3GPP TSG CN Plenary **Tdoc NP-000667**
Meeting #10, Bangkok, Thailand
6th – 8th December 2000

Source: **TSG CN WG 1**

Title: **CRs to Rel-4 Work Item ASCI**

Agenda item: **8.19**

Document for: **APPROVAL**

Introduction:

This document contains 7 CRs on **Rel-4** Work Item **"ASCI"**, that have been agreed by **TSG CN WG1**, and are forwarded to TSG CN Plenary meeting #10 for approval.

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
43.069	003		N1-001172	Rel-4	Call Waiting is not applicable to an originator in	F	4.1.1
43.068	004		N1-001171	Rel-4	Call Waiting is not applicable to an	F	4.1.1
43.068	006	1	N1-001401	Rel-4	DTMF precision	F	4.1.1
43.069	005	1	N1-001402	Rel-4	DTMF precision	F	4.1.1
24.008	262	1	N1-001400	Rel-4	The Group or Broadcast Call Reference from the	C	4.0.0
43.068	005		N1-001181	Rel-4	Wrong Field Name for OTDI	F	4.1.1
43.069	004		N1-001182	Rel-4	Wrong Field Name for OTDI	F	4.1.1

3GPP TSG-CN WG1 Meeting #14 **Tdoc N1-001171**
ardiff, South Wales, 20 – 24 November 2000

CR-Form-v3

CHANGE REQUEST

⌘ **43.068** **CR** **004** ⌘ rev **-** ⌘ Current version: **4.1.1** ⌘

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

Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network ☐ Core Network X

Title:	⌘	Call Waiting is not applicable to an originator/talker in dedicated mode
Source:	⌘	STF139 / SAGEM
Work item code:	⌘	ASCI
Date:	⌘	06/09/2000
Category:	⌘	**F**
Release:	⌘	REL-4

Use one of the following categories:
F *(essential 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 one 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)*

Reason for change:	⌘	Call Waiting is not applicable for VGCS.
Summary of change:	⌘	Clarifies that call waiting is not applicable for VGCS.
Consequences if not approved:	⌘	Specification may be misleading.

Clauses affected:	⌘	11.3.1.3
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ 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/3G_Specs/CRs.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://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 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.

11.3.1.3 Notification procedures

Different notification procedures shall be applied in relation to the mode of the mobile station as presented in table 1 and defined in the following sections.

Table 1: Overview on different information messages for new or on-going calls

call type: **MS states:**	**group call**	**point-to-point call**
Idle mode	(section a)	(standard paging)
group receive mode and group transmit mode	(section b)	(section c)
dedicated mode	(section b)	(standard Call Waiting) (Note 1)

Note 1 : only for point to point calls with certain restrictions as defined in 3G TS 22.083

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CHANGE REQUEST

⌘ **43.069** **CR** **003** ⌘ rev **-** ⌘ Current version: **4.1.1** ⌘

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

Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network ☐ Core Network X

Title:	⌘	Call Waiting is not applicable to an originator in dedicated mode
Source:	⌘	STF139 / SAGEM
Work item code:	⌘	ASCI
Date:	⌘	06/09/2000
Category:	⌘	**F**
Release:	⌘	REL-4

Use one of the following categories:
F *(essential 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 one 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)*

Reason for change:	⌘	Call Waiting is not applicable for VBS.
Summary of change:	⌘	Clarifies that Call Waiting is not applicable for VBS.
Consequences if not approved:	⌘	Specification may be misleading.

Clauses affected:	⌘	11.3.1.3		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘			

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call type: **MS states:**	broadcast call	point-to-point call
Idle mode	(section a)	(standard paging)
group receive mode	(section b)	(section c)
dedicated mode	(section b)	(standard Call Waiting) (Note 1)

Note 1 : only for point to point calls with certain restrictions as defined in 3G TS 22.083

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Tdoc N1-001181

CR-Form-v3

CHANGE REQUEST

⌘ **43.068** **CR** **005** ⌘ rev **-** ⌘ Current version: **4.1.1** ⌘

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

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☒ Radio Access Network ☐ Core Network ☒

Title:	⌘	Wrong field name for OTDI
Source:	⌘	STF139
Work item code:	⌘	ASCI
Date:	⌘	10.09.00
Category:	⌘	**F**
Release:	⌘	REL-4

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
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C *(Functional modification of feature)*
D *(Editorial modification)*
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Use one 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)

Reason for change:	⌘	User-to-user information is the right field to be used in UUS1 when setting up the standard connections
Summary of change:	⌘	Correction of field name
Consequences if not approved:	⌘	Wrong name

Clauses affected:	⌘	4.2.2.1		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	43.069
Other comments:	⌘			

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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.

