

9.2.3.23 TP-User-Data-Header-Indicator (TP-UDHI)

The TP-User-Data-Header-Indicator is a 1 bit field within bit 6 of the first octet of an SMS-SUBMIT and SMS-DELIVER PDU and has the following values.

- Bit no. 6 0 The TP-UD field contains only the short message
 1 The beginning of the TP-UD field contains a Header in addition to the short message

9.2.3.24 TP-User Data (TP-UD)

The TP-User-Data field contains up to 140 octets of user data.

The TP-User-Data field may comprise just the short message itself or a Header in addition to the short message depending upon the setting of TP-UDHI.

Where the TP-UDHI value is set to 0 the TP-User-Data field comprises the short message only, where the user data can be 7 bit (default alphabet) data, 8 bit data, or 16 bit (UCS2) data.

Where the TP-UDHI value is set to 1 the first octets of the TP-User-Data field contains a Header in the following order starting at the least significant octet of the TP-User-Data field.

FIELD	LENGTH
Length of User Data Header	1 octet
Information-Element-Identifier "A"	1 octet
Length of Information-Element "A"	1 octet
Information-Element "A" Data	1 to "n" octets
Information-Element-Identifier "B"	1 octet
Length of Information-Element "B"	1 octet
Information-Element "B" Data	1 to "n" octets
Information-Element-Identifier "n"	1 octet
Length of Information-Element "n"	1 octet
Information-Element "n" Data	1 to "n" octets

(Just 55
MISSING

The diagram below shows the layout of the TP-User-Data for seven bit SM data.

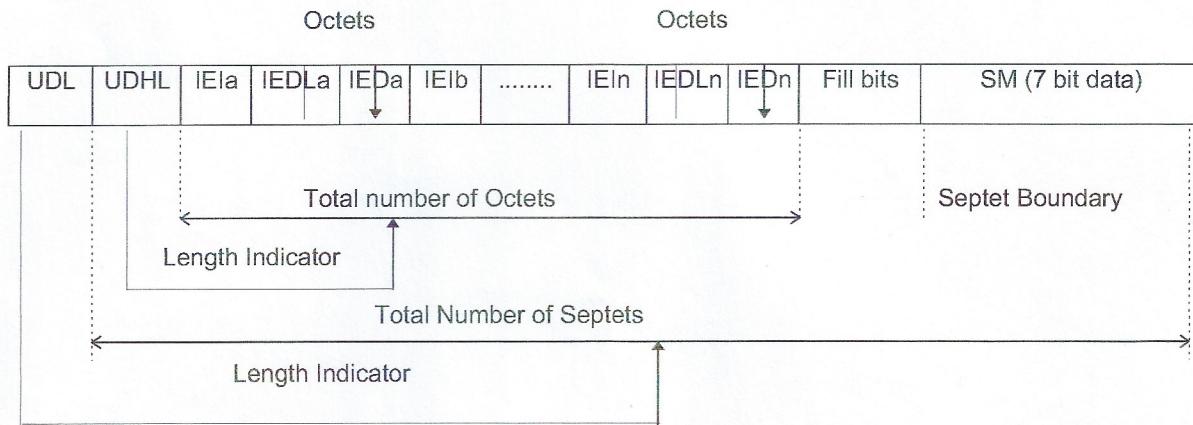


Figure 9.2.3.24.1

The diagram below shows the layout of the TP-User-Data for eight bit SM data.

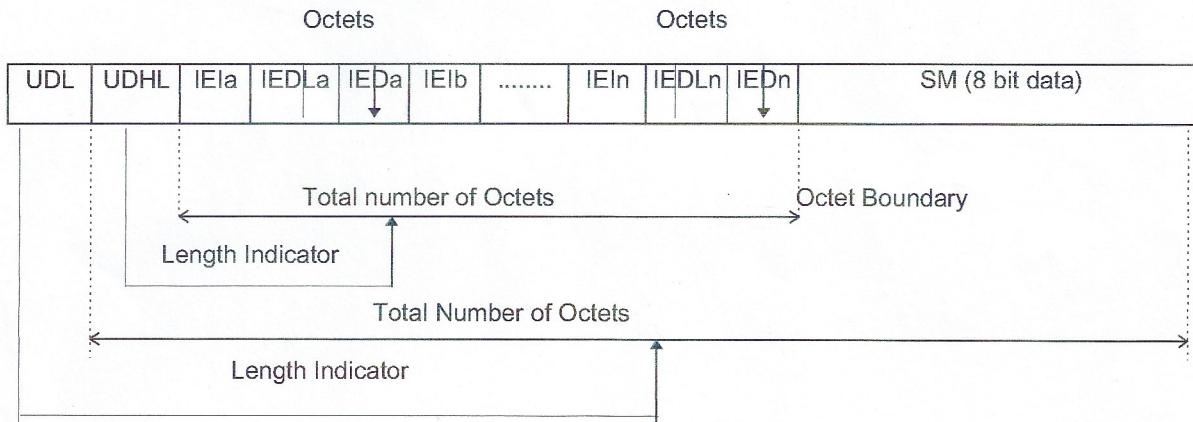


Figure 9.2.3.24.2

The definition of the TP-User-Data-Length field which immediately precedes the "Length of User Data Header" is unchanged and will therefore be the total length of the TP-User-Data field including the Header, if present. (see 9.2.3.16)

The "Length-of-Information-Element" fields shall be the integer representation of the number of octets within its associated "Information-Element-Data" field which follows and shall not include itself in its count value.

The "Length-of-User-Data-Header" field shall be the integer representation of the number of octets within the "User-Data-Header" information fields which follow and shall not include itself in its count or any fill bits which may be present (see text below).

