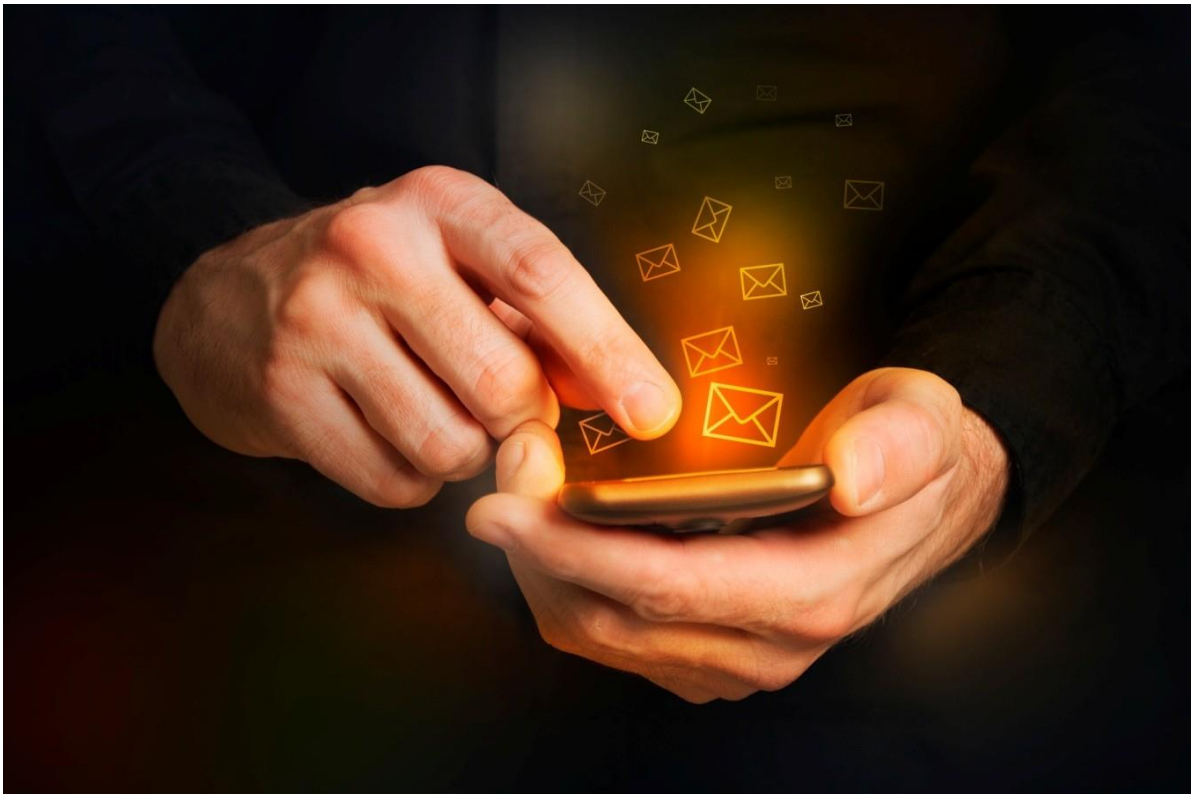
netsize
powered by LINK Mobility

Netsize Implementation Guide

SMPP



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Legal Information

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Change History

Revision	Changes from previous release
A	New document.
B	Added message_id to deliver_sm. Changed from Octet String to C-Octet String for Netsize Extension attributes.
C	Added UDH in esm_class field and binary in data_coding field for deliver_sm PDU. Added submit_multi PDU.
D	Added Protocol ID Support.
E	Added support for bind transceiver.
F	Updated with new template.
G	Corrected revision history. Added (by Netsize) for ignored elements. Switch text in chapter 5.12 and 5.13. Fixed chapter 5.14.
H	Changed to Netsize. Updated Netsize optional body with campaign name and service name.
I	Changed to Netsize template, and remove Netsize text.
J	Logo change

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1 Introduction

Netsize provides a service for message delivery, micro payments and location based services. The platform acts as a transparent, white-label content acquirer and transaction router between Service Providers and Operators.

The Service Providers connects to the service using an easily implemented API and Netsize handles all integration with the Operators. The interface is independent of the Consumer's device type. The device can amongst others be a PC, mobile phone or PDA.

Scope of document

This document describes how the Service Provider sends SMS messages via Netsize, using SMPP. It is intended for technical architects and designers who implement the services of the Service Provider.

The document does **not** explain SMPP and it is assumed that the reader is familiar with the SMPP protocol. It is highly recommended to read the Netsize Implementation Guide for SMS[i] to get a full understanding of available Netsize features. The implementation guide for SMS describes the preferred way to integrate with Netsize using a web service API.

