SMSC SMPP User Guide

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2 Change history

Rev	Date	By	Changes from previous release
1.0	2010-03-16	KCN	Created
1.1	2019-06-11	TPE	Updated LINK logos
1.2	2019-09-27	PNI	Added reference to SMPP 3.4 specification
1.3	2019-10-31	EP	Observation about the *validity_period* tag
1.4	2020-08-28	KCN	Added information regarding supported TLS versions
1.5	2022-01-10	KCN	Added additional information regarding delivery reports Updated information regarding TLS 1.3

3 Introduction

LINK Mobility has been a SMS distributor since 2001 and has much experience in working with both operators and connection aggregators. This platform is designed to handle large traffic volumes, maintain a high availability and make it easy to route traffic via multiple connections.

This is document describes the SMPP interface to the SMSC-platform and which parameters and commands that are required and which parameters are supported.

This document will not handle specific use cases as concatenated messages, WAP-push, Flash SMS, etc. More information about those cases can be provided by contacting support.

4 Supported commands

LINK Mobility's server should be treated as SMPP 3.4. The official specification can be found at https://smpp.org/SMPP_v3_4_Issue1_2.pdf.
All methods are not supported, and all differences are specified below.

4.1 Bind

The following bind commands are supported.

- Transmitter
- Transciever
- Receiver

Required parameters:

- system_id – obtained from support
- password – obtained from support

Optional parameters:
- addr_ton – default value if TON is set to Unknown during submit.
- addr_npi – default value if NPI is set to Unknown during submit.

Unsupported parameters:

- address_range

4.2 Unbind

The unbind command is supported.

4.3 Enquire link

The enquire link command is supported and should be called every 60 seconds.

4.4 Submit

The submit method should be used for delivering messages.

Required parameters:

- source_addr_ton
- source_addr_npi
- source_addr
- dest_addr_ton
- dest_addr_npi
- dest_addr
- esm_class
- data_coding
- sm_length
- short_message

Unsupported parameters:

- service_type
- protocol_id
- priority_flag
- schedule_delivery_time
- replace_if_present_flag
- sm_default_msg_id

Note that the payload tag is not supported and only one SMS may be delivered per call and it is recommended that the *validity_period* tag has a value of 15 minutes long at least.

4.4.1 Recommended TON and NPI

The following TON and NPI should be used when sending messages using submit command.

4.4.1.1 Source

The following TON and NPI combinations are supported for source address. All other combinations will be treated as invalid. The default TON from bind command will be used if TON is set to Unknown (0). The default NPI from bind command will be used if NPI is set to Unknown (0).

TON	NPI	Description
Alphanumeric (5)	Unknown (0) ISDN (1)	Will be treated as Alphanumeric sender text
International (1)	Unknown (0) ISDN (1)	Will be treated as MSISDN
National (2) Network specific (3) Subscriber number (4) Abbreviated (6)	Unknown (0) ISDN (1) National (8)	Will be treated as country specific short number.

4.4.1.2 Destination

The following TON and NPI combinations are supported for destination address. All other combinations will be treated as invalid. The default TON from bind command will be used if TON is set to Unknown (0). The default NPI from bind command will be used if NPI is set to Unknown (0).

TON	NPI	Description
International (1)	Unknown (0) ISDN (1)	Will be treated as MSISDN

4.4.2 Supported encodings

The following encodings are supported. X may contain any value.

DCS	Encoding
0xX0	Default GSM Alphabet with extension
0xX2	8-bit binary

0xX8	UCS2 (ISO-10646-UCS-2)

5 Delivery report

Only none or final delivery with successful/failure result are supported.

Format on delivery report:

```
id: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx done date: yyMMddHHmm stat: <status>
```

Available values in status:

- DELIVRD
- EXPIRED
- REJECTD
- UNDELIV
- DELETED

5.1 Extended delivery report format

Extended information in delivery reports may be requested in contact with your sales representative.

Format on delivery report:

```
id: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx sub:000 dlvrd:000 submit date:
yyMMddHHmm done date: yyMMddHHmm stat: <status> err: <error code> text:
```

Available values in status:

- DELIVRD
- EXPIRED
- REJECTD
- UNDELIV
- DELETED

"sub" and "dlvrd" fields will always be set to 000, and "text" field will always be empty.

See chapter Error codes for values for the "err" field.

6 Supported TLS versions

TLS 1.2 or TLS 1.3 is required for all TLS connections over SMPP.

Support for TLS 1.0 and 1.1 is discontinued since 2020-11-15. Versions 1.0 and 1.1 of TLS are older protocols that have been deprecated and are considered as security risks in the Internet community.

LINK strongly recommend to use TLS if unencrypted SMPP connections are being used today. Unencrypted SMPP connections are deprecated as of 2020-09-01 by LINK, and will be removed in the future. Date for unencrypted connections removal is not yet decided.

Connections towards the SMPP server for TLS is at port 3601 instead of unencrypted at port 3600.

You may still use TLS even if your SMPP implementation doesn't support TLS using stunnel, see https://www.stunnel.org/

7 Error codes

The following error codes may be replied in the err field if the field is enabled.

Error code	Description
0	Unknown error
1	Temporary routing error
2	Permanent routing error
3	Maximum throttling exceeded
4	Timeout
5	Operator unknown error
6	Operator error
100	Service not found
101	User not found
102	Account not found
103	Invalid password
104	Configuration error
105	Internal error
200	OK
1000	Sent
1001	Delivered
1002	Expired
1003	Deleted
1004	Mobile full
1005	Queued
1006	Not delivered
1007	Delivered, charge delayed
1008	Charged, message not sent
1009	Charged, message not delivered
1010	Expired, absence of operator delivery report
1011	Charged, message sent (to operator)
1012	Remotely queued
1013	Message sent to operator, charging delayed
2000	Invalid source number
2001	Short number is not supported as source
2002	Alpha is not supported as source
2003	MSISDN is not supported as source number
2100	Short number is not supported as destination
2101	Alpha is not supported as destination
2102	MSISDN is not supported as destination
2103	Operation blocked

2104	Unknown subscriber
2105	Destination blocked
2106	Number error
2107	Destination temporarily blocked
2108	Invalid destination
2200	Charging error
2201	Subscriber has low balance
2202	Subscriber barred for overcharged (premium) messages
2203	Subscriber too young (for this particular content)
2204	Prepaid subscriber not allowed
2205	Service rejected by subscriber
2206	Subscriber not registered in payment system
2207	Subscriber has reached max balance
2208	End user confirmation needed
2300	Refunded
2301	Could not refund due to illegal or missing MSISDN
2302	Could not refund due to missing messageId
2303	Queued for refund
2304	Refund timeout
2305	Refund failure
3000	GSM encoding is not supported
3001	UCS2 encoding is not supported
3002	Binary encoding is not supported
4000	Delivery report is not supported
4001	Invalid message content
4002	Invalid tariff
4003	Invalid user data
4004	Invalid user data header
4005	Invalid data coding
4006	Invalid VAT
4007	Unsupported content for destination