3GPP TSG-T#4
Miami, US, 17-18 June 1999

TSGT#4(99)124

Agenda Item:

Source: T2

Title: 3G Change Requests

Document for: approval

3GPP TSG-2 meeting #4 ***Document*** ***T2-99498***

Miami, USA, 14-16 June 1999

3G CHANGE REQUEST

27.010 **CR** **A1** Current Version: 3.0.0

For submision to TSG #4 for approval **X**
for information

Form: 3G CR cover sheet, version 1.0 The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf

Proposed change affects: USIM ☐ ME **X** UTRAN ☐ Core Network ☐
(at least one should be marked with an X)

Source: T2 **Date:** 1999-06-16

Subject: Clarification of how to handle the length field in basic mode

3G Work item: TEI

Category: *(only one category shall be marked with an X)*

F	Correction	
A	Corresponds to a correction in a 2G specification	
B	Addition of feature	
C	Functional modification of feature	
D	Editorial modification	**X**

Reason for change: In the 07.10 specification it is not totally clear how the length field in basic mode shall be handle in all situations. To avoid misunderstandings these situations have to be clarified.This CR also corrects an editorial error in the section about the UI frame.

Clauses affected:

Other specs affected:

Other 3G core specifications	☐	→ List of CRs:
Other 2G core specifications	☐	→ List of CRs:
MS test specifications	☐	→ List of CRs:
BSS test specifications	☐	→ List of CRs:
O&M specifications	☐	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

5.2.1.5 Length Indicator

This field is present only in case when basic option is activated.

It has the following format:

Bit	1	2	3	4	5	6	7	8
	E/A	L1	L2	L3	L4	L5	L6	L7

Figure 1: Length field, first byte

The L1 to L7 bits indicates the length of the following data field. The default length is 31 bytes.

According to the rule of ISO/IEC 13239:1997, the range of the length field may be extended by use of the EA bit. When the EA bit is set to 1 in an octet, it is signifies that this octet is the last octet of the length field. When the EA bit is set to 0, it signifies that a second octet of the length field follows. The total length of the length field is in that case 15bits, L1-L15.

The second octet of the length field (only present when the EA field in the first byte is set to 1) format:

Bit	1	2	3	4	5	6	7	8
	L8	L9	L10	L11	L12	L13	L14	L15

Figure 2: Length field, second byte

The length field shall always be present, even if the data field is empty.

5.2.1.6 Frame Checking Sequence Field (FCS)

The FCS shall be the ones complement of the sum (modulo 2) of

a) the remainder of

$x^k (x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x^1 + 1)$

divided (modulo 2) by the generator polynomial

$x^8 + x^2 + x + 1$,

where k is the number of bits in the frame existing between, but not including, the final bit of the opening flag and the first bit of the FCS, excluding start and stop elements (start/stop transmission), and bits (synchronous transmission) and octets (start/stop transmission) inserted for transparency, and

b) the remainder of the division (modulo 2) by the generator polynomial

$x^8 + x^2 + x + 1$

of the product of x^8 by the content of the frame existing between, but not including, the final bit of the opening flag and the first bit of the FCS, excluding start and stop elements (start/stop transmission), and bits (synchronous transmission) and octets (start/stop transmission) inserted for transparency.

As a typical implementation, at the transmitter, the initial content of the register of the device computing the remainder of the division is preset to all ones and is then modified by division by the generator polynomial (as described above) of the address, control and information fields; the ones complement of the resulting remainder is transmitted as the 8-bit FCS.

At the receiver, the initial content of the register of the device computing the remainder is preset to all ones. The final remainder after multiplication by x^8 and then division (modulo 2) by the generator polynomial

$x^8 + x^2 + x + 1$

of the serial incoming protected bits and the FCS, will be 1111 0011 (x^7 through x^0, respectively) in the absence of transmission errors.

In the case of the UIH frame, the contents of the I-field shall not be included in the FCS calculation. FCS is calculated on the contents of the address, ~~and~~ control and length fields only. This means that only the delivery to the correct DLCI is protected, but not the information. ~~This means that the I-field is not protected but does permit pre-calculation of the FCS for the repertoire of DLCIs that are to be used.~~ The FCS is calculated in the normal manner for all other frames in Table **Error! Reference source not found.**.

5.3.5 Unnumbered information with header check (UIH) command and response

The UIH command/response shall be used to send information without affecting the V(S) or V(R) variables at either station. UIH is used where the integrity of the information being transferred is of lesser importance than its delivery to the correct DLCI. For the UIH frame, the FCS shall be calculated over only the address, control and length fields. ~~only the address and control fields~~.

Reception of the UIH command/response is not sequence number verified by the data link procedures; therefore, the UIH frame may be lost if a data link exception occurs during transmission of the protected portion of the command, or duplicated if an exception condition occurs during any reply to the command. There is no specified response to the UIH command/response.

