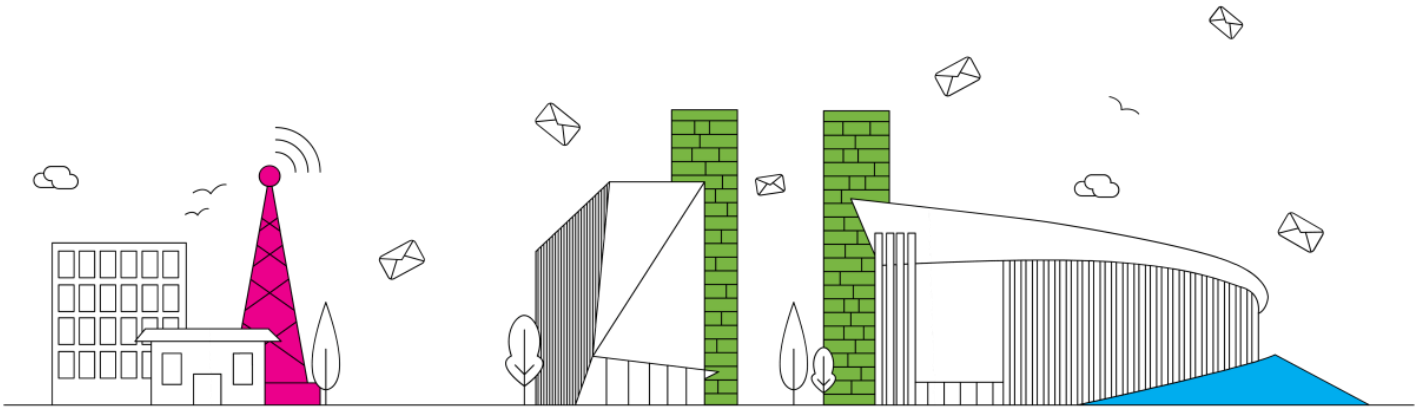
mpulse.

TELECOM MESSAGING & BILLING

SMPP Protocol Specifications



Version 1.0.6

27-01-2023

1. Revisions

Rev#	Date	Remark
1.0	23-11-2007	Initial version
1.0.1	20-02-2008	More details added
1.0.2	01-08-2008	Added support for optional network operator field in DELIVER_SM
1.0.3	07-08-2009	Added more explicit descriptions of possible error codes
1.0.4	17-12-2009	Added optional SMPP parameters used in certain scenarios
1.0.5	22-02-2011	Support for different encodings
1.0.6	28-01-2023	New template applied to the document

2. Conventions

This document describes the subset of the SMPP 3.4 protocol used for message exchanges between the Mpulse Gateway and customers' applications. This document will not describe the message format details of the SMPP 3.4 protocol – please refer to the official specification instead: http://www.smsforum.net/SMPP_v3_4_Issue1_2.zip. New features introduced in the 5.0 specifications are not supported.

3. Supported subset of the SMPP 3.4 protocol

The Mpulse Gateway is compatible with the SMPP protocol but does not support all the commands officially required by a compliant implementation. This paragraph will define the limitations of the Mpulse Gateway implementation of the SMPP protocol.

3.1. Throughput

Default throughput per account is 5 SMS per second. This limitation can be removed or modified upon request. If the allowed throughput is exceeded, the 0x58 error code is returned in the response.

3.2. BIND (article 4.1)

Only one simultaneous connection per account is allowed. All available bind modes (RECEIVED, TRANSMITTER, and TRANSCEIVER) are supported. However, a client must use TRANSCEIVER for bi-directional messaging (sending and receiving messages).

3.3. SUBMIT_SM data-coding (article 4.4, ref. 5.2.19)

Mpulse supports the following *data-coding* values (only):

- 0 and 3 for SMS (the data encoding is defined in the connections configuration)
- 4 for WAP Push

Binary and concatenated messages are currently not supported.
The same rules apply for DELIVER_SM messages (article 4.6).

