

3GPP TSG-T (Terminals) Meeting #21
Frankfurt, Germany
17 - 19 September, 2003

TP-030173

Agenda Item: 5.2.3

Source: T2

Title: Change Requests on SMS

Document for: Approval

Spec	CR	Rev	Rel	Subject	Cat	Vers-Current	Vers-New	T2 doc	Workitem
23.038	010	-	Rel-6	Additional Indications in SMS DCS	C	5.0.0	6.0.0	T2-030530	TEI6
23.040	068	-	Rel-6	Videomail message waiting indication in TP-UDH	C	6.1.0	6.2.0	T2-030538	TEI6

CHANGE REQUEST

⌘ **23.038 CR 010** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Additional Indications in SMS DCS		
Source:	⌘ T2		
Work item code:	⌘ TEI6	Date:	⌘ 24/08/2003
Category:	⌘ C	Release:	⌘ Rel-6
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ As mobile devices support more and different media types, additional indications to the end user are necessary indicating that messages in the form of other media is pending.
Summary of change:	⌘ Removal of the clause stating the intention to standardise other message waiting in the future.
Consequences if not approved:	⌘ Confusion of what 'other' indications are.

Clauses affected:	⌘ Section 4 "SMS Data Coding Scheme"										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">N</td> </tr> </table>	Y	N	⌘	N	⌘	N	⌘	N	Other core specifications	⌘
	Y	N									
	⌘	N									
⌘	N										
⌘	N										
		Test specifications	⌘								
		O&M Specifications	⌘								
Other comments:	⌘										

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

4 SMS Data Coding Scheme

The TP-Data-Coding-Scheme field, defined in 3GPP TS 23.040 [4], indicates the data coding scheme of the TP-UD field, and may indicate a message class. Any reserved codings shall be assumed to be the GSM 7 bit default alphabet (the same as codepoint 00000000) by a receiving entity. The octet is used according to a coding group which is indicated in bits 7..4. The octet is then coded as follows:

Coding Group Bits 7..4	Use of bits 3..0																														
00xx	<p>General Data Coding indication Bits 5..0 indicate the following:</p> <p>Bit 5, if set to 0, indicates the text is uncompressed Bit 5, if set to 1, indicates the text is compressed using the compression algorithm defined in 3GPP TS 23.042 [13]</p> <p>Bit 4, if set to 0, indicates that bits 1 to 0 are reserved and have no message class meaning Bit 4, if set to 1, indicates that bits 1 to 0 have a message class meaning::</p> <table border="0"> <thead> <tr> <th>Bit 1</th> <th>Bit 0</th> <th>Message Class</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>Class 0</td> </tr> <tr> <td>0</td> <td>1</td> <td>Class 1 Default meaning: ME-specific.</td> </tr> <tr> <td>1</td> <td>0</td> <td>Class 2 (U)SIM specific message</td> </tr> <tr> <td>1</td> <td>1</td> <td>Class 3 Default meaning: TE specific (see 3GPP TS 27.005 [8])</td> </tr> </tbody> </table> <p>Bits 3 and 2 indicate the character set being used, as follows :</p> <table border="0"> <thead> <tr> <th>Bit 3</th> <th>Bit2</th> <th>Character set:</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>GSM 7 bit default alphabet</td> </tr> <tr> <td>0</td> <td>1</td> <td>8 bit data</td> </tr> <tr> <td>1</td> <td>0</td> <td>UCS2 (16bit) [10]</td> </tr> <tr> <td>1</td> <td>1</td> <td>Reserved</td> </tr> </tbody> </table> <p>NOTE: The special case of bits 7..0 being 0000 0000 indicates the GSM 7 bit default alphabet with no message class</p>	Bit 1	Bit 0	Message Class	0	0	Class 0	0	1	Class 1 Default meaning: ME-specific.	1	0	Class 2 (U)SIM specific message	1	1	Class 3 Default meaning: TE specific (see 3GPP TS 27.005 [8])	Bit 3	Bit2	Character set:	0	0	GSM 7 bit default alphabet	0	1	8 bit data	1	0	UCS2 (16bit) [10]	1	1	Reserved
Bit 1	Bit 0	Message Class																													
0	0	Class 0																													
0	1	Class 1 Default meaning: ME-specific.																													
1	0	Class 2 (U)SIM specific message																													
1	1	Class 3 Default meaning: TE specific (see 3GPP TS 27.005 [8])																													
Bit 3	Bit2	Character set:																													
0	0	GSM 7 bit default alphabet																													
0	1	8 bit data																													
1	0	UCS2 (16bit) [10]																													
1	1	Reserved																													
01xx	<p>Message Marked for Automatic Deletion Group</p> <p>This group can be used by the SM originator to mark the message (stored in the ME or (U)SIM) for deletion after reading irrespective of the message class. The way the ME will process this deletion should be manufacturer specific but shall be done without the intervention of the End User or the targeted application.The mobile manufacturer may optionally provide a means for the user to prevent this automatic deletion.</p> <p>Bit 5..0 are coded exactly the same as Group 00xx</p>																														
1000..1011	Reserved coding groups																														
1100	<p>Message Waiting Indication Group: Discard Message</p> <p>The specification for this group is exactly the same as for Group 1101, except that:</p> <ul style="list-style-type: none"> - after presenting an indication and storing the status, the ME may discard the contents of the message. <p>The ME shall be able to receive, process and acknowledge messages in this group, irrespective of memory availability for other types of short message.</p>																														
1101	<p>Message Waiting Indication Group: Store Message</p> <p>This Group defines an indication to be provided to the user about the status of types of message waiting on systems connected to the GSM/UMTS PLMN. The ME should present this indication as an icon on the screen, or other MMI indication. The ME shall update the contents of the Message Waiting Indication Status on the USIM (see 3GPP TS 31.102) when present or otherwise should store the status in the ME. The contents of the Message Waiting Indication Status should control the ME indicator. For each indication supported, the mobile may provide storage for the Origination Address. The ME may take note of the Origination Address for messages in this group and group 1100.</p>																														