5.3.6 Unnumbered Information (UI) command and response

The UI command/response shall be used to send information without affecting the V(S) or V(R) variables at either station.. Reception of the UI~~H~~ command/response is not sequence number verified by the data link procedures; therefore, the UI~~H~~ frame may be lost if a data link exception occurs during transmission of the protected portion of the command, or duplicated if an exception condition occurs during any reply to the command. There is no specified response to the UI command/response.

For the UI frame, the FCS shall be calculated over all fields (Address, Control, Length Indicator, Information).

Support of UI frames is optional.

3G CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

23.040	CR	A1	Current Version:	3.0.0

3G specification number ↑ *↑ CR number as allocated by 3G support team*

For submision to TSG	T#4	for approval	X	*(only one box should*
list TSG meeting no. here ↑		For information		*be marked with an X)*

Form: 3G CR cover sheet, version 1.0 *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf*

Proposed change affects: *(at least one should be marked with an X)*	USIM		ME	X	UTRAN		Core Network	

Source:	T2	**Date:**	15/6/99

Subject:	Clarification concerning SMSC address checking in the MS for concatenated messages and replace message types

3G Work item:	TEI

Category: *(only one category shall be marked with an X)*			
	F	Correction	
	A	Corresponds to a correction in a 2G specification	
	B	Addition of feature	
	C	Functional modification of feature	X
	D	Editorial modification	

Reason for change:	In a network which comprises multiple SMSC's it is possible for the MS to erroneously process a received SM if part of a concatenated message or a Replace Message type is delivered to the MS via different SMSC's

Clauses affected:	9.2.3.9 and 9.2.3.24.1 and 9.2.3.24.8			
Other specs affected:	Other 3G core specifications		→ List of CRs:	
	Other 2G core specifications		→ List of CRs:	
	MS test specifications		→ List of CRs:	
	BSS test specifications	X	→ List of CRs:	11.10
	O&M specifications		→ List of CRs:	
Other comments:	An LS has been sent from T2SWG3 to SMG7 requesting them to make an associated change to 11.10.			

help.doc

<--------- double-click here for help and instructions on how to create a CR.

9.2.3.9 TP-Protocol-Identifier (TP-PID)

The TP-Protocol-Identifier parameter serves the purposes indicated in subclause 3.2.3. It consists of one octet, and the bits in the octet are used as follows:

The MS will interpret reserved or unsupported values as the value 00000000 but shall store them exactly as received.

The SC may reject messages with a TP-Protocol-Identifier containing a reserved value or one which is not supported.

bits	usage
7 6	
0 0	Assigns bits 0..5 as defined below
0 1	Assigns bits 0..5 as defined below
1 0	reserved
1 1	Assigns bits 0-5 for SC specific use

In the case where bit 7 = 0 and bit 6 = 0,

bit 5 indicates telematic interworking:
value = 0 : no interworking, but SME-to-SME protocol
value = 1 : telematic interworking

In the case of telematic interworking, the following five bit patterns in bits 4..0 are used to indicate different types of telematic devices:

4.. .0	
00000	implicit - device type is specific to this SC, or can be concluded on the basis of the address
00001	telex (or teletex reduced to telex format)
00010	group 3 telefax
00011	group 4 telefax
00100	voice telephone (i.e. conversion to speech)
00101	ERMES (European Radio Messaging System)
00110	National Paging system (known to the SC)
00111	Videotex (T.100/T.101)
01000	teletex, carrier unspecified
01001	teletex, in PSPDN
01010	teletex, in CSPDN
01011	teletex, in analog PSTN
01100	teletex, in digital ISDN
01101	UCI (Universal Computer Interface, ETSI DE/PS 3 01-3)
01110..01111	(reserved, 2 combinations)
10000	a message handling facility (known to the SC)
10001	any public X.400-based message handling system
10010	Internet Electronic Mail
10011..10111	(reserved, 5 combinations)
11000..11110	values specific to each SC, usage based on mutual agreement between the SME and the SC (7 combinations available for each SC)
11111	A GSM mobile station. The SC converts the SM from the received TP-Data-Coding-Scheme to any data coding scheme supported by that MS (e.g. the default).

If bit 5 has value 1 in an SMS-SUBMIT PDU, it indicates that the SME is a telematic device of a type which is indicated in bits 4..0, and requests the SC to convert the SM into a form suited for that device type. If the destination network is ISDN, the SC must also select the proper service indicators for connecting to a device of that type.

If bit 5 has value 1 in an SMS-DELIVER PDU, it indicates that the SME is a telematic device of a type which is indicated in bits 4..0.

If bit 5 has value 0 in an SMS-DELIVER PDU, the value in bits 4..0 identifies the SM-AL protocol being used between the SME and the MS.