4.2 Group conversations

4.2.1 Group call initiation

4.2.1.1 Normal operation with successful outcome

A group call area can be restricted to a single MSC area or can exceed one MSC area.

A voice group call shall be initiated by a calling subscriber by a related input function, e.g. via MMI, specifying the selected service and the group ID dialled. As an option, the request of the calling subscriber to set up a voice group call may specify information to be sent as originator-to-dispatcher information to the network; in this case the originator-to-dispatcher information is included in the signalling for call setup from the mobile station to the network. It is the responsibility of the input function to ensure that the originator-to-dispatcher information has a correct format (in particular, an allowed length).

The MSC in which a voice group call is initiated obtains (by requesting the Group Call Register (GCR, see clause 5) the group call attributes.

This GCR interrogation after call initiation also determines whether the MSC shall act as anchor or as relay MSC. If the MSC is not the MSC then the call will be "forwarded" from the relay to the respective MSC (information also delivered by GCR) and further "call-establishment" is done by the anchor MSC as described in the following.

When a calling subscriber initiates a voice group call, one voice group call channel shall be established in each cell of the group call area and notifications for that call shall be sent in each of these cells. As an alternative, voice group call channels may only be established in cells in reaction to responses received from mobile stations on the notifications using notification response procedure. At the same time standard connections to dispatchers in the mobile network or in an external network shall be established. If originator-to-dispatcher information has been received in the signalling for call setup from the mobile station to the network and if the originating MSC supports processing of originator-to-dispatcher information, this information is transformed into ~~originator~~user-to-user information and sent to the dispatchers as UUS1 when setting up the standard connections.

A voice group call channel shall consist of a combined uplink/downlink. The uplink will be used exclusively by the presently talking service subscriber. All mobile stations of the listening service subscribers in one cell shall only listen to the same common downlink.

The calling subscriber shall have its dedicated standard connection during call establishment and for the first period when he will be the talking service subscriber up to the time when the network decides that he shall join the voice group call channel. The mobile station of the calling subscriber shall then go to the voice group call channel and the dedicated standard connection shall be released.

Only one voice group call channel shall be established in each cell for any given voice group call, although there may be a number of simultaneous voice group calls within the same cell.

Service subscribers shall be notified on the voice group call in each cell. These voice group call notification messages shall be broadcast on the notification channel (NCH).

The notification messages use the group ID rather than individual TMSIs/IMSIs. Additionally, a group call area identification shall be included in order to enable a resolution in the case of overlapping group call areas. A service subscriber's mobile station needs to be able to recognise notification messages for those group IDs subscribed to and presently activated.

The network may also send messages on appropriate voice group call channel FACCHs, in order to notify group call members who may participate in other voice group calls. In addition, also paging information messages for standard calls may be sent in order to inform group call members on actually paged point-to-point calls.

Further the network may provide notification on the voice group call to service subscribers who have subscribed to the paged group ID and which are in dedicated mode. The process of broadcasting messages on NCHs is to be carried out throughout the call in order to provide the "late entry" facility whereby group members entering the area can join the call.

On receiving notification of a voice group call a group call member's mobile station shall adjust to the nominated channel to receive the voice group call if this channel was described in the notification message and receive the information on the downlink. Whilst receiving, the mobile station shall not transmit on the uplink SACCH. This group receive mode is different to the normal idle mode or dedicated mode. If no channel description was provided in the

notification message, the mobile station shall establish a dedicated connection by use of the notification response procedure in order to respond to the notification. The network may then provide the mobile station with a channel description for the voice group call.

As a further mobile station option, the mobile station may read its paging subchannel in the current cell while in group receive mode or in group transmit mode in order to receive paging messages for mobile terminated calls.

