

Source: SA1

Title: CRs to 42.068 with various subjects (Rel-7)

Document for: Approval

Agenda Item: 7.1.3

Meeti ng	SA Doc	TS No.	CR No	Re v	Rel	Cat	Subject	Vers Curren t	Vers New	SA1 Doc
SP-28	SP-050224	42.068	013	-	Rel-7	B	CR to 42.068: Sending or receiving of short messages in parallel to an active group call	7.2.0	7.3.0	S1-050491
SP-28	SP-050224	42.068	014	-	Rel-7	B	CR to 42.068: Support of GPRS in parallel to an active group call	7.2.0	7.3.0	S1-050492
SP-28	SP-050224	42.068	015	-	Rel-7	F	Addressing SMS to a Group	7.2.0	7.3.0	S1-050493
SP-28	SP-050224	42.068	016	-	Rel-7	F	CR to 42.068 - Clarification on requirements for VGCS talker change	7.2.0	7.3.0	S1-050528

CR-Form-v7.1

CHANGE REQUEST

⌘ **42.068 CR 013** ⌘ rev **-** ⌘ Current version: **7.2.0** ⌘

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:	⌘ Sending or receiving of short messages in parallel to an active group call		
Source:	⌘ SA1 (Vodafone, Siemens, T-Mobile)		
Work item code:	⌘ EGCS	Date:	⌘ 22/03/2005
Category:	⌘ B 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 .	Release:	⌘ Rel-7 Use <u>one</u> of the following releases: Ph2 (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) Rel-7 (Release 7)

Reason for change:	⌘ Members of an active group call (talkers or listeners) are currently not able to send or receive point-to-point short messages in parallel to the group call. This is requested for the use of VGCS for public authority officials.
Summary of change:	⌘ The requirement is introduced that members of a group call are able to send and receive point-to-point short messages in parallel to the ongoing group call.
Consequences if not approved:	⌘ The requirement for the use of VGCS for public authority officials cannot be fulfilled.

Clauses affected:	⌘ 7.21																			
Other specs affected:	<table><tr><td><table><tr><td>Y</td><td>N</td></tr><tr><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr><tr><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr></table></td><td>Other core specifications</td><td>⌘ 43.068</td></tr><tr><td></td><td>Test specifications</td><td></td><td></td></tr><tr><td></td><td>O&M Specifications</td><td></td><td></td></tr></table>	<table><tr><td>Y</td><td>N</td></tr><tr><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr><tr><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr></table>	Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘ 43.068		Test specifications				O&M Specifications		
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	Test specifications																			
	O&M Specifications																			
Other comments:	⌘																			

7.21 Short Message Service (SMS)

Subject to capabilities of the UE and the serving network, it shall be possible for the talking service subscriber, [the listening service subscriber](#) or dispatcher in a voice group call as well as for other initiators of short messages that are not part of the voice group call to send short messages to the -group call – addressed by the group ID respectively the group call reference - for which delivery will be attempted only one time i.e. there is no re-try mechanism for short messages to group calls.

~~Note: — It is not required that listeners in a voice group call are able to send short messages.~~

It shall be possible for the VGCS service provider to configure the short message service to a particular group in such a way that short messages to non established groups are either supported or not supported. If supported then the message shall be delivered immediately with a single attempt as for short messages to established groups.

A receipt confirmation, containing the group call reference of the voice group, may be returned to the sender of the short message. However no receipt confirmation shall be returned by individual members of the voice group.

Optionally the VGCS may trigger an SMS being sent back to the sender, containing information as to whether or not the group call was established at time of sending.

Subject to capabilities of the UE, service subscribers who have activated the group ID and are currently in the group call area shall be able to receive the content of short messages sent to the group call.

Subject to capabilities of the UE and the serving network, dispatchers who are connected to the group call, or in the case of a non established group call have been registered to the group call reference, shall be able to receive the content of short messages sent to the group call.

The terminal shall treat the received content in the same way as if it would have been received by the normal SMS mechanism.

[During an ongoing group call it shall be possible for the talker as well as the listener to send and receive point to point short messages.](#)

Support of Short Message Service is optional in VGCS.

