

SMSC SMPP User Guide

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Author: Kenny Colliander Nordin, KCN

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1 Index

1	Inde	2X	2
2	Char	nge history	2
3	Intro	oduction	2
		ported commands	
		Bind	
		Unbind	
		Enquire link	
		Submit	
		1 Recommended TON and NPI	
		Supported encodings	
5		very report	
		ported TLS versions	

2 Change history

Rev	Date	Ву	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 <i>validity_period</i> 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)	Will be treated as
	ISDN (1)	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).

NPI	Description
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)
LUXXX	1 11 57 (150-10040-11 5-7)

5 Delivery report

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

Format on delivery report:

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:

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.

Unknown error Temporary routing error Permanent routing error Maximum throttling exceeded Timeout Operator unknown error Operator elevered O	Error code	Description
Permanent routing error Maximum throttling exceeded Timeout Operator unknown error Operator error Operator error Operator found Ouser not found Invalid password Configuration error OK OK OK OK OK OK OK OK OK O	0	-
Maximum throttling exceeded Timeout Deprator unknown error Operator error Service not found User not found User not found Invalid password Configuration error OK Configuration error OK Configuration error OK Configuration error Delivered Dou Expired Dou Expired Dou Mobile full OOS ON Not delivered Charged, message not sent Charged, message not delivery report Charged, message sent (to operator) Charged, message sent (to operator) Expired, absence of operator delivery report Charged, message sent to operator, charging delayed Invalid source number Short number is not supported as source Alpha is not supported as destination Alpha is not supported as destination MSISDN is not supported as destination	1	Temporary routing error
Timeout Operator unknown error Operator elivered eporator elivery report Operator eport Operator enumber Operator enumber enumber enumber enumber Operator enumber enu	2	
Operator unknown error Operator ellevery report Operator enumber enumber Operator enumber Operator enumber e	3	Maximum throttling exceeded
Operator error Service not found User not found User not found Operator error Account not found Invalid password Configuration error Internal error Operator Operator error Operator	4	Timeout
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 sent (to operator) 1010 Expired, absence of operator delivery report 1011 Charged, message sent (to operator) 1012 Remotely queued 1013 Message sent to operator, charging delayed 1000 Invalid source number 2001 Short number is not supported as source 2002 Alpha is not supported as destination 2101 Alpha is not supported as destination 2102 MSISDN is not supported as destination	5	Operator unknown error
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 1010 Invalid source number 2000 Alpha is not supported as source 2001 Alpha is not supported as destination 2101 Alpha is not supported as destination 2101 Alpha is not supported as destination 2102 MSISDN is not supported as destination	6	Operator error
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 destination 2101 Alpha is not supported as destination 2102 MSISDN is not supported as destination	100	Service not found
Invalid password Configuration error Internal error OK 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) Remotely queued 1013 Message sent to operator, charging delayed 2000 Invalid source number 2001 Short number is not supported as source 2003 MSISDN is not supported as destination 2101 Alpha is not supported as destination Alpha is not supported as destination	101	User not found
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 1000 Invalid source number 2001 Short number is not supported as source 2002 Alpha is not supported as destination 2101 Alpha is not supported as destination 2102 MSISDN is not supported as destination	102	Account not found
Internal error OK OK 1000 Sent Delivered 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 1000 Invalid source number 2001 Short number is not supported as source 2002 Alpha is not supported as destination 2101 Alpha is not supported as destination MSISDN is not supported as destination	103	Invalid password
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 1000 Invalid source number 2001 Short number is not supported as source 2002 Alpha 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	104	Configuration error
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 1000 Invalid source number 2001 Short number is not supported as source 2002 Alpha 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	105	Internal error
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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 1010 Invalid source number 2000 Invalid source number 2001 Short number is not supported as source 2002 Alpha is not supported as source number 2100 Short number is not supported as destination 2101 Alpha is not supported as destination Alpha is not supported as destination MSISDN is not supported as destination	1000	Sent
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Mobile full Queued 1006	1002	Expired
