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SMPP API Manual

Version 4.1

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INTRODUCTION

This document describes MobiWeb's SMPP API platform. The **Short Message Peer-to-Peer (SMPP)** protocol is a telecommunications industry protocol for exchanging SMS messages between SMS peer entities. It is often used to allow third parties (e.g. sms aggregators, news organizations, large enterprises) to submit messages in large bulks. The protocol is based on pairs of request/response of Protocol Data Units (PDUs) exchanged. PDUs are binary encoded.

Companies using SMPP as their connection method should have a strong technical knowledge and use special SMPP client applications to connect.

SMS SUBMISSION WITH SMPP

Below you can find the necessary parameters you must set in your SMPP client application before connecting successfully to our platform.

Note: Connection details are provided to users by their respective Account Managers, by email.

Parameter	Example / Explanation
host	e.g. 195.108.22.102 (as given by your Account Manager)
	The host of your account.
username	e.g. userXXXX (as given by your Account Manager)
	The username of your account.
password	e.g. passXXXX (as given by your Account Manager)
	The password of your account.
port	2780
	The port that you will connect to.
system_id	e.g. 2 (leave empty "" unless given by your Account Manager)
	Leave empty "" unless given by your Account Manager
Source Address	
TON (Type On Number)	1 (International)
0	Unknown
1	International
2	National
3	Network Specific
4	Subscriber Number
5	Alphanumeric
6	Abbreviated
NPI (Number Plan Identification)	1 (MSISDN)
0	Unknown
1	MSISDN

2	Data numbering plan
3	Telex numbering plan
6	Land Mobile
8	National numbering plan
9	Private numbering plan
10	ERMES numbering plan
13	Internet (IP)
18	WAP
Inquiry Link Interval	150
Destination Address	
TON (Type On Number)	1 (International)
NPI (Number Plan Identification)	1 (MSISDN)

Table 1 - SMPP Connection Parameters

Recipient: Recipient of the SMS should in its full international format. This excludes the leading '+' or the 00 notation (e.g. for Germany 49xxxxxxxxx), Messages not complying with the above might be rejected.

Originator: When you set the originator (it is the sender displayed in the recipient's mobile device upon arrival of the SMS) of your messages the following restrictions apply:

- If you use letters and numbers (alphanumeric) do not exceed 11 characters. Use only characters from A to z and numbers 0-9. (e.g. SMSSENDER10)
- Do not use spaces. (e.g. Sender12345)
- If you use numbers (numeric) do not exceed 14 digits. (e.g. 34523445322319)
- You cannot use special characters like (!#@$%^*~?:";). Such characters might be sent by specific routes but we do not guarantee message delivery if you set any of them in the originator. For more information contact your Account Manager.

Max Connection Instances (binds): Default 2 connections per SMPP account. For more connections, please contact your Account Manager.

Throughput/Throttling: The maximum number of SMS that you can send to our system per second. This is set to 50 SMS/sec as default. This can be adjusted by your Account Manager, based on your SMS monthly traffic.
Note: Throughput is restricted by the capacity of the destination network operator.

SMPP PDUs
bind_transmitter / bind_transmitter_resp
bind_receiver / bind_receiver_resp
bind_transceiver / bind_transceiver_resp
enquire_link / enquire_link_resp
unbind / unbind_resp

outbind
submit_sm / submit_sm_resp
submit_sm_multi / submit_sm_multi_resp
data_sm / data_sms_resp
deliver_sm / deliver_sm_resp
generic_nack
query_sm / query_sms_resp
cancel_sm / cancel_sm_resp
replace_sm / replace_sm_resp
alert_notification

Table 2 - Supported PDUs

CONTROL PANEL

You can access your account control panel through the web page http://HOST. (e.g. http://123.45.1.34)
Note: HOST, username and password are the same in your SMPP connection details and are provided to users by your Account Manager, by email.

DELIVERY REPORTS (DLR)

To get a Delivery Report (DLR) you must bind as transceiver or bind another connection instance as receiver in your SMS SMPP Client application.