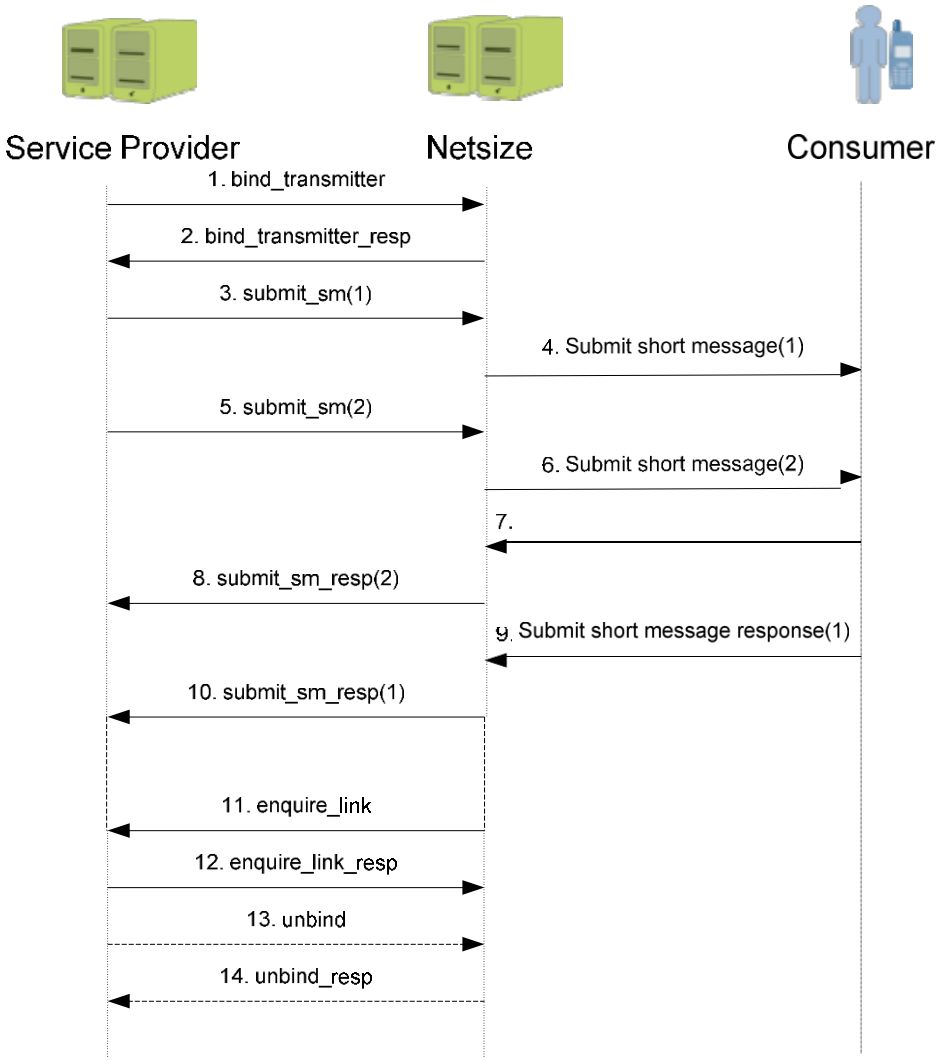
2 Functional overview

This guide describes how the Service Provider should send and receive SMS messages, including delivery reports, using the SMPP protocol.

The Service Provider can send and receive standard rate short messages by using the standard SMPP parameters. Additionally, the Service Provider can take advantage of additional Netsize features, such as sending premium MT messages, by using optional Netsize parameters in the SMPP PDU body. A detailed functional overview and description of the Netsize specific parameters can be found in the web service API documentation[i].