CR-Form-v7.1

CHANGE REQUEST

⌘ **42.068 CR 014** ⌘ rev **-** ⌘ Current version: **7.2.0** ⌘

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:	⌘ Support of the use of GPRS for individual VGCS subscribers in parallel to an active group call		
Source:	⌘ SA1 (Vodafone, Siemens, T-Mobile)		
Work item code:	⌘ EGCS	Date:	⌘ 22/03/2005
Category:	⌘ B 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 .	Release:	⌘ Rel-7 Use <u>one</u> of the following releases: Ph2 (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) Rel-7 (Release 7)

Reason for change:	⌘ Members of an active group call (talkers or listeners) are currently not able to use GPRS in parallel to the ongoing group call. This is requested for the use of VGCS for public authority officials.
Summary of change:	⌘ The requirement is introduced that members of a group call are able to use GPRS (i.e. send and receive data over GPRS) in parallel to the ongoing group call.
Consequences if not approved:	⌘ The requirement for the use of VGCS for public authority officials cannot be fulfilled.

Clauses affected:	⌘ new clause 7.24											
Other specs affected:	<table><tr><td><table><tr><td>Y</td><td>N</td></tr><tr><td>X</td><td></td></tr><tr><td></td><td>X</td></tr><tr><td></td><td>X</td></tr></table></td><td>Other core specifications Test specifications O&M Specifications</td><td>⌘ 43.068</td></tr></table>	<table><tr><td>Y</td><td>N</td></tr><tr><td>X</td><td></td></tr><tr><td></td><td>X</td></tr><tr><td></td><td>X</td></tr></table>	Y	N	X			X		X	Other core specifications Test specifications O&M Specifications	⌘ 43.068
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X												
	X											
	X											
Other comments:	⌘											

7.24 GPRS

Depending on the capabilities of the UE it shall be possible for the mobile despatcher, the talker as well as for the listener to use GPRS in parallel to the VGCS subject to the capabilities of the serving network.

CR-Form-v7.1

CHANGE REQUEST

⌘ **42.068** **CR** **015** ⌘ rev **-** ⌘ Current version: **7.2.0** ⌘

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:	⌘ Addressing SMS to a Group		
Source:	⌘ SA1 (Nortel Networks, T-Mobile)		
Work item code:	⌘ EGCS	Date:	⌘ 23/03/2005
Category:	⌘ F 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 .	Release:	⌘ Rel-7 Use <u>one</u> of the following releases: Ph2 (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) Rel-7 (Release 7)

Reason for change:	⌘ The current text in the first paragraph in section 7.21 of TS 42.068 on how the SMS is addressed to a group call is ambiguous and need to be corrected.
Summary of change:	⌘ The text related to how the SMS is addressed to a group call is corrected.
Consequences if not approved:	⌘ Ambiguous/incorrect specification.

Clauses affected:	⌘ 7.21											
Other specs affected:	<table><tr><td><table><tr><td>Y</td><td>N</td></tr><tr><td>X</td><td></td></tr><tr><td></td><td>X</td></tr><tr><td></td><td>X</td></tr></table></td><td>Other core specifications Test specifications O&M Specifications</td></tr></table>	<table><tr><td>Y</td><td>N</td></tr><tr><td>X</td><td></td></tr><tr><td></td><td>X</td></tr><tr><td></td><td>X</td></tr></table>	Y	N	X			X		X	Other core specifications Test specifications O&M Specifications	⌘ 43.068, 44.018, 48.008, 29.002
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Other comments:	⌘											

7.21 Short Message Service (SMS)

Subject to capabilities of the UE and the serving network, it shall be possible for the talking service subscriber or dispatcher in a voice group call as well as for other initiators of short messages that are not part of the voice group call to send short messages to the -group call – addressed by ~~the group ID respectively~~ the group call reference - for which delivery will be attempted only one time i.e. there is no re-try mechanism for short messages to group calls.

Note: It is not required that listeners in a voice group call are able to send short messages.

It shall be possible for the VGCS service provider to configure the short message service to a particular group in such a way that short messages to non established groups are either supported or not supported. If supported then the message shall be delivered immediately with a single attempt as for short messages to established groups.

A receipt confirmation, containing the group call reference of the voice group, may be returned to the sender of the short message. However no receipt confirmation shall be returned by individual members of the voice group.

Optionally the VGCS may trigger an SMS being sent back to the sender, containing information as to whether or not the group call was established at time of sending.