Note that for the straightforward case of simple MS-to-SC short message transfer the Protocol Identifier is set to the value 0.

In the case where bit 7 = 0, bit 6 = 1, bits 5..0 are used as defined below

5 0	
000000	Short Message Type 0
000001	Replace Short Message Type 1
000010	Replace Short Message Type 2
000011	Replace Short Message Type 3
000100	Replace Short Message Type 4
000101	Replace Short Message Type 5
000110	Replace Short Message Type 6
000111	Replace Short Message Type 7
001000..011110	Reserved
011111	Return Call Message
100000..111100	Reserved
111101	ME Data download
111110	ME De-personalization Short Message
111111	SIM Data download

A short message type 0 indicates that the ME must acknowledge receipt of the short message but may discard its contents.

The Replace Short Message feature is optional for the ME and the SIM but if implemented it shall be performed as described here.

For MT short messages, on receipt of a short message from the SC, the MS shall check to see if the associated Protocol Identifier contains a Replace Short Message Type code.

If such a code is present, then the MS will check ~~the associated SC address and~~ the originating address and replace any existing stored message having the same Protocol Identifier code~~,SC address~~ and originating address with the new short message and other parameter values. If there is no message to be replaced, the MS shall store the message in the normal way. The MS may also check the SC address as well as the Originating Address, However, in a network which has multiple SC's, it is possible for a Replace Message type for an SM to be sent via different SC's and so it is recommended that the SC address should not be checked by the MS unless the application specifically requires such a check.

If a Replace Short Message Type code is not present then the MS will store the message in the normal way.

In MO short messages the SC reacts similarly but only the address of the originating MS or any other source is checked.

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 uncompressed 8-bit data, the maximum length of the short message within the TP-UD field is 134 (140-6) octets.

In the case of uncompressed GSM Default 7 bit data, the maximum length of the short message within the TP-UD field is 153 (160-7) characters.

In the case of 16 bit uncompressed USC2 data, the maximum length of the short message within the TP-UD field is 67 ((140-6)/2) characters. A UCS2 character must not be split in the middle; if the length of the User Data Header is odd, the maximum length of the whole TP-UD field is 139 octets.

In the case of compressed GSM Default alphabet 7 bit data, 8 bit data or UCS2 the maximum length of the compressed short message within the TP-UD field is 134 (140-6) octets including the Compression Header and Compression Footer, both or either of which may be present (See subclause 3.9).

The maximum length of an uncompressed concatenated short message is 39015 (255*153) default alphabet characters, 34170 (255*134) octets or 17085 (255*67) UCS2 characters.

The maximum length of a compressed concatenated message is 34170 (255*134) octets including the Compression Header and Compression Footer (see subclause 3.9 and Fig 9.2.3.24.1(a) below.

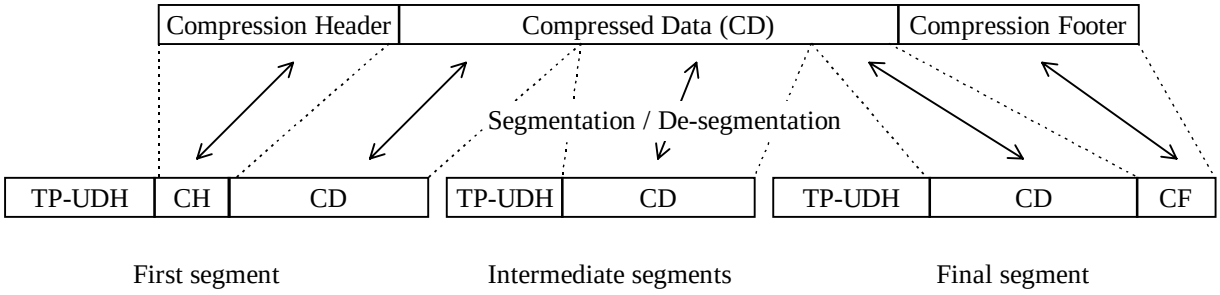

Figure 9.2.3.24.1.(a) Concatenation of a Compressed short message

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. In a network which has multiple SC's, it is possible for different segments of a concatenated SM to be sent via different SC's and so it is recommended that the SC address should not be checked by the MS unless the application specifically requires such a check.

The TP elements in the SMS-SUBMIT PDU, apart from TP-MR, TP-SRR, 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. TP-MR must be incremented for every segment of a concatenated message as defined in subclause 9.2.3.6. A SC willl handle segments of a concatenated message like any other short message. The relation between segments of a concatenated message is made only at the originator, where the message is segmented, and at the recipient, where the message is reassembled. SMS-COMMANDs identify messages by TP-MR and therefore apply to only one segment of a concatenated message. It is up to the originating SME to issue SMS-COMMANDs for all the required segments of a concatenated message.

