SMPP GATEWAY

User Guide
Version 2.2

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Contents

Version Control:

This document is version controlled. Please update this version management table for any changes.

Date	Version	Document Changes	Author
08-05-2011	1.0.3	Creation of this document	production
09-11-2011	2.0	Added new SIT response codes (black out)	Nisan
17-02-2012	2.1	Added New features- EMS Message Support, Auto Concatenation (Page 13)	Javvaji
03-05-2012	2.2	0x00000003-UNDELIVERABLE errorcode is replaced with 0x00000012 :Page 8 0x000000C5-NO_CREDIT errorcode is replaced with 0x00000010 :Page 8 0x000000C6-MOBILE_BLACKLISTED errorcode is replaced with 0x00000009 :Page 8 0x000000C7-AIRBAG_BLACKLISTED Airbag blacklisted -removed:Page 8 Ordered Submit Response Error codes :Page 8	Javaji

1 Introduction

SMPP (Short Message Peer to Peer) protocol is an open industry standard messaging protocol designed to simplify integration of data applications with wireless mobile networks such as GSM, TDMA, CDMA and PDC. The protocol is widely deployed in the mobile telecommunications industry. The SMPP protocol specification is freely available from http://www.smpp.org

SITMobile currently supports version 3.3 and 3.4 of the SMPP protocol.

2 Requirements

The following requirements must be met to enable the sending of short messages (SMS) via SITMobile Connectivity:

• You need a customer account.

• You need sufficient credit on your SITMobile Connectivity customer account.

3 Glossary

The parameters used in the SIT SMPPServer:

- **SMS:** Short Message Service
- **PDU:** Protocol Description Unit (the way the SMSs are sent)
- **DR:** Delivery Report notification
- **SMPPServer:** SMPP Server that allows to the clients to send SMSs

- **SMPPClient:** Client that wants to send SMSs through our SMPPServer
- **IP:** IP number where the SMPPServer is hosted*
- **Port:** Connection port that the SMPPServer is listening to*
- **System_id:** Unique system ID sent to the SMPPClient in a confidential mail
- **Password:** Unique system password sent to the SMPPClient in a confidential mail
- **Client_id:** Client identifier provided to the SMPPClient
- **Account_id:** Account identifier when the credits will be charged
- **System_type:** Identifies the type of ESME system requesting to bind as a transmitter with the SMSC. We will use this parameter to identify client_id and account_id.

  * SITMobile will provide you with the IP address and port number

4 Technical information

The GSM specifications limit the Short Message from the SMSC to the handset to 140 octets. If 7 bit encoding is used, we may deliver 160 characters to the handset. Otherwise, for 8 bit data, the maximum number of characters will be limited to 140.

The character sets supported by SITMobile Platform are ISO, CP1252

The SMPPServer allows the SMPPClient to send SMSs. This implies that the SMPPClient must connect to the SMPPServer using some PDU connection parameters.

4.1 Mandatory parameters

- **IP:** smpp.sitmobile.com
- **Port:** 9000

- **System_id:** alphanumerical secret string that will be given to the SMPPClient by phone, email or SMS

- **Password:** alphanumerical secret string that will be given to the SMPPClient by phone, email or SMS

- **System_type:** this parameter must be like this: client_id|account_id (these values will be given to the SMPPClient by phone, email or SMS)

4.2 Other recommended parameters

- **bind-mode: transceiver**
- **sync-mode: async**
- **addr-ton: 1**
- **addr-npi: 1**
- **source-ton: 5**
- **source-npi: 0**
- **destination-ton: 1**
- **destination-npi: 1**

4.3 Message encoding

- **data-coding: 0 (for GSM0338 encoding)**
- **data-coding: 3 (for ISO8859-1 encoding)**
- **data-coding:8(for UCS2 encoding)**
- **data-coding:4,245(for Binary message)**
- **data-coding:240 (for Flash message)**
- **data-coding:88(for Unicode flash)**

4.4 SMPP TON/NPI Parameters

SMPP parameter	Type of address	TON	NPI
Destination address	Always international	1	1

Source address	International	1	1
	National/short code	2	1
	Alphanumeric	5	0

4.5 International originators

Source address and destination address in international format shall not contain any leading "+" or "00", and should start only with the country code.

