_RX, BOUND_TRX
generic_nack	BOUND_TX, BOUND_RX, BOUND_TRX

14. Submitting Messages

14.1 Submitting Message

Originators, Referred to as `source_addr`. For billed message the originator must be the short code if it is not set to the short code platform will not accept the message.

Destination - (referred to as `dest_addr`). Destination address types are not supported. You may set these to anything, but they will always be interpreted as 1,1. Destination addresses (MSISDN) should always be submitted in international format without leading 00 or + e.g. (917751123456). MSISDN length Must be 12 digits in submission packet

Data & Unicode (UTF16) message body types - set `data_coding` appropriately as per the relevant vendor specification for the type of Data or Unicode message you're sending, and the type of handset you're sending it to.

Character Encoding - By default messages must be submitted using the GSM encoding character set.

Message Expiry (`validity_period`) –Is supported by platform unless there is restriction from the supplier. This feature is set at account level and maximum validity is restricted to 6 hours

14.2 Submit Responses

A positive response to a submit will contain an error code of zero and a non-null message reference. The message reference will be given in decimal. A negative response will most likely contain vendor specific error code or SMPP v3.4 error codes and a null message reference.

14.3 Message ID

At present the message reference provided is 19 digits, it may change in future (Maximum 40).

15. Delivery Receipts

SMPP delivery receipts take the following format:

```
id:IIIIIIIIsub:SSSdlvrd:DDD submit date:YYMMDDhhmmss done date:YYMMDDhhmmss
stat:DDDDDDerr:E Text .....
```

Where:

id: the message ID allocated to the message by the server

sub: the number of short messages originally submitted (this is ignored)
dlvrd: the number of short messages delivered (this is ignored)

submit date: the date and time at which the short message was submitted

done date: the date and time at which the short message reached its

final state

stat: the final status of the message. Please see section Message Status for more information.

err: where appropriate this may hold a network specific error code or an SMSC error code

text: the first 20 characters of the short message (this is ignored)

Note: To enable enable/disable seconds parameter in "submit date" & "done date" please contact support team

16. Message Status

The delivery report status indicates whether the SMS message was delivered successfully by the SMSC. If the SMS was not successfully delivered, then the delivery report will give a reason in the form of an [error code].

SMPP message states and their meanings are listed here for your convenience:

CODE	DESCRIPTION
DELIVRD	Message delivered to destination
FAILED	Message is undelivered
EXPIRED	Message validity period has expired
REJECTD	Message is in rejected state

17. Terminology

SMPP: Short Message Peer to Peer Protocol
ACK: Acknowledgement

DLR: Delivery Report

DND: Do Not Disturb

ESME: External Short Message Entity

MSISDN: Mobile Subscriber Integrated Services Digital Network: the mobile number in international format.

MSC: Mobile Switching Centre: the destination network equipment that receives an SMS (via forward-SM operation) in a destination mobile network.

HLR: Home Location Register: the destination network equipment that returns status and routing information about an MSISDN to the SMSC (via SRI-SM operation).

SMSC: Short Message Service Centre: the equipment belonging to CLX or one of its carriers that transmits SMS to the destination network via SS7.

SS7: Signalling System 7: the transport protocol that interconnects global GSM networks.

MNP: Mobile Number Portability: the process of a subscriber moving from one mobile network to another but retaining the same MSISDN.

IMSI: International Mobile Subscriber Identity: a unique identification number which identifies the destination country, actual network, and network subscriber ID.

Subscriber: The mobile user who has a SIM card.

18. Transactional Error Codes (NACK Errors in Decimal format)

To help you identify what might be causing a problem with your SMPP transaction, here is a list of error codes with a small description:

Error Code	Description
0	No error
3	Invalid command ID
4	Invalid bind status for given command
5	ESME already in bound state
10	Invalid source address
12	Message ID is invalid
13	Bind failed
14	Invalid password
15	Invalid system ID
20	Message queue full
21	Invalid system type
97	Invalid scheduled delivery time
98	Invalid message delivery period

19. DLT Error codes

We are providing high quality and reliable reporting. Should your message be not success in scrubbing, an error code will be returned in the deliver_sm with a reason why.

Error Code	Status	Description
600	ENTITY_NOT_FOUND	No record found with EID as primary key
601	ENTITY_NOT_REGISTERED	No entry of entity on the platform.
602	ENTITY_INACTIVE	Entity is inactive on the platform, ex: {VI:I}
603	ENTITY_BLACKLISTED	Entity is blacklisted on all platforms
604 – 609	ENTITY_RESERVED	Reserved for Entity
610	TELEMARKETER_NOT_REGISTERED	No entry of TMID on the platform.
611	TELEMARKETER_INACTIVE	Telemarketer is inactive on the platform, ex: {VI:I}
612	TELEMARKETER_BLACKLISTED	Telemarketer is blacklisted on all platforms
613-619	TELEMARKETER_RESERVED	Reserved for Telemarketer
620	HEADER_NOT_FOUND	No record found with header (case sensitive) as primary key
621	HEADER_INACTIVE	Header is inactive on the platform, ex: {VI:I}
622	HEADER_BLACKLISTED	Header is blacklisted on all platforms
623-629	HEADER_RESERVED	Reserved for Header
630	TEMPLATE_NOT_FOUND	No record found with Template Id as primary key/no template found

631	TEMPLATE_INACTIVE	Template is inactive on the platform, ex: {VI:I}
632	TEMPLATE_BLACKLISTED	Template is blacklisted on all platforms
633	TEMPLATE_NOT_MATCHED	Template not matched for given Template ID
634	HEADER_NOT_REGISTERED_FOR_TEMPLATE	Header is not registered for the template
635	TEMPLATE_VARIABLE_EXCEEDED_MAX_LENGTH	Variable length exceeded the max configured length
636	ERROR_IDENTIFYING_TEMPLATE	Error in identifying the template
637-649	TEMPLATE_RESERVED	Reserved for Template
650	PREFERENCE_NOT_MATCHED	Blocked in preferences with MSISDN as PK.
651-659	PREFERENCE_RESERVED	Reserved for Preference
660	CONSENT_FAILED	General error code for Consent
661-669	CONSENT_RESERVED	Reserved for Consent
670	SCRUBBING_FAILED	General error code in case of any exceptions.
671-699	SCRUBBING_RESERVED	Reserved for scrubbing

20. Reference Documents

SMPP Protocol Specification v3.4, 12-Oct-1999 Issue
1.2 GSM 03.38 Version 5.3.0: July 1996