2.2 Sending SMS messages

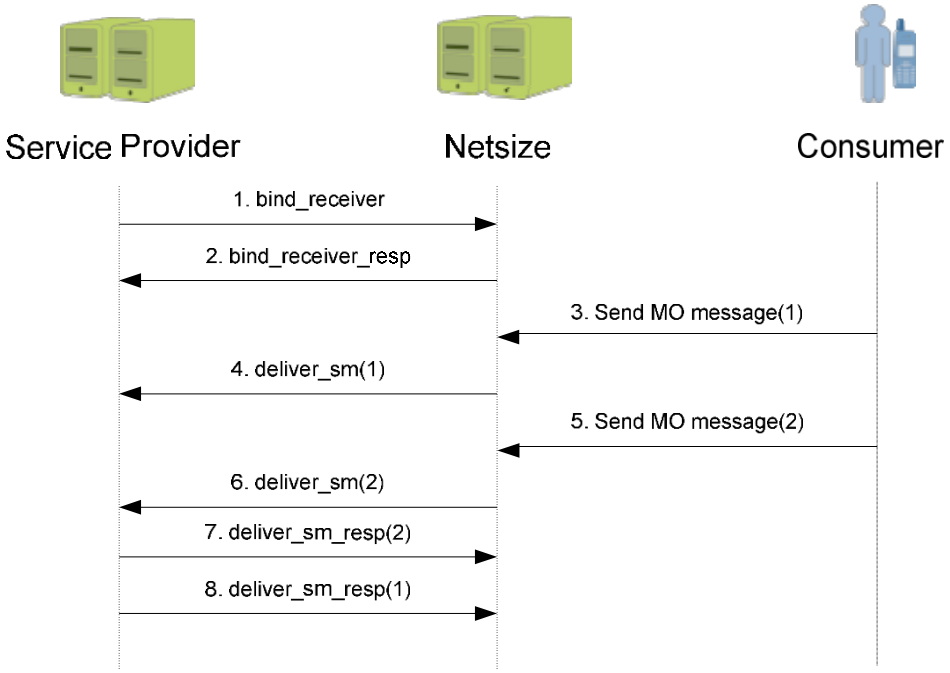
An example flow for sending SMS messages using SMPP is described below. The flow illustrates the usage of windowing, asynchronous responses and the enquire link command.



1. The Service Provider makes a bind transmitter request to the Netsize system.
2. Netsize validates the user credentials and sends a transmitter response.
3. The Service Provider submits an SMS message to the Netsize system.
4. Netsize submits the SMS message to the Consumer.
5. The Service Provider sends another SMS message to the Netsize system.
6. Netsize submits the SMS message to the Consumer.
7. Netsize receives the response for the second SMS message.
8. Netsize sends a submit response for the second SMS message to the Service Provider. Please note that the submit responses are **not** returned in the same order as the requests were sent.
9. Netsize receives the response of the first SMS message.
10. Netsize sends a submit response for the first SMS message to the Service Provider.
11. Netsize sends an enquire link request to the Service Provider, in order to ensure that the link is working.
12. The Service Provider sends an enquire link response to Netsize.
13. *Optionally, the Service Provider can send an unbind request to Netsize.*
14. *Netsize sends an unbind response to the Service Provider and the connection is closed.*

2.3 Receiving message

An example flow for receiving SMS messages using SMPP is described below. The flow is identical to receiving delivery reports for submitted MT messages.



1. The Service Provider makes a bind receiver request to the Netsize system.
2. Netsize validates the user credentials and sends a receiver response.
3. A Consumer sends an SMS message to a short code.
4. Netsize transmits the SMS message to the Service Provider in a deliver SM request.
5. A Consumer sends an SMS message to a short code.
6. Netsize transmits the SMS message to the Service Provider in a deliver SM request.
7. The Service Provider acknowledges the second SMS message with a deliver SM response. The delivery SM responses do not have to be returned in the same order as the requests were sent, since Netsize supports windowing.
8. The Service Provider acknowledges the second SMS message with a deliver SM response.

3 Installation

SMPP[ii] is based on the exchange of request protocol data units, PDUs, between the Service Provider (ESME in SMPP documentation) and the Netsize SMPP server (SMSC in SMPP documentation) over an underlying TCP/IP network connection.

3.1 System requirements

- The Service Provider needs the following:
- Client with a fixed IP address or range.
- ESME transmitter and receiver or transceiver implementation.
- ESME implementation accepting enquire-link requests.
- ESME implementation accepting unbind requests.
- ESME implementation accepting supporting windowing, for sending multiple requests and receiving responses in no chronological order.

3.2 Netsize SMPP server details

The SMPP server host name and port number are provided by Netsize support upon request.

3.3 Security

For authentication, the user ID and password of the Service Provider are submitted in the bind request according to SMPP specification[ii]0. It is the responsibility of the Service Provider to keep this user ID and password protected.

Netsize uses a firewall to block unknown IP addresses from accessing the API. The Service Provider must therefore register their IP addresses or range at Netsize. Please contact Netsize support for further information.

4 SMPP integration with Netsize

4.1 Netsize SMPP support

Netsize supports the most common SMPP PDUs and the Service Provider can send and receive standard SMS messages by using the standard SMPP parameters on the Netsize SMPP account. A Netsize SMPP account is defined as either one transmitter and one receiver, or one transmitter. Netsize recommends client implementations to bind separate transmitters and receivers, rather than one transceiver only. The reason for this is to gain a clearer and easier flow and implementation.