Sample International Source Address

Displayed on handset: +34609939891
SMPP Parameter: TON = 1
NPI = 1
SOURCE_ADDRESS = "34609939891"
This TON,NPI pair support maximum length of an international originator.

4.6 Alphanumeric originators

Length of an alphanumeric originator is limited to 11 characters; this limit is set by the pertinent GSM Standards.

5 Error Codes

5.1 Bind Response error codes

Error Code	Error Name	Description	Action
0x00000000	OK	Message received and processed	
0x000000C4	INV_OPTION_PARAM	If the client id and account id are of invalid format, this will be returned. Ex: alphanumeric value for client: system_type=c1|1	Verify System_type value and send the proper value

0x000000C3	EXP_OPTION_PARAM	If client id and account id are not sent to XSIT 2.0 in proper format. Ex: system_type=1 system_type=<blank>	Verify System_type value and send the proper value
0x0000000F	AUTH_FAIL	Authentication failure	Check username, password, client ID and account ID

5.2 Submit Response Error codes

Error Code	Error Name	Description
0x00000000	OK	Message received and processed
0x00000001	ESME_RINVMSGLEN	Message Length is invalid
0x00000009	MOBILE_BLACKLISTED	Blacklisted mobile number
0x00000010	NO_CREDIT	Account does not have credits
0x00000012	UNDELIVERABLE	Feature not enabled (Binary or UCS2 or International SMS)
0x000000FE	NET_FAILURE	Network failure
0x000004FF	NO_DELIVERY	Not delivered
0x000004FA	Submit fail	Not delivered
0x00000401	NO_ROUTE	No route can be assigned
0x000004FF	REJECTED	rejected message
0x000004FA	SUBMIT_FAILED	Failed to submit message
0x000004FB	MOBILE_INVALID	invalid MSISDN number :HLR lookup
0x000000C8	ENROUTE	
0x0000000B	INV_MSISDN	invalid destination number

0x00000058	Throttle Error	Client throttle exceeded
0x00000400	BLACK_OUT	Message sending is not allowed during blackout period
0x00000404	UNSUPPORTED_MESSAGE	Unsopprted Message.

6 Delivery Reports

SMPPServer provides delivery report through **deliver_sm** or **data_sm** PDU, which indicates the delivery status of the message.

The informational content of an SMSC Delivery Receipt may be inserted into the **short_message** parameter of the **deliver_sm** operation. The format for this Delivery Receipt message is SMSC vendor specific, but following is a typical example of Delivery Receipt report:

"**id:IIIIIIIIII sub:SSS dlvrd:DDD submit date:YYMMDDhhmm done date:YYMMDDhhmm stat:DDDDDDD err:E Text: . . . . . .**"

The fields of the aforesaid delivery receipt example are explained in the following table:

Field	Size (octects)	Type	Description
id	10	C-Octet String (Decimal)	The message ID allocated to the message by the SMSC when originally submitted.
sub	3	C-Octet String (Decimal)	Number of short messages originally submitted. This is only relevant when the original message was submitted to a distribution list. The value is padded with leading zeros if necessary.
dlvrd	3	C-Octet String (Decimal)	Number of short messages delivered. This is only relevant where the original message was submitted to a distribution list. The value is padded with leading zeros if necessary.
submit date	10	C-Octet Fixed Length String	The time and date at which the short message was submitted. In case of a message that has been replaced, this is the date when the original message was replaced.

done date	10	C-Octet Fixed Length String	The time and date at which the short message reached its final state. The format is the same as for the submit date.
stat	7	C-Octet Fixed Length String	The final status of the message. The different states are listed in Section 7 given below.
err	3	C-Octet Fixed Length String	It will hold a Network specific error code or an SMSC error code for the attempted delivery of the message.
text	20	Octet String	The first 20 characters of the short message.