The Information Element Identifier octet shall be coded as follows:

VALUE (hex)	MEANING
00	Concatenated short messages
01	Special SMS Message Indication
02	Reserved
03	Value not used to avoid misinterpretation as <LF> character
04 - 7F	Reserved for future use
80 - 9F	SME to SME specific use
A0 - BF	Reserved for future use
C0 - DF	SC specific use
E0 - FF	Reserved for future use

A receiving entity shall ignore any value which is not understood or supported.

The SM itself may be coded as 7, 8 or 16 bit data.

If 7 bit data is used and the TP-UD-Header does not finish on a septet boundary then fill bits are inserted after the last Information Element Data octet so that there is an integral number of septets for the entire TP-UD header. This is to ensure that the SM itself starts on an octet boundary so that an earlier phase mobile will be capable of displaying the SM itself although the TP-UD Header in the TP-UD field may not be understood.

It is optional to make the first character of the SM itself a Carriage Return character encoded according to the default 7 bit alphabet so that earlier phase mobiles, which do not understand the TP-UD-Header, will over-write the displayed TP-UD-Header with the SM itself.

If 16 bit (USC2) data is used then padding octets are not necessary. The uncompressed SM itself will start on an octet boundary.

If 8 bit data is used then padding is not necessary. An earlier phase mobile will be able to display the SM itself although the TP-UD header may not be understood.

It is also possible for mobiles not wishing to support the TP-UD header to check the value of the TP-UDHI bit in the SMS-Deliver PDU and the first octet of the TP-UD field and skip to the start of the SM and ignore the TP-UD header.

9.2.3.24.1 Concatenated Short Messages

This facility allows short messages to be concatenated to form a longer message.

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 7 bit data, the maximum length of the short message within the TP-UD field is 152 (160-8) characters.

choosusr.dll vredir.vxd msn232.dll
vmm32.vxd sound no 3E
NTL?? 2000ing 3E 97Mb 0.38Gb
Tz 東京電 my PC / Pentium Pro 200 Mhz
上 sound babbles against D:\win98
Gaus for computers?? no FAT32 already

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.

The maximum length of a concatenated short message is 38760 (255*152) default alphabet characters, 34170 (255*134) octets or 17085 (255*67) UCS2 characters. The Information-Element-Data field 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 and Service Centre address allows the receiving entity to discriminate between concatenated short messages sent from different originating SMEs and/or SCs.

The TP elements in the SMS-SUBMIT PDU, apart from TP-MR, TP-UDL and TP-UD, should remain unchanged for each SM which forms part of a concatenated SM, otherwise this may lead to irrational behaviour.

The Information-Element-Data octets shall be coded as follows.

Octet 1	Concatenated short message reference number This octet shall contain a modulo 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. If the value is zero then the receiving entity shall ignore the whole Information Element.
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. If the value is zero or the value is greater than the value in octet 2 then the receiving entity shall ignore the whole Information Element.

9.2.3.24.2 Special SMS Message Indication

There are three levels of "Message Waiting" indication provided within this specification. The first level is to set the Protocol Identifier to "Return Call message", which indicates that a message is waiting and relies on the text of the message to supply the detail. The second level uses the Data Coding Scheme with or without Return Call Message (see GSM 03.38) to indicate the type of message waiting and whether there are some messages or no messages. The third level is described here, and provides the maximum detail level for analysis by the mobile, i.e. an indication of the number and type of messages waiting in systems connected to the PLMN. This third level is provided for future flexibility, as it cannot immediately be used without compatibility problems with the earliest phase mobiles. It is envisaged that this scheme can start to be used once mobiles supporting TP-UDH become widely available.

This information may be stored by the MS in a form other than an SMS message, for example an indicator may be shown if the number of messages is non-zero or removed if the number of messages is zero. The MS may also store actual number of messages waiting and provide some other MMI to access this information. Text may be included by the SMS Service Centre for backward compatibility with the earliest phase mobiles and the Data Coding Scheme may also be used to convey this information in parallel for backward compatibility with "middle" phase mobiles (which support the use of Data Coding Scheme for Message Waiting Indication but not the use of TP-UDH for Message Waiting Indication).

netkit
telnetd?

The information-Element octets shall be coded as follows:

Octet 1 Message Indication type and Storage

Bit 7 Indicates whether or not the message shall be stored.

Bit 7

- | | |
|---|---|
| 0 | Discard message after updating indication |
| 1 | Store message |

In the event of a conflict between this setting and the setting of the Data Coding Scheme (see TS GSM 03.38) then the message shall be stored if either the DCS indicates this, or Octet 1 above indicates this.

Bits 6..0 show the message indication type

- | | |
|----------|--|
| 000 0000 | Voice Message Waiting |
| 000 0001 | Fax Message Waiting |
| 000 0010 | Electronic Mail Message Waiting |
| 000 0011 | Other Message Waiting (see TS GSM 03.38 for definition of "other") |

Other values are reserved for future use

Octet 2 Message Count

This octet shall contain a value in the range 0 to 255 indicating the number of messages of the type specified in Octet 1 waiting. The value 255 shall be taken to mean 255 or greater.

If more than one type of message is required to be indicated within one SMS message, then further octets must be used, as in the following example:

[00] TP-UDL [1E] (30 decimal septets)

[01] Length of TP-UDH [08]

[02] IEI = Special SMS Message Indication [01]

[03] Length = 02

[04] Octet 1 = Voice Mail, do not store [00]

[05] Octet 2 = 04 Messages

[06] IEI = Special SMS Message Indication [01]

[07] Length = 02

[08] Octet 1 = Fax Mail, Store [81]

[09] Octet 2 = 02 Messages

+ 6 Fill bits

+ 20 seven-bit character message text

The Total number of bits is 210.