3.4. List of supported operations

The Mpulse Gateway supports de following SMPP operations:

- BIND: Used to open a new connection and authenticate with the Mpulse Gateway.
- SUBMIT_SM: Submit SMS messages with a single destination address.
- DELIVER_SM: Used to deliver a mobile originated message to the client application.
- ENQUIRE_LINK: Message sent by the client to make sure the connection does not time-out when no message has been sent for an extended period of time.
- UNBIND: Log out and close the connection.

All other operations are currently not supported. A GENERIC_NACK message will be sent in response to any other command received by the Mpulse Gateway.

3.5. Status codes in delivery notifications

Delivery notifications contain information about the final status of the messages sent through the platform. Several different scenarios can occur and making the difference between them might be important for billing of premium MT messages.

The following table summarizes the meanings and actions to take.

Final status	SMPP Status (stat)	Error code (err)	Description
DELIVERED	DELIVRD	000	The message has been delivered to the final destination and all billing operations were successful.
EXPIRED	EXPIRED	000	The message was stored in the operator's SMSC until the expiration date of the message was passed. Premium MT messages have not been billed and message resending can be attempted, except for the Tango operator. Tango bills the end-users before the message is sent, and has to reimburse them after the message has expired. In order to avoid multiple billings for the same transaction, you MUST NOT resend expired messages on Tango.
DELETED	DELETED	000	The message has been deleted manually from the SMSC. This is not supposed to happen, unless the operator detects a large amount of spam messages stored in their SMSC.
UNDELIVERED	UNDELIV	000	The message could not be delivered because it does not exist anymore, or because the operator could not find an appropriate route to this user.
REJECTED	REJECTD	001	The message has been rejected because of syntactic or semantic problems with the message parameters. This could be because the originator or destination number formats are invalid or validation of binary data has failed.
BILLING_ERROR	REJECTD	002	The premium MT message could not be billed to the end-customer. This can happen when the users have no more credit on their pre-paid cards, or if they have been blocked by the operator for rating reasons.

BLACKLISTED	REJECTD	003	The end-user has explicitly requested to be blacklisted and not receive any more messages from you. The MSISDN should be removed from all distribution lists.
UNKNOWN	UNKNOWN	000	An unknown error has occurred.

3.6. Submit response codes

The following table describes the action to take as a result of the most common error codes in the Submit Response message.

Response code	Description	Action
0x00	OK	Success
0x08	General error	Failed permanently
0x0A	Source address (shortcode) not allowed	Failed permanently
0x58	Maximum message throughput exceeded	Failed temporarily / retry later

4. Optional SMPP parameters

Certain workflow scenarios in certain countries require additional parameters in the SMPP PDUs that are not included in the original protocol specification.

4.1. Operator – 0x1403

The **0x1403** TLV field in the SMPP DELIVER_SM and SUBMIT_SM messages contains the mobile country code (MCC) and the mobile network code (MNC) of the operator in the following format:

MCC/MNC

This feature can be activated upon request but is used by default on accounts that use workflows that require this parameter (such as Premium messaging in France). Please refer to http://en.wikipedia.org/wiki/Mobile_Network_Code for a list of possible values.

4.2. Session ID – 0x1500

The **0x1500** TLV field is used in certain scenarios to assign an MT message to an MO message. Hence, it can be present in both DELIVER_SM and SUBMIT_SM messages. Please refer to the particular workflow documents for more detailed information.

4.3. Session operation – 0x1501

The **0x1501** TLV field is used in certain scenarios to perform specific operations on end-user subscriptions that are managed by the mobile operators. It can be present in both DELIVER_SM and SUBMIT_SM messages. Please refer to the particular workflow documents for more detailed information.

4.4. TAC – 0x1502

The **0x1502** TLV field is used in certain scenarios to provide the TAC code (part of the IMEI) of the end-user terminal that sent the message. It can only be present in a DELIVER_SM message. Please refer to the particular workflow documents for more detailed information.

4.5. Age verification – 0x1503

The **0x1502** TLV field is used in certain scenarios to provide the age group of the end-user that sent the message. This is important for rating content delivery. It can only be present in a DELIVER_SM message. Please refer to the particular workflow documents for more detailed information.