See chapter 4.4 for more information regarding the supported SMPP PDUs.

4.2 Netsize optional SMPP parameters

The Service Provider can take advantage of additional Netsize features, such as sending premium MT messages, by providing optional Netsize specific SMPP parameters in the PDU request body. These parameters are parsed and validated by the Netsize SMPP server whenever present.

4.3 Netsize SMPP extension

The Netsize system can send a set of Netsize extension parameters to the Service Provider in both responses and requests. This is a configurable feature which must be enabled by Netsize support before usage.

4.4 Supported SMPP PDUs

The following PDUs are supported by Netsize:

PDU Name	Comment
bind_transmitter/_resp	-
bind_receiver/_resp	-
bind_transceiver/_resp	It is recommended to recommends transmitter/receiver rather than transceiver.
unbind/_resp	Netsize can send and receive unbind requests.
submit_sm/_resp	-

submit_multi/_resp	-
deliver_sm/_resp	-
enquire_link/_resp	Netsize can send and receive enquire link requests.
generic_nack	Netsize can send and receive generic nacks.

See chapter 0 for more information about supported PDU parameters.

4.5 Submit response timeout

Since invocations on the Netsize SMPP APIs normally results in Netsize invoking other external systems, such as Operator billing systems and SMSCs, it is recommend that the Service Provider uses a high submit response timeout. The recommended timeout for SMPP requests is 10 minutes. Using this timeout will handle even the most extensive cases.

4.6 Throughput and throttling

The Service Provider must use windowing to increase the throughput when sending MT messages. Windowing allows the Service Provider to have several requests simultaneously waiting for response on the same Netsize SMPP account. Please refer to chapter 2.3 for an example.

Netsize restricts the throughput of SMPP account using the following parameters:

- Max window size – the maximum number of outstanding SMPP operations which the SMPP account can have towards the Netsize SMPP server, or the SMPP server towards the Service Provider. The default value is 20.
- SMPP account max throughput – the maximum number of MT messages per second which can be send from the SMPP account. The default value is 10.

Furthermore, the throughput can be restricted by the capacity of the Operator receiving the MT messages.

Kindly observe that deviating from any of the above restrictions will result in a throttling error response.

4.7 Service provider delivery acknowledgement

The Service Provider should acknowledge each message (MO message or delivery report) delivery. The acknowledgement can be positive, i.e. message successfully received, or negative, i.e. failure.

A request is considered to be acknowledged when the *command_status* header field value is set to zero (0) in the response. All other values are considered to be a negative acknowledgement, i.e. NAK.

The Netsize system supports windowing and can handle responses in non chronologic order.

Please note that Netsize has a read timeout for delivery reports acknowledgments of 15 seconds. For other requests, the read timeout is set to 30 seconds. A timeout will trigger a delivery retry (if retry enabled) or a cancellation of the message transaction (if retry disabled). This means that the Service Provider application must ensure a quick response times, especially during high load. **It is highly recommended to acknowledge the message towards Netsize before processing it.**

4.8 Retry

The Netsize system can perform retry attempts for failed (i.e. not acknowledged) message deliveries (SMS message or delivery report). The Service Provider can choose preferred retry behavior:

- No retry, the message will be discarded if connection attempt fails, read time-out or for any SMPP error code.
- Retry (default), the message will be resent for every type of connection problem, read time-out, or negative acknowledgement.

When retry is enabled, it is important to appreciate which scenarios will generate a retry attempt from Netsize and how the retry works. Each Service Provider has its own retry queue, where SMS messages are ordered according to the SMS message timestamp. Netsize always tries to deliver older SMS messages first, even though the individual order of SMS messages delivered to the Service Provider is not guaranteed. The main reason for SMS messages being discarded from the retry queue is one of two reasons: either the message time to live (TTL) expires or, theoretically, the retry queue becomes full. The TTL is Operator and message type dependent.

A Service Providers with retry enabled must check the unique ID of the MO message in order to secure that it is not a duplicate SMS message. This is done to avoid multiple charges, should Netsize retry the same message again.

It is important for the Service Provider to comply with these simple rules when an error occurs during the processing of a message:

1. Should the reason for the error be temporarily, e.g. database not available, a NAK should be returned. Netsize will resend the SMS message.
2. Should the reason for the error be permanent and a retry attempt is likely to cause the same kind of problem, an ACK should be returned. For example, when the SMS message could not be parsed correctly or cause an unexpected runtime error.

Acting accordingly will ensure that no blocking or throughput degradation is caused due to an SMS message being resent over and over again.

4.9 Error codes

The Netsize SMPP server returns SMPP error codes according to the SMPP specification[ii], but can also provide the full and more granular range of response codes from the Netsize web service API[i].