9.2.3.24.8 Concatenated short messages, 16-bit reference number

This facility is an enhanced variant of the Concatenated Short Message facility (see subclause 9.2.3.24.1). The enhancement is a 16-bit reference number, instead of the short 8-bit reference number. The larger reference number reduces the probability that two different concatenated messages are mistakenly sent with identical reference numbers to a receiver. Except for the size of the reference number this facility is identical to the Concatenated Short Message facility (see subclause 9.2.3.24.1).

In the case of uncompressed 8-bit data, the maximum length of the short message within the TP-UD field is 133 (140-7) octets.

In the case of uncompressed GSM Default 7 bit data, the maximum length of the short message within the TP-UD field is 151 (160-9) characters.

In the case of 16 bit uncompressed USC2 data, the maximum length of the short message within the TP-UD field is 66 ((140-7)/2) characters. A UCS2 character must not be split in the middle; if the length of the User Data Header is odd, the maximum length of the whole TP-UD field is 139 octets.

In the case of compressed GSM Default alphabet 7 bit data, 8 bit data or UCS2 the maximum length of the compressed short message within the TP-UD field is 133 (140-7) octets including the Compression Header and Compression Footer, both or either of which may be present (see subclause 3.9).

The relation between compression and concatenation is the same as for Concatenated Short Messages (see subclause 9.2.3.24.1).

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. . In a network which has multiple SC's, it is possible for different segments of a concatenated SM to be sent via different SC's and so it is recommended that the SC address should not be checked by the MS unless the application specifically requires such a check.

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. TP-MR must be incremented for every segment of a concatenated message as defined in subclause 9.2.3.6. A SC will handle segments of concatenated message like any other short message. The relation between segments of a concatenated message is made at the originator, where the message is segmented, and at the receipient, where the message is reassembled. SMS-COMMANDs identify messages by TP-MR and therefore apply to only one segment of a concatenated message. It is up to the originating SME to issue SMS-COMMANDs for all the required segments of a concatenated message.

3GPP TSG-2 meeting #4
Miami, USA, 14-16 June 1999

Document ***T2-99490***

3G CHANGE REQUEST

27.007 **CR** **A1**

Current Version: 3.0.0

For submision to TSG #4 for approval [X]
for information [ ]

Form: 3G CR cover sheet, version 1.0 *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf*

Proposed change affects: USIM [ ] ME [X] UTRAN [ ] Core Network [ ]
(at least one should be marked with an X)

Source: T2 **Date:** 15 March 1999

Subject: Additional result codes for +CLIP +CCWA

3G Work item: TEI

Category:

(only one category shall be marked with an X)	F	Correction	
	A	Corresponds to a correction in a 2G specification	
	B	Addition of feature	X
	C	Functional modification of feature	
	D	Editorial modification	

Reason for change: The +CLIP: and +CCWA responses cannot display to the user whether a CLI is unavailable or actually withheld by the calling party

Clauses affected: 7.6, 7.11

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other 2G core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

7.6 Calling line identification presentation +CLIP

Table 1: +CLIP parameter command syntax

Command	Possible response(s)
+CLIP=[<n>]	
+CLIP?	+CLIP: <n>,<m>
+CLIP=?	+CLIP: (list of supported <n>s)

Description

This command refers to the GSM supplementary service CLIP (Calling Line Identification Presentation) that enables a called subscriber to get the calling line identity (CLI) of the calling party when receiving a mobile terminated call. Set command enables or disables the presentation of the CLI at the TE. It has no effect on the execution of the supplementary service CLIP in the network.

When the presentation of the CLI at the TE is enabled (and calling subscriber allows), +CLIP: <number>,<type>[,<subaddr>,<satype>[,[<alpha>]–[,<CLI validity>]]]response is returned after every RING (or +CRING: <type>; refer subclause "Cellular result codes +CRC") result code sent from TA to TE. It is manufacturer specific if this response is used when normal voice call is answered.

Read command gives the status of <n>, and also triggers an interrogation of the provision status of the CLIP service according GSM 02.81 [3] (given in <m>).Test command returns values supported by the TA as a compound value.

Defined values

<n> (parameter sets/shows the result code presentation status in the TA):

0 disable

1 enable

<m> (parameter shows the subscriber CLIP service status in the network):

0 CLIP not provisioned

1 CLIP provisioned

2 unknown (e.g. no network, etc.)

<number>: string type phone number of format specified by <type>

<type>: type of address octet in integer format (refer GSM 04.08 [8] subclause 10.5.4.7)

<subaddr>: string type subaddress of format specified by <satype>

<satype>: type of subaddress octet in integer format (refer GSM 04.08 [8] subclause 10.5.4.8)

<alpha>: optional string type alphanumeric representation of <number> corresponding to the entry found in phonebook; used character set should be the one selected with command Select TE Character Set +CSCS

<CLI validity>:

0 CLI valid

1 CLI has been withheld by the originator.

2 CLI is not available due to interworking problems or limitations of originating network.

Implementation

Optional.

