



SMPP v3.4 Protocol Implementation guide for GSM / UMTS

Version 1.0

SMPP v3.4 Protocol Implementation guide for GSM / UMTS May 30th 2002 Version 1.0

©2001 SMS Forum

COPYRIGHT

All rights reserved. This document or any part thereof may not, without the prior written consent of SMS Forum, be copied, reprinted or reproduced in any material form including, but without prejudice to the foregoing and not by way of exception photocopying, transcribing or storing in any medium or translating into any language, in any form or by any means, including but not limited to, electronics, mechanical, xerographic, optical, magnetic, digital or other methodology

DISCLAIMER

WHILST THE GREATEST CARE HAS BEEN TAKEN TO ENSURE THE ACCURACY OF THE INFORMATION AND DATA CONTAINED HEREIN, SMS FORUM DOES NOT WARRANT THE ACCURACY OR SUITABILITY OF SAME FOR ANY SPECIFIC USE. SMS FORUM EXPRESSLY DISCLAIMS ALL AND ANY LIABILITY TO ANY PERSON, WHETHER A PURCHASER OR OTHERWISE, IN RESPECT OF ANY CONSEQUENCES OF ANYTHING DONE OR OMITTED TO BE DONE BY ANY SUCH PERSON IN PARTIAL OR TOTAL RELIANCE UPON THE WHOLE OR ANY PART OF THE CONTENTS OF THIS PUBLICATION OR ANY DERIVATIVE THEREOF.

THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE ACCURATE AND RELIABLE. HOWEVER, SMS FORUM ACCEPTS NO RESPONSIBILITY FOR IT'S USE BY ANY MEANS OR IN ANY WAY WHATSOEVER. SMS FORUM SHALL NOT BE LIABLE FOR ANY EXPENSE, COSTS OR DAMAGE THAT MAY RESULT FROM THE INFORMATION CONTAINED HOWSOEVER ARISING IN THIS DOCUMENT OR ANY DERIVATIVE THEREOF.

THE INFORMATION CONTAINED IN THE WITHIN DOCUMENT AND ANY DERIVATIVE THEREOF IS SUBJECT TO CHANGE WITHOUT NOTICE.

THE SMS FORUM IS COMPANY NUMBER 309113, REGISTERED OFFICE GARDNER HOUSE, WILTON PLACE, DUBLIN 2.

Table of Contents

1.1 Overview	4
1.2 Scope.....	4
1.3 Glossary.....	5
1.4 References	5
2.1 Introduction.....	6
2.2 Sending regular text.....	6
2.2.1 Operation and fields to use.....	7
2.2.1.1 Operations	7
2.2.1.2 Fields	7
2.2.2 Data coding and size.....	8
2.2.2.1 Data coding.....	8
2.2.2.2 Data size	9
2.2.3 Mapping.....	9
2.2.3.1 Standard mapping.....	9
2.2.3.2 Extended mapping.....	10
2.2.3.3 Using financial symbols in a short message	11
2.2.4 Long messages and Concatenation	11
2.2.4.1 User data headers	12
2.2.4.2 SMPP parameters.....	13
2.3 Sending binary data, ring tones and operator logos	13
2.3.1 Operation and fields to use.....	13
2.3.1.1 Operations	13
2.3.1.2 Fields	14
2.3.2 Data coding	14
2.3.3 User data header.....	15
2.4 Enhanced messaging service.....	16
2.4.1 User data headers	16
2.4.2 Concatenation	17
2.5 Using priority.....	18
2.6 Requesting notifications.....	20
2.7 Addressing.....	21
2.7.1 Addressing a mobile.....	21
2.7.2 Addressing an ESME	21
2.8 Route messages on a mobile / direct displaying	22
2.9 Setting indications for voice mail, e-mail and FAX.....	22
2.9.1 Return Call Message.....	23
2.9.2 Data Coding Scheme	24
2.9.3 User Data Header, Special SMS Message Indication.....	24
2.10 Up-to-date messaging via message replacement	25
2.10.1 Message replacement on the SMSC	25
2.10.2 Message replacement at the mobile itself	26

1 Introduction

1.1 Overview

The Short Message Peer To Peer (SMPP) protocol is an open, industry standard protocol designed to provide a flexible data communication interface for transfer of short message data between a Message Centre and a SMS application system. A Bearer Message Centre can be a Short Message Service Centre (SMSC), a GSM Unstructured Supplementary Services Data (USSD) Server, a Broadcast Message Service Centre or another type of Message Centre.

This document provides guidelines for getting an application based on the SMPP protocol version 3.4 specification working in a SMSC/GSM/UMTS network environment.

1.2 Scope

This document provides practical information for developers building ESME applications that communicate with a SMSC working in a GSM environment, using SMPP protocol version 3.4. SMPP features common to all network types or not specifically SMSC related will not be discussed.

The information about the subjects discussed in this document is retrieved from related official specification documents, like the SMPP protocol version 3.4 specification, the GSM 23.038/23.040 and UCS2 specifications.

In order to keep the document a practical reference manual, the document will not contain specific in-depth information that is available in those specifications, but will include them as reference.

For maximising the reading efficiency, it is advisable to download the referenced specifications prior to reading this document.

1.3 Glossary

EMS	Enhanced Messaging Service
ESME	External Short Message Entity
GSM	Global System for Mobile Communications
MS	Mobile Station
SM	Short message
SMPP	Short Message Peer To Peer
SMSC	Short Message Service Centre
UCS	Universal Character Set
UDH	User Data Header
UMTS	Universal Mobile Telecommunications System

1.4 References

At the time of writing the latest versions of below stated documents were used, but for most cases other versions of these documents are also applicable as reference for this implementation guide.

Ref.	Document Title	Document Number	Version Number
[SMPP34]	SMPP protocol specifications v3.4	SMPP Forum http://www.smpp.org	Issue 1.2
[GSM23038]	Alphabets and language-specific information	3GPP TS 23.038 http://www.3gpp.org	v4.2.0 (release 4)
[GSM23040]	Technical realization of the Short Message Service (SMS)	3GPP TS 23.040 http://www.3gpp.org	v5.0.0 (release 5)
[UCS2]	UCS-2. ISO/IEC 10646 encoding form: Universal Character Set coded in 2 octets	http://www.unicode.org	

Table 1-1: References

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.