The Service Provider must be configured for using the Netsize SMPP extension to receive the Netsize response codes in the *response_code*, *status_code* and *reason_code* parameters.

Please note that for some error cases, the Netsize SMPP extension will not be present in the SMPP Response PDUs even though provisioned. This can be the case with for example ESME_RSYSERR (8) and ESME_RTHROTTLED (88).

4.10 Default SMSC encoding

Netsize can be configured to use a default data encoding when sending and receiving SMS messages by setting the *data_coding* parameter to zero (0x00). The supported encodings are:

- GSM (default)
- ISO8859-1
- US-ASCII
- UTF-8
- UTF-16BE

For MO messages, Netsize will set the *data_coding* to eight (0x08) for Unicode messages (70 characters). For all other MO messages (GSM 160 characters) Netsize will set the *data_coding* to zero (0x00).

Please note that the *data_coding* only defines the used encoding of the userdata in the SMPP _PDU_, not the actual SMS. In the GSM networks only two text encodings are supported, GSM alphabet and Unicode. All other encodings used in the SMPP PDU will be transcoded into one of these two encodings.

In other words, we cannot send characters that are not in the GSM alphabet in 160-chars messages. If you want to send non-GSM characters, you would have to use a 70-char Unicode (USC2) message.

4.11 Netsize initiated enquire link

The Service Provider must handle Netsize initiated enquire link requests and send an enquire link response. Netsize will send an enquire link request to the Service Provider if neither requests nor responses have been received for one minute.

4.12 Netsize initiated unbind

The Service Provider must handle Netsize initiated unbind requests and send an unbind response before disconnecting. The Service Provider should wait for at least 30 seconds before reconnecting again.

5 SMPP PDU definition

The Netsize SMPP server aligns with the SMPP specification[ii] and all parameters must be sent as specified in the SMPP documentation. The Netsize usage of the PDU parameters are described per PDU, should for example the parameters are mandatory, optional or ignored by the Netsize implementation.

The Netsize parameters are described in the corresponding request/response in the Netsize SMS Implementation Guide.

5.1 Bind transmitter

PDU Name bind_transmitter

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-
SMPP BODY	system_id	M	Username as given by Netsize.
	password	M	Password as given by Netsize.
	system_type	I	-
	interface_version	M, restricted	All values but 3.4 will result in a failed bind.
	addr_ton	I	-
	addr_npi	I	-
	address_range	I	-

* M = Mandatory, O = Optional, I = Ignored (by Netsize).

5.2 Bind transmitter response

PDU Name bind_transmitter_resp

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-
SMPP BODY	system_id	M	Id of the Netsize SMPP Server.

* M = Mandatory, O = Optional, I = Ignored (by Netsize).

5.3 Bind receiver

PDU Name bind_receiver

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-
SMPP BODY	system_id	M	Username as given by Netsize.
	password	M	Password as given by Netsize.
	system_type	I	-
	interface_version	M, restricted	All values but 3.4 will result in a failed bind.
	addr_ton	I	-
	addr_npi	I	-
	address_range	I	-

* M = Mandatory, O = Optional, I = Ignored (by Netsize).

5.4 Bind receiver response

PDU Name bind_receiver_resp

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-
SMPP BODY	system_id	M	Id of the Netsize SMPP Server.

* M = Mandatory, O = Optional, I = Ignored (by Netsize).

5.5 Bind transceiver

PDU Name bind_transceiver

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-
SMPP BODY	system_id	M	Username as given by Netsize.
	password	M	Password as given by Netsize.
	system_type	I	-
	interface_version	M, restricted	All values but 3.4 will result in a failed bind.
	addr_ton	I	-
	addr_npi	I	-
	address_range	I	-

* M = Mandatory, O = Optional, I = Ignored (by Netsize).

5.6 Bind transceiver response

PDU Name bind_transceiver_resp

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-
SMPP BODY	system_id	M	Id of the Netsize SMPP Server.

* M = Mandatory, O = Optional, I = Ignored (by Netsize).