7.11 Call waiting +CCWA

Table 2: +CCWA parameter command syntax

Command	Possible response(s)
+CCWA=[<n>[,<mode>[,<class>]]]	*+CME ERROR: <err>* **when <mode>=2 and command successful** +CCWA: <status>,<class1> [<CR><LF>+CCWA: <status>,<class2> [...]]
+CCWA?	+CCWA: <n>
+CCWA=?	+CCWA: (list of supported <n>s)

Description

This command allows control of the Call Waiting supplementary service according to GSM 02.83 [5]. Activation, deactivation and status query are supported. When querying the status of a network service (<mode>=2) the response line for 'not active' case (<status>=0) should be returned only if service is not

active for any <class>. Parameter <n> is used to disable/enable the presentation of an unsolicited result code +CCWA: <number>,<type>,<class>[,[<alpha>][,<CLI validity>]] to the TE when call waiting service is enabled. Command should be abortable when network is interrogated.
The interaction of this command with other commands based on other GSM supplementary services is described in the GSM standard.
Test command returns values supported by the TA as a compound value.

Defined values

<n> (sets/shows the result code presentation status in the TA):
0 disable
1 enable

<mode> (when <mode> parameter is not given, network is not interrogated):
0 disable
1 enable
2 query status

<class*x*> is a sum of integers each representing a class of information (default 7):
1 voice (telephony)
2 data (refers to all bearer services; with <mode>=2 this may refer only to some bearer service if TA does not support values 16, 32, 64 and 128)
4 fax (facsimile services)
8 short message service
16 data circuit sync
32 data circuit async
64 dedicated packet access
128 dedicated PAD access

<status>:
0 not active
1 active

<number>: string type phone number of calling address in format specified by <type>

<type>: type of address octet in integer format (refer GSM 04.08 [8] subclause 10.5.4.7)

<alpha>: optional string type alphanumeric representation of <number> corresponding to the entry found in phonebook; used character set should be the one selected with command Select TE Character Set +CSCS

<CLI validity>:
0 CLI valid
1 CLI has been withheld by the originator.
2 CLI is not available due to interworking problems or limitations of originating network.

Implementation

Optional.

3GPP TSG-2 meeting #4 ***Document*** ***T2-99566***

Miami, USA, 14-16 June 1999

3G CHANGE REQUEST

27.007 **CR** **A2** Current Version: 3.0.0

For submision to TSG #4 for approval **X**
for information

Form: 3G CR cover sheet, version 1.0 The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf

Proposed change affects: USIM ☐ ME **X** UTRAN ☐ Core Network ☐
(at least one should be marked with an X)

Source: T2 **Date:** 1999-05-26

Subject: ECSD additions

3G Work item: EDGE circuit switched data

Category:

F	Correction	
A	Corresponds to a correction in a 2G specification	
B	Addition of feature	**X**
C	Functional modification of feature	
D	Editorial modification	

Reason for change: The introduction of ECSD requires additions to the +CHSD and +CHSC command in order to cater for the new channel codings and the new 56/64k air interface user rates.

Clauses affected: 6.12, 6.15

Other specs affected:

Other 3G core specifications	☐	→ List of CRs:
Other 2G core specifications	☐	→ List of CRs:
MS test specifications	☐	→ List of CRs:
BSS test specifications	☐	→ List of CRs:
O&M specifications	☐	→ List of CRs:

Other comments:


help.doc

<--------- double-click here for help and instructions on how to create a CR.

6.12 HSCSD device parameters +CHSD

Table 1: +CHSD action command syntax

Command	Possible response(s)
+CHSD	+CHSD: <mclass>,<maxRx>,<maxTx>,<sum>,<codings> *+CME ERROR: <err>*
+CHSD=?	

Description

Execution command returns information about HSCSD features (refer GSM 02.34 [29]) supported by the ME/TA. Refer subclause 9.2 for possible <err> values.

Defined values

<mclass>: integer type; multislot class

<maxRx>: integer type; maximum number of receive timeslots that ME can use

<maxTx>: integer type; maximum number of transmit timeslots that ME can use

<sum>: integer type; total number of receive and transmit timeslots that ME can use at the same time (per TDMA frame). The following applies in a HSCSD call: 1 ≤ (receive slots) + (transmit slots) ≤ <sum>

<codings> is a sum of integers each representing a supported channel coding (e.g. value 5 indicates that 4.8k and 9.6k channel codings are supported):

1 4.8k full rate data traffic channel

4 9.6k full rate data traffic channel

8 14.4k full rate data traffic channel

16 28.8k full rate data traffic channel (only possible when 14.4k is supported)

32 32.0k full rate data traffic channel (only possible in a two-timeslot configuration)

64 43.2k full rate data traffic channel (only possible when 14.4k is supported)

Implementation

Mandatory when HSCSD implemented.