7 Message States

Message State	Final Message states	DESCRIPTION
DELIVERED	DELIVRD	Message is delivered to destination
EXPIRED	EXPIRED	Message validity period has expired
DELETED	DELETED	Message has been deleted
UNDELIVERABLE	UNDELIV	Message is undeliverable
ACCEPTED	ACCEPTD	Message is in accepted state (i.e. has been manually read on behalf of the subscriber by customer service)
UNKNOWN	UNKNOWN	Message is in invalid state
REJECTED	REJECTD	Message is in a rejected state

8 Binding Guidelines

Only one session is available for systemID provided to the client.

1. When session drops(due to network fluctuation or planned unbind), before rebinding to the server, the client application should wait for 60 sec before issuing the bind request
2. The session should not drop frequently. Once bound, the session should stay for a long time rather than issuing bind request.
3. Client should not attempt to spam the server with bind request.
4. Before unbind, client should issue unbind request to the system.

9 Enquirelink - Keep Alive Signal

1. The Enquirelink signal should be sent every 60 sec. Otherwise client session will be dropped by the XSIT platform
2. Client should not attempt to spam the server with Enquirelink request.

10 Resolving Bind Problems

1. First try to ping server IP:
2. Ex: ping smpp.sitmobile.com .
3. If you are not able to ping Sever IP, contact customer care.
4. If ping is Successful do telnet
5. Ex: telnet smpp.sitmobile.com <port> . If you are not able to do telnet, contact customer care
6. If you get any error bind response, please check the error code against the error codes mentioned in the section 5.1
7. If all confirmations are correct and still you are facing problems in binding, please contact customer care who will redirect you to technical department.

11 Arabic Support

SIT SMPP gateway provides Arabic message support.For this the client must send the short message encoded in UTF-16 keeping its datacoding value as 8(0x08).The client should intimate their Accounts Manager before sending these messages.

12 EMS Message Support

SIT SMPP gateway provides EMS Message Support. Enhanced Messaging Service (EMS) is an intermediate technology, between SMS and MMS, providing some of the features of MMS. An EMS enabled mobile phone can send and receive messages that have special text formatting (such as bold or italic), animations, pictures, icons, sound effects and special ring tones.

13 Auto Concatenation

SIT SMPP gateway provides the auto concatenation feature for the clients. Client is sending the message and if the message length is more than the allowed character limit for any message type, SIT SMPP gateway will consider the message length for all kind of those messages and system will slice the messages as per the message types and append concatenated UDHs for each slice and it will be billed based on the slices. If the client sent concatenated messages (Normal /Binary) or EMS messages, system will process the messages as it is without any modification.

14 24x7 Technical Support

SIT's messaging platform is connected to almost all high-end operators across the globe, to ensure all our clients fast and reliable message delivery. As a global player, our operations reach out to all international destinations, but we efficiently support all our clients by operating a 24-hour route monitoring system. On detection of performance variance within a route, the monitoring system would divert the traffic to the next best route without delay. Notwithstanding the constant system monitoring, the clients can always ask for additional support by writing to vipsupport@sitmobile.com. Our round-the-clock support team would address it, and if needed, depending on the nature and severity of the task, escalate it to higher resources.

15 Frequently Asked Questions

1. What System Type should be used in the Bind Transmitter and Receiver?

   The parameter must be like this: client_id|account_id (these values will be given to the SMPPClient by phone, email or SMS). Ex: 1|2 → where “1” is client id and “2” is account ID.

2. How long should the ESME Application wait for a submit_sm_response?

   Server provides response in transaction mode. i.e., response from the operator itself. This depends on the operator’s delay. Otherwise, a better option is to send the messages in the async manner.Normally the response reaches within 30 seconds .

3. What is "Enquire_Link" and do I need to support it?

   This command is used to provide a confidence-check of the communication path between ESME and the SMSC. All SMPP sessions on the SMSC are configured with an 80 seconds idle timeout. All ESMEs are expected to initiate an enquire_link every 60 seconds to ensure that the session is not closed by the SMSC during idle periods.