5.7 Submit SM

PDU Name submit_sm

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-
SMPP BODY	service_type	I	-
	source_addr_ton	M, restricted	The Netsize supported values are limited to: 0x01 = MSISDN International 0x02 = National short code 0x05 = Alpha numeric
	source_addr_npi	I	-
	source_addr	M	A value corresponding with the specified Type Of Number (TON).
	dest_addr_ton	M, restricted	The Netsize supported values are limited to: 0x01= International
	dest_addr_npi	I	-
	destination_addr	M	The destination MSISDN.
	esm_class	M, restricted	The Netsize supported values are limited to the 6th bit of the esm_class, i.e. the UDHI Indicator. All other bits are ignored. To specify the UDHI Indicator use the following values: 0x00 = NO UDH present in *short_message* value 0x40 = UDH is present in *short_message* value
	protocol_id	O	Protocol ID[ii].
	priority_flag	I	-
	schedule_delivery_time	O	-
	validity_period	O	-
	registered_delivery	M, restricted	The Netsize supported values are limited to: 0x00 = Do not request delivery report. 0x01 = Request delivery report. 0x21 = Request server delivery report (Netsize specific).
	replace_if_present_flag	I	-

	data_coding	M, restricted	0x00 = Default SMSC encoding, see 4.10. 0x01 = (IA5) Interpreted as GSM 0x02 = Binary 0x03 = ISO8859-1 (IsoLatin-1) 0x04 = Binary 0x05 = Not supported 0x06 = Not supported 0x07 = Not supported 0x08 = UCS2 /UTF-16BE >0xF0 = Same as DCS value. See SMPP specification[ii] (section 5.2.19 e)
	sm_default_msg_id	I	-
	sm_length	M	-
	short_message	M	The User Data (and possibly UDH).
	optional parameter (0x0005): dest_addr_subunit	O	Used to set message class of message: 0x00 = No message class 0x01 = GSM Message Class 0 0x02 = GSM Message Class 1 0x03 = GSM Message Class 2
NETSIZE OPTIONAL BODY	account_name optional parameter 0x1600. Type C-Octet String	O	Further information is included in the web service API documentation[ii].
	reference_id optional parameter 0x1601. Type C-Octet String	O	Referenced order of the SMS message, normally a message ID from an MO message (SMS or MMS). Mandatory for premium SMS messages[ii].
	tariff_class optional parameter 0x1602. Type C-Octet String	O	Further information is included in the web service API documentation[ii].
	vat optional parameter 0x1603. Type C-Octet String	O	Further information is included in the web service API documentation[ii].
	content_category optional parameter 0x1604. Type C-Octet String	O	Further information is included in the web service API documentation[ii].
	content_metadata optional parameter 0x1605. Type C-Octet String	O	Further information is included in the web service API documentation[ii].

	campaign_name optional parameter 0x160d. Type C-Octet String	O	Further information is included in the web service API documentation[ii].
	service_name optional parameter 0x160e. Type C-Octet String	O	Further information is included in the web service API documentation[ii].

* M = Mandatory, O = Optional, I = Ignored (by Netsize).

5.8 Submit SM response

PDU Name submit_sm_resp

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-
SMPP BODY	message_id	M	Netsize unique message ID for successful transaction, present if submit was successful or empty for failure.
NETSIZE EXTENSION BODY	response_code optional parameter 0x1606. Type C-Octet String	O^	Netsize response code, 0 indicates successful transaction[ii].
	reason_code optional parameter 0x1607. Type C-Octet String	O^	The reason code may apply for specific response codes[ii].
	response_message optional parameter 0x1608. Type C-Octet String	O^	Further information is included in the web service API documentation[ii].
	temporary_error optional parameter 0x1609. Type C-Octet String	O^	Indicates whether the reason for failure is temporary or permanent[ii].
	billing_status optional parameter 0x160A. Type C-Octet String	O^	Further information is included in the web service API documentation[ii].
	vat Optional parameter 0x160B. Type C-Octet String	O^	Further information is included in the web service API documentation[ii].

* M=Mandatory, O=Optional, I=Ignored.
^ Sent if Service Provider is configured to use Netsize SMPP extension.

5.9 Submit multi

Usage of this PDU must be provisioned by Netsize. Only standard rate SMS messages are supported.

PDU Name submit_multi

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-
SMPP BODY	service_type	I	-
	source_addr_ton	M, restricted	The Netsize supported values are limited to: 0x01 = MSISDN International 0x02 = National short code 0x05 = Alpha numeric
	source_addr_npi	I	-
	source_addr	M	A value corresponding with the specified Type Of Number (TON).
	number_of_dests	M	Number of destination addresses.
	dest_address(es)	M	The destination addresses. See section 0.
	esm_class	M, restricted	The Netsize supported values are limited to the 6th bit of the esm_class, i.e. the UDHI Indicator. All other bits are ignored. To specify the UDHI Indicator use the following values: 0x00 = NO UDH present in *short_message* value 0x40 = UDH is present in *short_message* value
	protocol_id	O	Protocol ID[ii].
	priority_flag	I	-
	schedule_delivery_time	O	-
	validity_period	O	-
	registered_delivery	M, restricted	The Netsize supported values are limited to: 0x00 = Do not request delivery report 0x01 = Request delivery report 0x21 = Request server delivery report (Netsize specific)
	replace_if_present_	I	-