6.13 HSCSD transparent call configuration +CHST

Table 2: +CHST parameter command syntax

Command	Possible response(s)
+CHST=[<wRx>[,<codings>]]	
+CHST?	+CHST: <wRx>,<codings>
+CHST=?	

Description

Set command controls parameters for transparent HSCSD calls. Changing them during a call does not affect the current call.

Defined values

<wRx>: integer type; wanted amount of receive timeslots. Default value 0 indicates that TA shall calculate a proper value from currently selected fixed network user rate (<speed> subparameter from +CBST command) and <codings>

<codings>: a sum of integers each representing a channel coding that is accepted for transparent HSCSD calls. Default value 0 indicates that all supported codings are accepted (refer +CHSD command for other values)

Implementation

Mandatory when transparent HSCSD implemented.

6.14 HSCSD non-transparent call configuration +CHSN

Table 3: +CHSN parameter command syntax

Command	Possible response(s)
+CHSN=[<wAiur>[,<wRx>[,<topRx>[,<codings>]]]]	
+CHSN?	+CHSN: <wAiur>,<wRx>,<topRx>,<codings>
+CHSN=?	+CHSN: <maxAiur>,<modify>

Description

Set command controls parameters for non-transparent HSCSD calls. Changing <topRx> or <codings> value during a call does not affect the current call. Changing of <wAiur> or <wRx> affects the current call only if <topRx> was non-zero when call was established.

Defined values

<wAiur>: integer type; wanted air interface user rate. Default value 0 indicates that TA shall calculate a proper value from currently selected fixed network user rate (<speed> subparameter from +CBST command), <codings>, and <wRx> (or <maxRx> from +CHSD command if <wRx>=0). Other values:

1 9600 bps

2 14400 bps

3 19200 bps

4 28800 bps

5 38400 bps

6 43200 bps

7 57600 bps

<wRx>: integer type; wanted amount of receive timeslots. Default value 0 indicates that TA shall calculate a proper value from currently selected <wAiur> and <codings>

<topRx>: integer type; top value for <wRx> that user is going to request during the next established non-transparent HSCSD call. Default value 0 indicates that user is not going to change <wAiur>/<wRx> during the next call

<codings>: a sum of integers each representing a channel coding that is accepted for non-transparent HSCSD calls. Default value 0 indicates that all supported codings are accepted (refer +CHSD command for other values)

<maxAiur>: integer type; maximum value for <wAiur> (assuming that all supported channel codings are accepted and maximum number of timeslots are used)

<modify>:

0 <wAiur>/<wRx> modification during call is not supported by ME/TA (<topRx> accepts only 0)

1 <wAiur>/<wRx> modification during call is supported by ME/TA

Implementation

Mandatory when non-transparent HSCSD implemented.

6.15 HSCSD current call parameters +CHSC

Table 4: +CHSC action command syntax

Command	Possible response(s)
+CHSC	+CHSC: <rx>,<tx>,<aiur>,<coding>
+CHSC=?	

Description

Execution command returns information about current HSCSD call. If no HSCSD call is active, all parameters returned shall equal zero. (It is manufacturer specific whether non-zero information is returned in case of an active normal single-slot data call.)

Defined values

<rx>: integer type; number of receive timeslots currently in use

<tx>: integer type; number of transmit timeslots currently in use

<aiur>: integer type; current air interface user rate (in case of transparent service this equals fixed network user rate) (refer +CHSN command for possible values). For the two-timeslot ECSD bit transparent configuration the following additional values apply:

8 56000 bps

9 64000 bps

<coding>: current channel coding (refer +CHSD command for possible values)

Implementation

Optional.

3GPP TSG-2 meeting #4 ***Document*** ***T2-99567***

Miami, USA, 14-16 June 1999

3G CHANGE REQUEST

27.007 **CR** **A3** Current Version: 3.0.0

For submision to TSG #4 for approval [X]
for information [ ]

Form: 3G CR cover sheet, version 1.0 The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf

Proposed change affects: USIM [ ] ME [X] UTRAN [ ] Core Network [ ]
(at least one should be marked with an X)

Source: T2 **Date:** 1999-05-26

Subject: ECSD asymmetry

3G Work item: EDGE circuit switched data

Category:
(only one category shall be marked with an X)

F	Correction	[ ]
A	Corresponds to a correction in a 2G specification	[ ]
B	Addition of feature	[ ]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Reason for change: The introduction of user indicated asymmetry preference for non-transparent ECSD is in this CR proposed controlled by a new AT command, +CHSA

Clauses affected: 6.18 (new)

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other 2G core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:


help.doc

<--------- double-click here for help and instructions on how to create a CR.