Subject to capabilities of the UE, service subscribers who have activated the group ID and are currently in the group call area shall be able to receive the content of short messages sent to the group call.

Subject to capabilities of the UE and the serving network, dispatchers who are connected to the group call, or in the case of a non established group call have been registered to the group call reference, shall be able to receive the content of short messages sent to the group call.

The terminal shall treat the received content in the same way as if it would have been received by the normal SMS mechanism.

Support of Short Message Service is optional in VGCS.

CR-Form-v7.1

CHANGE REQUEST

⌘ 42.068 CR 016 ⌘ rev - ⌘ Current version: 7.2.0 ⌘

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:	⌘ Clarification on requirements for talker change		
Source:	⌘ SA1 (Siemens)		
Work item code:	⌘ EVGCS	Date:	⌘ 07/04/2005
Category:	⌘ F		Release: ⌘ Rel-7
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:			
Ph2 (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)			
Rel-7 (Release 7)			

Reason for change:	⌘ - In a Voice Group Call, if a listener wants to talk with higher priority or wants to talk in a case of emergency he needs to indicate his wish to talk with high priority to the network. If the current - lower priority - talker is located in the same cell, the uplink over the air in this cell is not free. The privileged service subscriber shall not become the new talker until he is accepted by the network.
	- Additional information about the current talker shall be received by all the listeners of the voice group call, regardless whether they have requested the talker functionality or indicated an emergency situation.
Summary of change:	⌘ - It is clarified that the listener shall not become the new talker until he is accepted by the network.
	- Reception of additional information about the current talker is clarified
Consequences if not approved:	⌘ Requirements on talker change are not clear.

Clauses affected:	⌘ 4																				
Other specs affected:	<table><tr><td>⌘</td><td><table><tr><td>Y</td><td>N</td></tr><tr><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr><tr><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr><tr><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr></table></td><td>Other core specifications</td><td>⌘</td></tr><tr><td></td><td></td><td>Test specifications</td><td></td></tr><tr><td></td><td></td><td>O&M Specifications</td><td></td></tr></table>	⌘	<table><tr><td>Y</td><td>N</td></tr><tr><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr><tr><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr><tr><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr></table>	Y	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘			Test specifications				O&M Specifications	
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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 Description

The VGCS is defined in the following. Figure 1 gives an explanation of the logical concept of the VGCS.

- a) The VGCS enables a calling subscriber to establish a voice group call to destination subscribers belonging to a predefined group call area and group ID.

NOTE 1: The service is provided by use of half duplex transmission mode.

Applications for voice group call services typically involve multiple group members in a small group call area, for which the VGCS should provide spectrum efficient solutions.

- b) The calling subscriber as well as the destination subscribers may be any service subscriber which has subscribed to the related group ID or any dispatcher who is entitled to it by his identity which shall be registered in the network.
- c) Destination subscribers are all service subscribers or a group of service subscribers identified by the called group ID which have their present location in the group call area, and pre-registered dispatchers. Destination service subscribers shall be notified with the group ID, not by paging the subscriber individually. Dispatchers shall be called individually with their identity.

Service subscribers may become late destination subscribers when entering the group call area within 500 ms after reception of the first notification message related to the VGCS call. Service subscribers which leave the corresponding group call area during an on going VGCS call of which they are member cease to be destination subscribers.

- d) The voice group call shall be established in a group call area which is comprised of one or a cluster of cells. Group call areas shall be predefined in the network by the service provider, co-ordinated by the network operator.

In case of a service subscriber initiating a VGCS, the group call area is uniquely identified by the actual cell in which the service subscriber resides at the moment of VGCS call initialization and by the group ID they issue.

A dispatcher initiating a VGCS call will be connected to a related predefined group call area. The entitlement of the dispatcher is checked by the network element responsible for the voice group call management by verification of the calling identity. Since a dispatcher may be registered to more than one group call area and group ID an indication of the wanted group call area and group ID has to be given in form of a dedicated address called by the dispatcher.

- e) The service shall permit only one talking service subscriber at any moment; additionally up to five dispatcher can be talking simultaneously at one time. Dispatchers should hear all combinations of voices other than their own. Listening service subscribers shall hear the combination of all voices. The talking service subscriber shall gain some audible indication if any dispatchers are talking simultaneously.