We will not provide Delivery reports if your do not request in your SMS SMPP client application.

CREDIT BALANCE

A HTTP API request is available for users who wish to retrieve the remaining credits of their accounts. An example of HTTP GET or HTTP POST request is:

http://HOST/bulksms/smpp_balance.go?username=userXXXX&password=passXXXX

Note: HOST, username and password are the same in your SMPP connection details and are provided to users by your Account Manager, by email.

Parameter	Example / Explanation
username	e.g. userXXXX
	The username of your account.
password	e.g. passXXXX
	The password of your account

Table 3 – Credit Balance Parameters

An HTTP API Credit Balance request returns the number of available balance in EURO of the user's account.

(e.g. 5380.35 €)

CONCATENATED TEXT MESSAGES

The SMPP API does not offer segmentation of messages by default. If the message length exceeds 160 GSM 7-bit characters the extra characters will be discarded.

If concatenation is required the following guidelines must be followed to encode each part prior to submission. In the case of 8-bit data, the maximum length of the short message within the TP-UD field is 134 (140-6) octets. In the case of GSM 7 bit default alphabet data, the maximum length of the short message within the TP-UD field is 153 (160-7) characters. In the case of 16 bit USC2 data, the maximum length of the short message within the TP-UD field is 67 ((140-6)/2) characters. A UCS2 character must not be split in the middle; if the length of the User Data Header is odd, the maximum length of the whole TP-UD field is 139 octets.

The maximum length of a concatenated short message is 39015 (255*153) default alphabet characters, 34170 (255*134) octets or 17085 (255*67) UCS2 characters.

Each sub part of the concatenated message will be constructed as follows:

1. the message payload should be split in segment of its maximum length
2. the User Data Header indicator should be set (see TP-UDHI)
3. for each segment a header must prep end the data part
4. If the data is GSM 7-bit default alphabet, 1 octet of padding must be added for the data part to start on a septet boundary. The padding octet is set to 0x00. The data coding scheme (TP-DCS) should also be set to 0x00
5. if the data is GSM 8-bit default alphabet then padding is not necessary and the TPDCS should be set to 0x04

Note that the data part should be encoded according to the GSM alphabet

The header of each segment contains information set by the application in the SMS-SUBMIT so that the receiving entity is able to re-assemble the short messages in the correct order. Each concatenated short message contains a reference number which together with the originating address allows the receiving entity to discriminate between concatenated short messages.

The TP elements in the SMS-SUBMIT PDU, apart from TP-MR, TP-SRR, TP-UDL and TPUD, should remain unchanged for each SM which forms part of a concatenated SM; otherwise this may lead to irrational behavior. TP-MR must be incremented for every segment of a concatenated message. SMS-COMMANDs identify messages by TP-MR and therefore apply to only one segment of a concatenated message.

The header should be encoded as follows:

- User Data Header length set to 0x05
- Information Element Identifier type set to 0x00 (concatenated message)
- Information Element Identifier length set to 0x03
- Information Element Identifier data of 3 octet as follows:
  - Octet 1: Concatenated short message reference number
    - This octet shall contain a modulus 256 counter indicating the reference number for a particular concatenated short message. This reference number shall remain constant for every short message which makes up a particular concatenated short message.
  - Octet 2: Maximum number of short messages in the concatenated short message.
    - This octet shall contain a value in the range 0 to 255 indicating the total number of short messages within the concatenated short message. The value shall start at 1 and remain constant for every short message which makes up the concatenated short message.
  - Octet 3: Sequence number of the current short message.
    - This octet shall contain a value in the range 0 to 255 indicating the sequence number of a particular short message within the concatenated short message. The value shall start at 1 and increment by one for every short message sent within the concatenated short message.

The IEI and associated IEI length and IEI data shall be present in every segment of the concatenated SM.

Example header for a 2 part message would be:

- Part 1: 0x050003AE020100<7-bit GSM data>
- Part 1: 0x050003AE020200<7-bit GSM data>

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