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Cardiff, Wales - 20 - 24 November, 2000

Tdoc N1-001182

CR-Form-v3

CHANGE REQUEST

⌘ **43.069** **CR** **004** ⌘ rev **-** ⌘ Current version: **4.1.1** ⌘

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

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☒ Radio Access Network ☐ Core Network ☒

Title:	⌘	Wrong field name for OTDI
Source:	⌘	STF139
Work item code:	⌘	ASCI
Date:	⌘	10.09.00
Category:	⌘	**F**
Release:	⌘	REL-4

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
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Use one 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)

Reason for change:	⌘	User-to-user information is the right field to be used in UUS1 when setting up the standard connections.
Summary of change:	⌘	Correction field name
Consequences if not approved:	⌘	Wrong name

Clauses affected:	⌘	4.2.2.1		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	43.068
Other comments:	⌘			

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The notification messages use the group ID rather than individual TMSIs/IMSIs. Additionally, a group call area identification shall be included in order to enable a resolution in the case of overlapping group call areas. A service subscriber's mobile station needs to be able to recognise notification messages for those group IDs subscribed to and presently activated.

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Further the network may provide notification on the voice group call to service subscribers who have subscribed to the paged group ID and which are in dedicated mode. The process of broadcasting messages on NCHs is to be carried out throughout the call in order to provide the "late entry" facility whereby group members entering the area can join the call.

On receiving notification of a voice group call a group call member's mobile station shall adjust to the nominated channel to receive the voice group call if this channel was described in the notification message and receive the information on the downlink. Whilst receiving, the mobile station shall not transmit on the uplink SACCH. This group receive mode is different to the normal idle mode or dedicated mode. If no channel description was provided in the

notification message, the mobile station shall establish a dedicated connection by use of the notification response procedure in order to respond to the notification. The network may then provide the mobile station with a channel description for the voice group call.

As a further mobile station option, the mobile station may read its paging subchannel in the current cell while in group receive mode or in group transmit mode in order to receive paging messages for mobile terminated calls.

3GPP TSG-CN WG1 Meeting #14
Cardiff, South Wales, 20 – 24 November 2000

Tdoc N1-001400
(revised from N1-001173)

CR-Form-v3

CHANGE REQUEST

⌘ **24.008** **CR** **262** ⌘ rev **1** ⌘ Current version: **4.0.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network **X** Core Network ☐

Title:	⌘	The Group or Broadcast Call Reference from the mobile station to the network
Source:	⌘	STF139 / SAGEM
Work item code:	⌘	ASCI
Date:	⌘	23 Nov. 2000
Category:	⌘	**C**
Release:	⌘	REL-4

Use one of the following categories:
F *(essential 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 one 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)*

Reason for change:	⌘	The purpose is to distinguish relevant information send by the network to the mobile from the relevant information send by the mobile to the network.
Summary of change:	⌘	Add separate specifications for the information sent by the network and sent by the mobile station.
Consequences if not approved:	⌘	Unnecessary implementations in the mobile.

Clauses affected:	⌘	10.5.1.9		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘			

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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.

10.5.1.8 Spare Half Octet

This element is used in the description of messages in section 9 when an odd number of half octet type 1 information elements are used . This element is filled with spare bits set to zero and is placed in bits 5 to 8 of the octet unless otherwise specified.

10.5.1.9 Descriptive group or broadcast call reference

The purpose of the *Descriptive Group or Broadcast Call Reference* is to provide information describing a voice group or broadcast call. The IE of the *Descriptive Group or Broadcast Call Reference* is composed of the group or broadcast call reference together with a service flag, an acknowledgement flag, the call priority and the group cipher key number.

The *Descriptive Group or Broadcast Call Reference* information element is coded as shown in figure 10.5.8/TS 24.008 and Table10.5.8/TS 24.008

The *Descriptive Group or Broadcast Call Reference* is a type 3 information element with 6 octets length.