Dispatchers shall be able to talk at any moment without any need to signal the wish to talk. Service subscribers who wish to talk shall indicate this. They shall only be able to become talking subscribers if there is no other talking service subscriber. The right to be a talking service subscriber is allocated on a first come first served basis without queuing. Once a service subscriber has become a talking subscriber they shall eventually indicate their wish to become a listening subscriber, or the network may detect that they are no longer a talking subscriber due to time-out or other mechanisms.

CW and procedures for supplementary service management are not possible for a service subscriber.

- f) The calling subscriber shall be informed by the network with a suitable indication about the successful establishment of the voice group call so that he can start to speak.

NOTE 2: A successful establishment means that all voice group call downlink channels are allocated, with the restrictions mentioned in clause 6, whether somebody is listening or not, and the related dispatchers are alerted.

The system provides that for an established voice group call the uplink assignment to a service subscriber who wishes to talk is performed under normal conditions in <300 ms after a request to talk is made.

The mobile station of the talking service subscriber shall be requested to send its IMSI to the network in order so that the talker's IMSI be stored in the event records.

- g) Authentication is mandatory at GSM call set up. To allow fast call set up in VGCS authentication of calling subscribers at invocation may optionally be delayed. Similarly authentication of the talking service subscriber may optionally be delayed to allow fast access.

Confidentiality on the radio path is optional.

- h) Different levels of priority and pre-emption shall be applied as defined in the stage 1 description on the enhanced Multi-Level Precedence and Pre-emption Service (eMLPP) in 3G TS 22.067.
- i) A number of voice group calls may exist simultaneously intended for different groups of destination users in the same group call area.

Parallel voice group calls are possible to the same group of destination subscribers in different, possibly overlapping, group call areas.

- j) A voice group call shall be released on demand of the calling subscriber or by a dispatcher or by the network.

NOTE 3: The release by the calling subscriber is only possible if the uplink is assigned to the calling subscriber.

Automatic release of a voice group call after a selectable time of no voice activity is required.

- j1) If the mobile station having the uplink assigned leaves the group call area, it shall also leave the voice group call. However, the voice group call shall be maintained by the network.

This behaviour shall also apply if the mobile station is the calling subscriber.

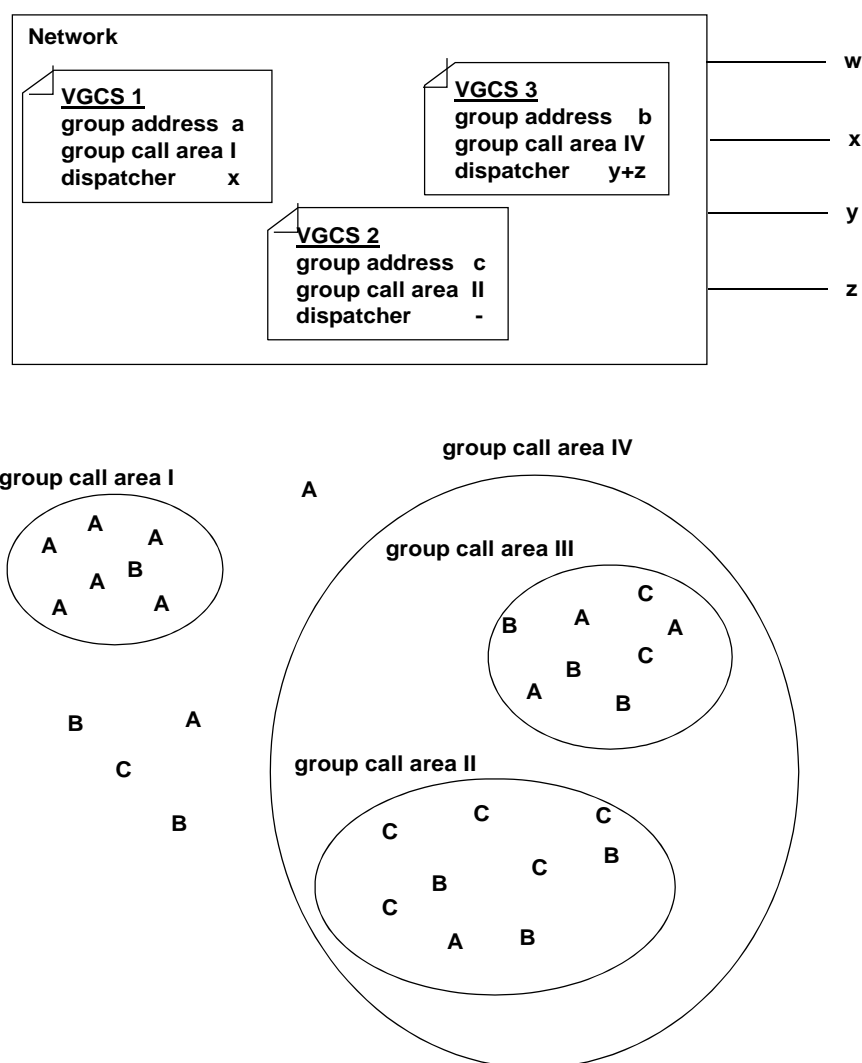
- k) VGCS shall also be provided in case of roaming. For this, certain group Ids shall be defined as supra-PLMN group Ids which have to be co-ordinated between the network operators and which shall be known in the networks and in the SIM. A service subscriber which is entitled by his subscription to establish voice group calls while roaming shall only be able to use supra-PLMN group Ids in case of roaming.
- l) For certain levels of priorities an acknowledgement of receipt of a voice group call can be required as an application option (e.g. for railways emergency calls) from all or from nominated destination subscribers (nomination is recorded on the SIM). The acknowledgement itself shall be performed at the end of the voice group call. The acknowledgement shall indicate the time the reception started and the time the reception terminated. The acknowledgement has to be given to a predefined recipient.
- m) It shall be possible for a service subscriber to activate or deactivate the voice group call reception for different group Ids. The selection list is stored on the SIM corresponding to the subscribed group Ids. It shall be possible to prohibit the deactivation of group Ids used for high priority calls.

