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Short Message Service Centre (SMSC)

Contents

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Preface

This manual describes the interface used between the SMSC System and other computer systems and applications on the fixed network side. It is based on [1] and has been adapted to the requirements and characteristics of MMO's SMSC. The interface is based on the ERMES UCP (Universal Computer Protocol) with some SMSC-specific extensions.

R e f e r e n

[1] ETS 300 536, Technical realisation of the Shor netw 27 Tw (ETS 300g Tervi th MacMSCPoa

2 Structure of the EMI messages

In the ERMES/UCP-based EMI protocol, the message structure is as follows:

STX Header/Data/Checksum ETX

- stx = 02(hex)
- etx = 03(hex)

Note that in the examples the strings 'stx' and 'etx' each represent only one character. As separator between header and data, between data and checksum, as well as between parameters, a '/' ($2F_{hex}$) is u He. In parameters that contain a list, the items are tween hed by a ',' ($2C_{hex}$). Numeric characters (0..F) are encoded as in IA5. Alphanumeric characters are

2.1 Example

Below you will find an example of the Submit Short Message operation (OT 51) and its acknowledgement by the SMSC. The alphanumeric message sent to the subscriber with the MSISDN 01727654321 is "D2 Message". An authentication code for the message is declared and the (generic) originator address i

stx03/00107/O/51/01727654321/12345/55555/1/01724444444

//0100/////////////3//4432204D657373616765/////////////99

3 EMI operation overview

EMI commands can be initiated either from the Application, or from the SMSC. Each command will be acknowledged, either with an ACK or a NAK.

Pleas0 consider in your applications that reserved and unused information fields in UCP messages are subject to changes (with respect to the allowed format described in this specification)!

4 EMI operations Syntax

This chapter shows the syntax of the *data fields*

MT

XSer restricted for

4.3 Parameters used in responses

This section gives an introduction to all the parameters used in the EMI responses. That means all messages sent from/to the SMSC indicate the acceptation of a command with an acknowledge message (ACK) or the rejection of an invalid command with a negative acknowledgement message (NAK). They apply as well for the basic commands as for the 5x-operations. If some of the parameters are restricted in their range for one particular command, it is explicitly mentioned in the command description

Parameter	Meaning
ACK	Positive acknowledgement: Char “A” Indicator for an acknowledgement.
NAK	Negative acknowledgement: Char “N” Indicator for a negative acknowledgement.
EC	Error Code The list of all error codes can be found in annex A.
SM	System message A description of the SM parameter is given below.
MVP	Modified validity period Returns the maximum allowed validity period if the requested VP excee/s the maximum allowed VP.

The SM parameter contains the following three fiel/s :

Parameter	Meaning
AdC	Address code recipient
SEP	Separator Char ':'
SCTS	Service Centre time-stamp in

4.4 Basic operations

4.4.1 Call input operations (OT-01)

This message can be used to submit an alphanumeric or numeric message to the SMSC. Please take note of the fact that we recommend to make use of the 51-operations instead. The functionality of the 01-operations will *not* be extended with further GSM Phase2 features in the future. The following list shows the parameters in the operation data field :

Parameter	Presence	Description/Remarks
AdC	M	

4.5 Extended operations

This chapter introduces the extended UCP operations. The following table gives an overview about the available operation types :

Message	UCP operation	Name
SUBS	51	Submit_short_message

This does also apply for the responses. For example the positive response message contains the MVP field. This field is only used for the SUBS message positive response, in all other cases this field is left empty, but it does exist. Of course, non 5x operations are still acknowledged the usual way.

4.5.2 Submit short message opera Tw (OT-51)

This message is used to submit a short message to the SMSC. It also supports the addi Twal features :

Notifica Tw request	Authentica Tw code
Deferred delivery	Validi y period
Replace short message	Message classes
Binary messages	Transparent PID
Originator Type Of Address	User Data Header informa Tw

Parameter	Presence	Description/Remarks
AdC	M	Address code recipient
OAdC	M	Address code originator
AC	O	Authentica Tw code originator
NRq		

Submit short message operation (negativ2 result)

The following list shows the param2ters in the negativ2 result data field:

P reence:

4.) of **submit short message operation** with transparent Message which is 160 octet long (> 140 oct. (!)). Therefore two Message must be send to the Mobile (the Messages are stored in the mobile -> MCl = 1). To mark the messages as concatenated the XSer field must be

The delivery short message **positive result** of this message is:

4.5.4 Delivery notification operation (OT-53)

Example

of the **delivery notification operation** which belongs to the notif. req. in chapter 4.5.2, example 2.):

4.5.6 Delete message operation (OT-56)

This message is sent by the PC to the SMSC requesting the deletion of one or more messages which are still buffered. These messages are submitted by the PC destined to a certain recipient.

Parameter

4.5.7

´Nachricht fuer 0172123456 , Identifizierung 981106130754´.

The response inquiry operation **positive result** of this message is:

stx02/00041/O/57/A//02111234:061198130855/D3etx

The response delete message operation **positiveresult** of this message is:

stx09/00041/O/58/A//02111234:061198153456/DDetx

Annex B

Character Sets used in the SMSC

Character	SMS Alphabet	MO	MT	Character	SMS Alphabet	MO	MT

Annex C

Reason codes with the error messages reported in notifications

```
0x01, 0d001,    Nachricht ausgeliefert
0x02, 0d002, T, voruebergehend kein Service
0x03, 0d003, T, voruebergehend kein Service
0x04, 0d004, T, voruebergehend kein Service
0x05, 0d005, T, voruebergehend kein Service
0x06, 0d006, T, voruebergehend kein Service
0x07, 0d007, T, voruebergehend kein Service
0x09, 0d008, T, unbek  Tter Fehler
0x0A, 0d009, T, Netzwerk Timeout
0x32, 0d050, T, Speicherzeit abgelaufen
0x64, 0d100, P, Dienst nicht uTterstuetzt
0x65, 0d101, P, Empfaenger unbek  Tt
0x66, 0d102, P, Dienst nicht
```

Annex E

Explanation of the RPID field and Extra Service XSer field

i) Relay Protokol-Identifier RPID

RPID code	RPID meaning	Explanation

This octet shall contain a value in the range 0 to 255 indicating the total number of

iii) XSer Type of service 02, GSM DCS information

Annex F

SMSC Modem settings

Annex H

Revision marks

Chapter

Chapter Description of modification [EMI V2.0 -> EMI V2.1]