	flag		
	data_coding	M, restricted	0x00 = Default SMSC encoding, see 4.10. 0x01 = (IA5) Interpreted as GSM 0x02 = Binary 0x03 = ISO8859-1 (IsoLatin-1) 0x04 = Binary 0x05 = Not supported 0x06 = Not supported 0x07 = Not supported 0x08 = UCS2 /UTF-16BE >0xF0 = Same as DCS value. See SMPP specification[ii] section 5.2.19 e)
	sm_default_msg_id	I	-
	sm_length	M	-
	short_message	M	The User Data (and possibly UDH).
	optional parameter (0x0005): dest_addr_subunit	O	Used to set message class of message: 0x00 = No message class 0x01 = GSM Message Class 0 0x02 = GSM Message Class 1 0x03 = GSM Message Class 2
NETSIZE OPTIONAL BODY	account_name optional parameter 0x1600. Type C-Octet String	O	Further information is included in the web service API documentation[ii].
	reference_id optional parameter 0x1601. Type C-Octet String	O	Not applicable. Further information is included in the web service API documentation[ii].
	tariff_class optional parameter 0x1602. Type C-Octet String	O	Further information is included in the web service API documentation[ii].
	vat optional parameter 0x1603. Type C-Octet String	O	Further information is included in the web service API documentation[ii].
	content_category optional parameter 0x1604. Type C-Octet String	O	Further information is included in the web service API documentation[ii].
	content_metadata optional parameter 0x1605. Type	O	Further information is included in the web service API documentation[ii].

	C-Octet String

* M = Mandatory, O = Optional, I = Ignored.

Destination Address Definition		
dest_flag	M, restricted	The Netsize supported values are limited to: 0x01= SME Address
SME Address	M	See below.
SME Address Definition		
dest_addr_ton	M, restricted	The Netsize supported values are limited to: 0x01= International
dest_addr_npi	I	-
destination_addr	M	The destination MSISDN.

* M = Mandatory, O = Optional, I = Ignored.

5.10 Submit Multi response

PDU Name submit_multi_resp

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-
SMPP BODY	message_id	M	Netsize unique distribution list ID for successful transaction, present if submit was successful or partial successful; empty for failure.
	no_unsuccess	M	Number of unsuccessful submits. Not applicable when the whole submit_multi request failed.
	unsuccess_sme(s)	M	The unsuccessful MSISDN(s). Please note that no delivery reports will be sent for unsuccessful messages. Not applicable when the whole submit_multi request failed.
NETSIZE EXTENSION BODY	response_code optional parameter 0x1606. Type C-Octet String	O^	Netsize response code, 0 indicates successful transaction[ii].
	reason_code optional parameter 0x1607. Type C-Octet String	O^	The reason code may apply for specific response codes[ii].
	response_message optional parameter 0x1608. Type C-Octet String	O^	Contains additional information if submit was partial success[ii].
	temporary_error optional parameter 0x1609. Type C-Octet String	O^	Indicates whether the reason for failure is temporary or permanent[ii].
	billing_status optional parameter 0x160A. Type C-Octet String	O^	Further information is included in the web service API documentation[ii].

	vat Optional parameter 0x160B. Type C-Octet String	O^	Further information is included in the web service API documentation[ii].

* M = Mandatory, O = Optional, I = Ignored.
^ Sent if Service Provider is configured to use Netsize SMPP extension.

5.11 Deliver SM - MO SMS message

PDU Name deliver_sm

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-
SMPP BODY	service_type	I	-
	source_addr_ton	M, restricted	Netsize MSISDN: 0x01 = International
	source_addr_npi	I	-
	source_addr	M	The MSISDN of the sender.
	dest_addr_ton	M, restricted	Netsize short code: 0x01 = International 0x02 = National
	dest_addr_npi	I	-
	destination_addr	M	The number the MO was sent to.
	esm_class	M, restricted	The Netsize supported values are limited to: 0x00 = No UDH present in *short_message* value 0x40 = UDH is present in *short_message* value
	protocol_id	I	-
	priority_flag	I	-
	schedule_delivery_time	I	-
	validity_period	I	-
	registered_delivery	I	-
	replace_if_present_flag	I	-

	data_coding	M, restricted	0x00 = Default SMSC encoding, see 4.10. 0x04 = Binary 0x08 = UCS2 /UTF-16BE
	sm_default_msg_id	I	-
	sm_length	M	-
	short_message	M	The User Data (and possibly UDH).
NETSIZE EXTENSION BODY	timestamp optional parameter 0x1700. Type C-Octet String	O^	Further information is included in the web service API documentation[ii].
	operator optional parameter 0x1701. Type C-Octet String	O^	Further information is included in the web service API documentation[ii].
	message_id optional parameter 0x1706. Type C-Octet String	O^	Further information is included in the web service API documentation[ii].