6.18 HSCSD non-transparent asymmetry configuration +CHSA

Table 1: +CHSA parameter command syntax

Command	Possible response(s)
+CHSA=<mode>	
+CHSA?	+CHSA: <mode>
+CHSA=?	+CHSA: (list of supported <mode>s)

Description

Set command controls the preferred asymmetry bias for non-transparent ECSD calls. Downlink biased asymmetry means that 8-PSK modulation is preferred downlink and GMSK modulation uplink. Uplink based asymmetry means that 8-PSK modulation is preferred uplink and GMSK downlink. The allowed preferred asymmetry bias may *be MS Type* dependant (see GSM 0x.xx). Changing of <mode> affects the current call only if <topRx> (refer +CHSN) was non-zero when call was established.

Test command returns values supported by the ME/TA as compound values. The <mode> subparameter range indirectly indicates the MS Type; range (0-1) indicates MS Type A and range (0-2) indicates MS Type B.

NOTE: ECSD is also controlled by +CHSD, +CHSN and +CHST.

Defined values

<mode>:

0 No preference

1 Downlink biased asymmetry

2 Uplink biased asymmetry

Implementation

Mandatory when non-transparent ECSD is implemented.

3GPP TSG-T2 meeting #4
Miami, Florida, USA, 14-16 June 1999

Document ***T2-99535***

3G CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

23.038 **CR** **A1** Current Version: 3.0.0

3G specification number ↑ *↑ CR number as allocated by 3G support team*

For submision to TSG T#4 *list TSG meeting no. here ↑*

for approval [X]
for information [ ]

(only one box should be marked with an X)

Form: 3G CR cover sheet, version 1.0 *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf*

Proposed change affects: *(at least one should be marked with an X)* USIM [ ] ME [X] UTRAN [ ] Core Network [X]

Source: T2 **Date:** 14/06/1999

Subject: Data Coding Scheme for WAP over USSD and CB

3G Work item: MExE

Category: *(only one category shall be marked with an X)*

F	Correction	[ ]
A	Corresponds to a correction in a 2G specification	[ ]
B	Addition of feature	[ ]
C	Functional modification of feature	[X]
D	Editorial modification	[ ]

Reason for change: Current GSM 03.38 does not allow the indication of WAP specific messages, nor User Data Header, over USSD or Cell Broadcast. By reserving one Reserved Coding Group in Data Coding Scheme for network originated WAP specific messages, the terminal would know to use that WAP specific coding has been used for the message.

Clauses affected: Sections 2 and 5

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other 2G core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

1 Scope

This TS defines the language-specific requirements for GSM. These are specific codepoints required by the Short Message Service (SMS) specifications which in turn are used not only for SMS (GSM 03.40, 03.41) but also for Unstructured Data (GSM 02.90) and may additionally be used for Man Machine Interface (MMI) (GSM 02.30).

The specification for the Data Circuit terminating Equipment/Data Terminal Equipment (DCE/DTE) interface (GSM 07.05 [8]) will also use the codes specified herein for the transfer of SMS data to an external terminal.

2 Normative references

References may be made to:

a) specific versions of publications (identified by date of publication, edition number, version number, etc.), in which case, subsequent revisions to the referenced document do not apply; or
b) all versions up to and including the identified version (identified by "up to and including" before the version identity); or
c) all versions subsequent to and including the identified version (identified by "onwards" following the version identity); or
d) publications without mention of a specific version, in which case the latest version applies.

A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

[1] GSM 01.04: "Digital cellular telecommunication system (Phase 2+); Abbreviations and acronyms".

[2] GSM 02.30: "Digital cellular telecommunication system (Phase 2+); Man-Machine Interface (MMI) of the Mobile Station (MS)".

[3] GSM 03.90: "Digital cellular telecommunication system (Phase 2+); Unstructured supplementary services operation - Stage 2".

[4] GSM 03.40: "Digital cellular telecommunication system (Phase 2+); Technical realization of the Short Message Service (SMS) Point to Point (PP)".

[5] GSM 03.41: "Digital cellular telecommunication system (Phase 2+); Technical realization of Short Message Service Cell Broadcast (SMSCB)".

[6] GSM 04.11: "Digital cellular telecommunication system (Phase 2+); Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".

[7] GSM 04.12: "Digital cellular telecommunication system (Phase 2+); Short Message Service Cell Broadcast (SMSCB) support on the mobile radio interface".

[8] GSM 07.05: "Digital cellular telecommunication system (Phase 2+); Use of Data Terminal Equipment - Data Circuit terminating Equipment (DTE - DCE) interface for Short Message Service (SMS) and Cell Broadcast Service (CBS)".