Coding Group Bits 7..4	Use of bits 3..0
	<p>Text included in the user data is coded in the GSM 7 bit default alphabet. Where a message is received with bits 7..4 set to 1101, the mobile shall store the text of the SMS message in addition to setting the indication. The indication setting should take place irrespective of memory availability to store the short message.</p> <p>Bits 3 indicates Indication Sense:</p> <p>Bit 3 0 Set Indication Inactive 1 Set Indication Active</p> <p>Bit 2 is reserved, and set to 0</p> <p>Bit 1 Bit 0 Indication Type: 0 0 Voicemail Message Waiting 0 1 Fax Message Waiting 1 0 Electronic Mail Message Waiting 1 1 Other Message Waiting*</p> <p>* Mobile manufacturers may implement the "Other Message Waiting" indication as an additional indication without specifying the meaning. The meaning of this indication is intended to be standardized in the future, so Operators should not make use of this indication until the standard for this indication is finalized.</p>
1110	<p>Message Waiting Indication Group: Store Message</p> <p>The coding of bits 3..0 and functionality of this feature are the same as for the Message Waiting Indication Group above, (bits 7..4 set to 1101) with the exception that the text included in the user data is coded in the uncompressed UCS2 character set.</p>
1111	<p>Data coding/message class</p> <p>Bit 3 is reserved, set to 0.</p> <p>Bit 2 Message coding: 0 GSM 7 bit default alphabet 1 8-bit data</p> <p>Bit 1 Bit 0 Message Class: 0 0 Class 0 0 1 Class 1 default meaning: ME-specific. 1 0 Class 2 (U)SIM-specific message. 1 1 Class 3 default meaning: TE specific (see 3GPP TS 27.005 [8])</p>

GSM 7 bit default alphabet indicates that the TP-UD is coded from the GSM 7 bit default alphabet given in clause 6.2.1. When this character set is used, the characters of the message are packed in octets as shown in clause 6.1.2.1.1, and the message can consist of up to 160 characters. The GSM 7 bit default alphabet shall be supported by all MSs and SCs offering the service. If the GSM 7 bit default alphabet extension mechanism is used then the number of displayable characters will reduce by one for every instance where the GSM 7 bit default alphabet extension table is used. 8-bit data indicates that the TP-UD has user-defined coding, and the message can consist of up to 140 octets.

UCS2 character set indicates that the TP-UD has a UCS2 [10] coded message, and the message can consist of up to 140 octets, i.e. up to 70 UCS2 characters. The General notes specified in clause 6.1.1 override any contrary specification in UCS2, so for example even in UCS2 a <CR> character will cause the MS to return to the beginning of the current line and overwrite any existing text with the characters which follow the <CR>.

When a message is compressed, the TP-UD consists of the GSM 7 bit default alphabet or UCS2 character set compressed message, and the compressed message itself can consist of up to 140 octets in total.

When a mobile terminated message is class 0 and the MS has the capability of displaying short messages, the MS shall display the message immediately and send an acknowledgement to the SC when the message has successfully reached the MS irrespective of whether there is memory available in the (U)SIM or ME. The message shall not be automatically stored in the (U)SIM or ME.

The ME may make provision through MMI for the user to selectively prevent the message from being displayed immediately.

If the ME is incapable of displaying short messages or if the immediate display of the message has been disabled through MMI then the ME shall treat the short message as though there was no message class, i.e. it will ignore bits 0 and 1 in the TP-DCS and normal rules for memory capacity exceeded shall apply.

When a mobile terminated message is Class 1, the MS shall send an acknowledgement to the SC when the message has successfully reached the MS and can be stored. The MS shall normally store the message in the ME by default, if that is possible, but otherwise the message may be stored elsewhere, e.g. in the (U)SIM. The user may be able to override the default meaning and select their own routing.