* M = Mandatory, O = Optional, I = Ignored (by Netsize).
^ Sent if Service Provider is configured to use Netsize SMPP extension.

5.12 Deliver SM response - MO SMS message

PDU Name deliver_sm_resp

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-
SMPP BODY	message_id	-	Set to NULL according to SMPP Specification.

* M = Mandatory, O = Optional, I = Ignored (by Netsize).

5.13 Deliver SM - Delivery Report

PDU Name deliver_sm

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-
SMPP BODY	service_type	I	-
	source_addr_ton	M, restricted	Netsize MSISDN: 0x01 = International
	source_addr_npi	I	-
	Source_addr	M	The MSISDN of the sender.
	Dest_addr_ton	I	-
	dest_addr_npi	I	-
	destination_addr	I	-
	esm_class	M, restricted	Always set to 0x04 for Delivery Reports.
	protocol_id	I	-
	priority_flag	I	-
	schedule_delivery_time	I	-
	validity_period	I	-
	registered_delivery	I	-
	replace_if_present_flag	I	-
	data_coding	M, restricted	0x00 = Default SMSC encoding, see 4.10.
	sm_default_msg_id	I	-
	sm_length	M	-
	short_message	M	The User Data , present if using Logica format DRs, see SMPP Specification[ii], Appendix B.
	optional parameter (0x0427): message_state	O	Sent if not configured for Logica style DRs, see SMPP Specification[ii], chapter 2.11.

	optional parameter (0x0423): network_error_code	O	Sent if not configured for Logica style DRs, see SMPP Specification[ii], chapter 2.11.
	optional parameter (0x001E): receipted_message_id	O	Sent if not configured for Logica style DRs, see SMPP Specification[ii], chapter 2.11.
NETSIZE EXTENSION BODY	timestamp optional parameter 0x1700. Type Octet String	O^	Further information is included in the web service API documentation[i].
	operator optional parameter 0x1701. Type Octet String	O^	Further information is included in the web service API documentation[i].
	operator_timestamp optional parameter 0x1702. Type Octet String	O^	Further information is included in the web service API documentation[i].
	status_code optional parameter 0x1703. Type Octet String	O^	The Netsize status code of the DR. Further information is included in the web service API documentation[i].
	reason_code optional parameter 0x1704. Type Octet String	O^	The reason code may apply for specific response codes[i].
	status_text optional parameter 0x1705. Type C-Octet String	O^	Further information is included in the web service API documentation[i].
	message_id optional parameter 0x1706. Type C-Octet String	O^	Further information is included in the web service API documentation[i].

* M = Mandatory, O = Optional, I = Ignored (by Netsize).
^ Sent if Content Provider is configured to use Netsize SMPP extension

5.14 Deliver SM response - delivery report

PDU Name deliver_sm_resp

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-
SMPP BODY	message_id	-	Set to NULL according to SMPP Specification.

* M = Mandatory, O = Optional, I = Ignored (by Netsize).

5.15 Unbind

PDU Name unbind

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-

* M = Mandatory, O = Optional, I = Ignored (by Netsize).

5.16 Unbind response

PDU Name unbind_resp

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-

* M = Mandatory, O = Optional, I = Ignored (by Netsize).

5.17 Generic nack

PDU Name generic_nack

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-

* M = Mandatory, O = Optional, I = Ignored (by Netsize).

5.18 Generic nack response

PDU Name generic_nack_resp

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-

* M = Mandatory, O = Optional, I = Ignored (by Netsize).

5.19 Enquire link

PDU Name enquire_link

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-

* M = Mandatory, O = Optional, I = Ignored (by Netsize).

5.20 Enquire link response

PDU Name enquire_link_resp

	PDU Parameter	M/O/I*	Description
SMPP HEADER	command_length	M	-
	command_id	M	-
	command_status	M	-
	sequence_number	M	-

* M = Mandatory, O = Optional, I = Ignored (by Netsize).

6 Acronyms and abbreviations

All acronyms and abbreviations are listed in the Glossary[iii].

7 References

[i] Netsize Implementation Guide, SMS 5.2, 22/155 19- FGC 101 0169 Uen

[ii] Short Message Peer to Peer Protocol Specification v3.4 Issue 1.2

[iii] Netsize Implementation Guide Appendix, Glossary, 36/155 19-FGC 101 0169 Uen