[10] ISO/IEC10646: "Universal Multiple-Octet Coded Character Set (UCS)"; UCS2, 16 bit coding.

[11] GSM 04.90: "Digital cellular telecommunication system (Phase 2+); Unstructured supplementary services operation - Stage 3".

[12] ISO 639 “Code for the representation of names of languages”

[13] GSM 03.42: "Digital cellular telecommunication system (Phase 2+); Compression algorithm for text messaging services”.

[14] GSM 03.40: "Digital cellular telecommunication system (Phase 2+); Technical realization of the Short Message Service (SMS) Point to Point (PP)".

[15] "Wireless Datagram Protocol Specification", Wireless Application Protocol Forum Ltd.

5 Cell Broadcast Data Coding Scheme

The Cell Broadcast Data Coding Scheme indicates the intended handling of the message at the MS, the alphabet/coding, and the language (when applicable). Any reserved codings shall be assumed to be the GSM default alphabet (the same as codepoint 00001111) 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
0000	Language using the default alphabet Bits 3..0 indicate the language: 0000 German 0001 English 0010 Italian 0011 French 0100 Spanish 0101 Dutch 0110 Swedish 0111 Danish 1000 Portuguese 1001 Finnish 1010 Norwegian 1011 Greek 1100 Turkish 1101Hungarian 1110 Polish 1111 Language unspecified
0001	0000 Default alphabet; message preceded by language indication. The first 3 characters of the message are a two-character representation of the language encoded according to ISO 639 [12], followed by a CR character. The CR character is then followed by 90 characters of text. A Pre-Phase 2+ MS will overwrite the start of the message up to the CR and present only the text. 0001 UCS2; message preceded by language indication The message starts with a two 7-bit default alphabet character representation of the language encoded according to ISO 639 [12]. This is padded to the octet boundary with two bits set to 0 and then followed by 40 characters of UCS2-encoded message. An MS not supporting UCS2 coding will present the two character language identifier followed by improperly interpreted user data. 0010..1111 Reserved for European languages
0010..	0000 Czech 0001 .. 1111 Reserved for European Languages using the default alphabet, with unspecified handling at the MS
0011	0000..1111 Reserved for European Languages using the default alphabet, with unspecified handling at the MS

(continued)

(concluded)

01xx	General Data Coding indication Bits 5..0 indicate the following: Bit 5, if set to 0, indicates the text is uncompressed Bit 5, if set to 1, indicates the text is compressed using the GSM standard compressing algorithm. (see GSM TS 03.42) 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: Bit 1 Bit 0 Message Class: 0 0 Class 0 0 1 Class 1 Default meaning: ME-specific. 1 0 Class 2 SIM specific message. 1 1 Class 3 Default meaning: TE-specific (see GSM TS 07.05 [8]) Bits 3 and 2 indicate the alphabet being used, as follows: Bit 3 Bit 2 Alphabet: 0 0 Default alphabet 0 1 8 bit data 1 0 USC2 (16 bit) [10] 1 1 Reserved
~~Coding Group Bits 7..4~~	~~Use of bits 3..0~~
1000..~~1110~~1101	Reserved coding groups
1110	~~Reserved for~~Defined by the WAP Forum [15]
1111	Data coding / message handling Bit 3 is reserved, set to 0. Bit 2 Message coding: 0 Default alphabet 1 8 bit data Bit 1 Bit 0 Message Class: 0 0 No message class. 0 1 Class 1 user defined. 1 0 Class 2 user defined. 1 1 Class 3 default meaning: TE specific (see GSM TS 07.05 [8])

These codings may also be used for Unstructured SS Data and MMI/display purposes.

See GSM 04.90 [11] for specific coding values applicable to Unstructured SS Data for MS originated USSD messages and MS terminated USSD messages. USSD messages using the default alphabet are coded with the 7-bit alphabet given in subclause 6.2.1. The message can then consist of up to 182 user characters.

Cell Broadcast messages using the default alphabet are coded with the 7-bit alphabet given in subclause 6.2.1. The message then consists of 93 user characters.

If the 7 bit default alphabet extension mechanism is used then the number of displayable characters will reduce by one for every instance where the 7 bit default alphabet extension table is usedCell Broadcast messages using 8-bit data have user-defined coding, and will be 82 octets in length.

UCS2 alphabet indicates that the message is coded in UCS2 [10]. The General notes specified in subclause 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>. Messages encoded in UCS2 consist of 41 characters.

Class 1 and Class 2 messages may be routed by the ME to user-defined destinations, but the user may override any default meaning and select their own routing.

Class 3 messages will normally be selected for transfer to a TE, in cases where a ME supports an SMS/CBS interface to a TE, and the TE requests "TE-specific" cell broadcast messages (see GSM 07.05 [8]). The user may be able to override the default meaning and select their own routing.