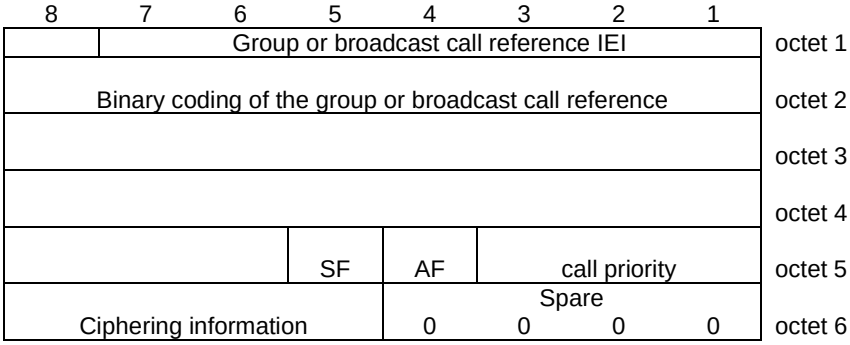

Figure 10.5.8/TS 24.008 Descriptive Group or Broadcast Call Reference

Table 10.5.8/TS 24.008 Descriptive Group or Broadcast Call Reference

Binary code of the group or broadcast call reference
The length of the binary code has 27 bits which is encoded in the octet 2, 3, 4 and Bits 8,7,6 (octet 5).
The highest bit of the BC is the bit 8 in the octet 2 and the lowest bit is allocated in the bit 6 in the octet 5. (see also GSMß03.03)
SF Service flag (octet 5)
Bit
5
0 VBS (broadcast call reference)
1 VGCS (group call reference)

~~**Direction network to MS**~~
AF Acknowledgement flag (octet 5), network to MS direction:
Bit
4
0 acknowledgement is not required
1 acknowledgement is required

Call priority (octet 5)
Bit

3	**2**	**1**	
0	0	0	no priority applied
0	0	1	call priority level 4
0	1	0	call priority level 3
0	1	1	call priority level 2
1	0	0	call priority level 1
1	0	1	call priority level 0
1	1	0	call priority level B
1	1	1	call priority level A

Ciphering information (octet 6)
Bit

8	**7**	**6**	**5**	
0	0	0	0	no ciphering
0	0	0	1	ciphering with cipher key number 1
0	0	1	0	ciphering with cipher key number 2
0	0	1	1	ciphering with cipher key number 3
0	1	0	0	ciphering with cipher key number 4
0	1	0	1	ciphering with cipher key number 5
0	1	1	0	ciphering with cipher key number 6
0	1	1	1	ciphering with cipher key number 7
1	0	0	0	ciphering with cipher key number 8
1	0	0	1	ciphering with cipher key number 9
1	0	1	0	ciphering with cipher key number A
1	0	1	1	ciphering with cipher key number B
1	1	0	0	ciphering with cipher key number C
1	1	0	1	ciphering with cipher key number D
1	1	1	0	ciphering with cipher key number E
1	1	1	1	ciphering with cipher key number F

~~**Direction MS to network**~~
AF Acknowledgement flag (octet 5), MS to network direction:
Bit 4 is spare and shall be set to "0".
~~**4**~~
~~0~~ ~~spare~~

Call priority (octet 5)
Bits 1 to 34 are spare and shall be set to "0".

~~**3**~~	~~**2**~~	~~**1**~~	
~~0~~	~~0~~	~~0~~	~~spare~~

Ciphering information (octet 6)
Bits 5 to 8 are spare and shall be set to "0".

~~**8**~~	~~**7**~~	~~**6**~~	~~**5**~~	
~~0~~	~~0~~	~~0~~	~~0~~	~~spare~~

3GPP TSG-CN1 Meeting #14
Cardiff, Wales - 20 - 24 November, 2000

Tdoc N1-001401
(revised from N1-001183)

CR-Form-v3

CHANGE REQUEST

⌘ **43.068** **CR** **006** ⌘ rev **1** ⌘ Current version: **4.1.1** ⌘

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

Proposed change affects: ⌘ (U)SIM [ ] ME/UE [X] Radio Access Network [X] Core Network [X]

Title:	⌘	DTMF Precision
Source:	⌘	STF139
Work item code:	⌘	ASCI
Date:	⌘	23 Nov. 2000
Category:	⌘	**F**
Release:	⌘	REL-4

Use one of the following categories:
F *(essential 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 one 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)*

Reason for change:	⌘	DTMF is not used by the talking subscriber but by dispatcher.
Summary of change:	⌘	Provide DTMF precision
Consequences if not approved:	⌘	Wrong information since DTMF not used by talking subscriber

Clauses affected:	⌘	4.2.2.1		
Other specs affected:	⌘	[X] Other core specifications [ ] Test specifications [ ] O&M Specifications	⌘	43.069
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/3G_Specs/CRs.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.
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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.