When a mobile terminated message is Class 2 ((U)SIM-specific), an MS shall ensure that the message has been transferred to the SMS data field in the (U)SIM before sending an acknowledgement to the SC. The MS shall return a "protocol error, unspecified" error message (see 3GPP TS 24.011 [6]) if the short message cannot be stored in the (U)SIM and there is other short message storage available at the MS. If all the short message storage at the MS is already in use, the MS shall return "memory capacity exceeded". This behaviour applies in all cases except for an MS supporting (U)SIM Application Toolkit when the Protocol Identifier (TP-PID) of the mobile terminated message is set to "(U)SIM Data download" (see 3GPP TS 23.040 [4]).

When a mobile terminated message is Class 3, the MS shall send an acknowledgement to the SC when the message has successfully reached the MS and can be stored, irrespectively of whether the MS supports an SMS interface to a TE, and without waiting for the message to be transferred to the TE. Thus the acknowledgement to the SC of a TE-specific message does not imply that the message has reached the TE. Class 3 messages shall normally be transferred to the TE when the TE requests "TE-specific" messages (see 3GPP TS 27.005 [8]). The user may be able to override the default meaning and select their own routing.

The message class codes may also be used for mobile originated messages, to provide an indication to the destination SME of how the message was handled at the MS.

The MS will not interpret reserved or unsupported values but shall store them as received. The SC may reject messages with a Data Coding Scheme containing a reserved value or one which is not supported.

CHANGE REQUEST

⌘ **23.040 CR 068** ⌘ rev **-** ⌘ Current version: **6.1.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Videomail message waiting indication in TP-UDH		
Source:	⌘ T2		
Work item code:	⌘ TEI6	Date:	⌘ 26/08/2003
Category:	⌘ C	Release:	⌘ Rel-6
	<i>Use one of the following categories:</i> F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		<i>Use one of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ As mobile devices support more and different media types, additional indications to the end user are necessary indicating that messages in the form of other media is pending.
Summary of change:	⌘ Adding a Video message waiting indication by extending the current mechanism to accommodate other indications.
Consequences if not approved:	⌘ Proprietary solutions will emerge.

Clauses affected:	⌘ 9.2.3.24.2 Special SMS Message Indication										
Other specs Affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr><td style="padding: 2px;">Y</td><td style="padding: 2px;">N</td></tr> <tr><td style="padding: 2px;">Y</td><td style="padding: 2px;"></td></tr> <tr><td style="padding: 2px;"></td><td style="padding: 2px;">N</td></tr> <tr><td style="padding: 2px;"></td><td style="padding: 2px;">N</td></tr> </table>	Y	N	Y			N		N	Other core specifications	⌘ TS 31.102
	Y	N									
	Y										
		N									
	N										
	Test specifications										
	O&M Specifications										
Other comments: ⌘											

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9.2.3.24.2 Special SMS Message Indication

There are three levels of "Message Waiting" indication provided within the present document. 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 3GPP TS 23.038 [9]) 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 shall be stored by the ME in the Message Waiting Indication Status on the USIM (see 3GPP TS 31.102) when present or otherwise should be stored in the ME. The number of messages shall be stored in Message Waiting Indication Status and an indicator should be shown if the number of messages is non-zero or removed if the number of messages is zero. The ME may also provide some MMI to indicate and access the actual number of messages waiting. 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).

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 after updating indication

In the event of a conflict between this setting and the setting of the Data Coding Scheme (see 3GPP TS 23.038 [9]) 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 3GPP TS 23.038 [9] for definition of "other")~~

~~Other values are reserved for future use.~~

Bits 0 and 1 indicate the basic message indication type

- 00 Voice Message Waiting
- 01 Fax Message Waiting
- 10 Electronic Mail Message Waiting
- 11 Extended Message Type Waiting (equivalent to "other" in 3GPP TS 23.038 [9])

Bits 65432 indicate the extended message indication type.

- 00000 No extended message indication type.
- 00001 Video Message Waiting

Other values of bits 65432 where bits 0 and 1 are '11' are Reserved for future use in this Standard

Values of bits 65432 where bits 0 and 1 are '00', '01' or '10' are Reserved for future use in this Standard

Note: values using bits 65432 where bits 0 and 1 are '11' should be exhausted before using the remaining codespace due to existing early implementations erroneously using parts of this codespace.

Terminals should be capable of receiving any values in octet 1, including those marked as Reserved. Terminals may add the Message Count of all unknown Message Waiting Indication types received within the same TP-UDH and indicate this result to the user.

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. In the event of a conflict between this setting and the setting of the Data Coding Scheme (see 3GPP TS 23.038 [9]) then the Message Count in the TP-UDH shall override the indication in the TP-DCS.

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

+ 5 Fill bits

+ 19 seven-bit character message text

The Total number of bits is 210.

In the case where this IEI is to be used in a concatenated SM then the IEI, its associated IEI length and IEI data shall be contained in the first segment of the concatenated SM. The IEI, its associated IEI length and IEI data should also be contained in every subsequent segment of the concatenated SM although this is not mandatory. However, in the case where these elements are not contained in every subsequent segment of the concatenated SM and where an out of sequence segment delivery occurs or where the first segment is not delivered then processing difficulties may arise at the receiving entity which may result in the concatenated SM being totally or partially discarded.