1005Queued1006Not delivered1007Delivered, charge delayed1008Charged, message not sent1009Charged, message not delivered1010Expired, absence of operator delivery report1011Charged, message sent (to operator)1012Remotely queued1013Message sent to operator, charging delayed2000Invalid source number2001Short number is not supported as source2002Alpha is not supported as source number2003MSISDN is not supported as destination2100Alpha is not supported as destination2101Alpha is not supported as destination2102MSISDN is not supported as destination	1003	Deleted
1006Not delivered1007Delivered, charge delayed1008Charged, message not sent1009Charged, message not delivered1010Expired, absence of operator delivery report1011Charged, message sent (to operator)1012Remotely queued1013Message sent to operator, charging delayed2000Invalid source number2001Short number is not supported as source2002Alpha is not supported as source number2003MSISDN is not supported as destination2100Short number is not supported as destination2101Alpha is not supported as destination2102MSISDN is not supported as destination	1004	Mobile full
Delivered, charge delayed Charged, message not sent Charged, message not delivered Expired, absence of operator delivery report Charged, message sent (to operator) Charged, message sent (to operator) Remotely queued Message sent to operator, charging delayed Invalid source number Short number is not supported as source Alpha is not supported as source number Message sent to operator, charging delayed Invalid source number Short number is not supported as source Alpha is not supported as source Message sent to operator, charging delayed Invalid source number Short number is not supported as source Alpha is not supported as destination Alpha is not supported as destination Message sent to operator Alpha is not supported as destination	1005	Queued
Charged, message not sent Charged, message not delivered Expired, absence of operator delivery report Charged, message sent (to operator) Remotely queued Message sent to operator, charging delayed Invalid source number Short number is not supported as source Alpha is not supported as source number Short number is not supported as source Alpha is not supported as destination Alpha is not supported as destination MSISDN is not supported as destination Alpha is not supported as destination MSISDN is not supported as destination	1006	Not delivered
Charged, message not delivered Expired, absence of operator delivery report Charged, message sent (to operator) Remotely queued Message sent to operator, charging delayed Invalid source number Short number is not supported as source Alpha is not supported as source number MSISDN is not supported as destination Alpha is not supported as destination MSISDN is not supported as destination MSISDN is not supported as destination	1007	Delivered, charge delayed
Expired, absence of operator delivery report Charged, message sent (to operator) Remotely queued Message sent to operator, charging delayed Invalid source number Short number is not supported as source Alpha is not supported as source number MSISDN is not supported as destination Alpha is not supported as destination MSISDN is not supported as destination MSISDN is not supported as destination	1008	Charged, message not sent
Charged, message sent (to operator) Remotely queued Message sent to operator, charging delayed Invalid source number Short number is not supported as source Alpha is not supported as source MSISDN is not supported as destination Alpha is not supported as destination MSISDN is not supported as destination MSISDN is not supported as destination	1009	Charged, message not delivered
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	1010	Expired, absence of operator delivery report
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	1011	Charged, message sent (to operator)
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	1012	Remotely queued
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	1013	Message sent to operator, charging delayed
Alpha is not supported as source MSISDN is not supported as source number Short number is not supported as destination Alpha is not supported as destination MSISDN is not supported as destination MSISDN is not supported as destination	2000	Invalid source number
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	2001	Short number is not supported as source
2100 Short number is not supported as destination 2101 Alpha is not supported as destination 2102 MSISDN is not supported as destination	2002	Alpha is not supported as source
Alpha is not supported as destination MSISDN is not supported as destination	2003	MSISDN is not supported as source number
2102 MSISDN is not supported as destination	2100	Short number is not supported as destination
	2101	Alpha is not supported as destination
2103 Operation blocked	2102	MSISDN is not supported as destination
	2103	Operation blocked



	1
2104	Unknown subscriber
2105	Destination blocked
2106	Number error
2107	Destination temporarily blocked
2200	Charging error
2201	Subscriber has low balance
	Subscriber barred for overcharged (premium)
2202	messages
	Subscriber too young (for this particular
2203	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
	Could not refund due to illegal or missing
2301	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