4.2.2 On-going group calls

4.2.2.1 Normal operation with successful outcome

Within each voice group call starting from the instant where the calling subscriber first becomes a listening service subscriber, one service subscriber has the access at any one time to the uplink of the voice group call channel and his speech is then broadcast on all voice group call channel downlinks accordingly. The mobile station of the talking service subscriber shall, while no dispatcher is talking, be commanded by the network to mute the downlink speech to avoid non intelligible echo's.

~~DTMF tones should be used to mute and un-mute the downlink of the talking subscriber (the use of other means such as Voice Activity Detection (VAD) is for further study).~~

If more than one service subscriber apply to the uplink, contention resolution shall be performed in the network. Contention resolution shall be performed in the group call anchor MSC.

Additionally, in order to speed up the uplink access procedure, the BSS may grant the uplink prior to contention resolution being performed by the group call anchor MSC. This would mean that more than one service subscriber may access to the uplink and the respective speech may be combined in the group call bridge and broadcast onto all voice group call downlink channels during a transitional period. The anchor MSC shall then select one of the talking subscribers and pre-empt the uplink use of the other talking subscribers.

Dispatchers voice involved shall be broadcast on the voice group call channel downlink at any time. Mobile dispatchers are provided with a standard link and thus with an dedicated permanent uplink different from the voice group call channel.

All non-dispatcher group call members are provided with an indication on the voice group call channel of whether the uplink is in use. When the uplink is not in use, any non-dispatcher group call member can request access to the uplink. Any speech from dispatchers is combined with any speech from a talking service subscriber.

In case of one talking service subscriber plus a parallel talking dispatcher, the talking service subscriber's mobile station shall receive an indication by means of signalling from the network so that it can unmute the downlink. DTMF tones should be used between dispatcher and network to indicate that the dispatcher wants to talk or ~~does no more want to talk~~to indicate talking is concluded. ~~(~~

Editor's Note: T~~t~~he use of other means such as Voice Activity Detection (VAD) is for further study~~).~~

The release of the uplink is triggered by the user and indicated by the mobile station to the network. The network shall then indicate to the listening mobile stations that the uplink is free.

Mobile stations in group receive mode use the group receive mode procedure (see GSM 03.22) to "camp-on" in a new cell to be able to listen to the group call channel. The mobile station may find the voice group call channel details of a new cell on the related NCH.

A network may decide not to establish voice group call channels in all cells. Instead, notifications containing no channel description may be provided. If a mobile station moves to such a cell, it must respond to the notification in order to receive the voice group call. The network may then establish a voice group call channel and inform the mobile station on the channel position.

A network may obtain knowledge on whether mobile stations are listening in a cell by sending an uplink access request on the voice group call channel downlink when no talking service subscriber is present. Mobile stations receiving such a request shall send uplink access bursts on the voice group call channel uplink with the establishment cause "reply on uplink access request". If no uplink access bursts are received by the network, the network may decide to release the voice group call channel in that cell and then provide notifications containing no channel description.

NOTE: Concerning security aspects, whilst authentication and membership checking of mobile call originators and of mobile uplink users can be carried out, it is not possible to authenticate service subscribers in group receive mode if they have not before established a dedicated connection to responded to a notification. No equivalent of a group "TMSI" is provided to protect the "identity" of established voice group calls.

3GPP TSG-CN1 Meeting #14
Cardiff, Wales - 20 - 24 November, 2000

Tdoc N1-001402
(revised from N1-001184)

CR-Form-v3

CHANGE REQUEST

⌘ **43.069** **CR** **005** ⌘ rev **1** ⌘ Current version: **4.1.1** ⌘

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

Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network **X** Core Network **X**

Title:	⌘	DTMF Precision
Source:	⌘	STF139
Work item code:	⌘	ASCI
Date:	⌘	23 Nov. 2000
Category:	⌘	**F**
Release:	⌘	REL-4

Use one of the following categories:
F *(essential 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.

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Consequences if not approved:	⌘	Wrong information since DTMF not used by talking subscriber

Clauses affected:	⌘	4.2.2.1		
Other specs affected:	⌘	**X** Other core specifications	⌘	43.068
		☐ Test specifications		
		☐ O&M Specifications		
Other comments:	⌘			

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