Dispatcher which are registered for a certain voice group call and which have also a subscription for VGCS with the same group ID as the voice group call for which they are dispatcher shall deactivate this group ID when they are located in the corresponding group call area in order to avoid conflicts between paging for the dispatcher and notifications for the group ID.

- The calling subscriber may specify, at call setup, information to be presented at call setup to the dispatchers. This information is sent as originator-to-dispatcher information to the network, and sent as UUS1 by the network to the dispatchers in the message for call setup. For normal call setup, the information is subject to the same constraints as UUS1 information in the setup of a point-to-point call. For fast setup, the information is restricted to 12 digits (with leading zeros); inclusion of originator-to-dispatcher information at fast setup is only possible if the mobile station has a valid TMSI. It is a network option to support originator-to-dispatcher information, or to ignore it. The inclusion of originator-to-dispatcher information in the VGCS call setup is not subject to provision or withdrawal.
- n) Optionally, a service subscriber may be given a subscription option to receive privilege for the following:
 - A privileged service subscriber shall be able to release the current talker (i.e. the current talker shall become a listener, but not released from the call) and become the talker. [The privileged service subscriber shall not become the new talker until he is accepted by the network.](#)
- o) Optionally, a service subscriber shall be able to indicate an emergency situation to the network, and become the talker even if the current talker is a privileged talker. Until this service subscriber has stopped being the talker he

shall not be released by another service subscriber unless the periodic emergency signalling has been terminated by a privileged service subscriber. The service subscriber indicating an emergency situation shall not become the new talker until he is accepted by the network.

- If more than one subscriber indicates an emergency situation to the network the first one becomes the talker.
 - It shall be possible to periodically transmit an emergency indication to all service subscribers of the VGCS even the ones that have deactivated the voice group call reception. This should continue until the voice group call is released or the periodic emergency transmission is terminated by a privileged service subscriber
- p) Optionally, it shall be possible to display additional information (short text stings e.g., “fire arm expert”) about the current talker to all the listeners of the voice group call, regardless whether they have requested the talker functionality or indicated an emergency situation. The additional information shall be sent to all listeners when the service subscriber becomes a talker and should be transmitted periodically to all active cells of the ongoing voice group call until a different service subscriber becomes the current talker or the group call is released.



NOTE: VGCS1, VGCS2, VGCS3 = particular voice group calls with the attributes pre-registered in the network.
 A, B, C, D = service subscriber with group ID a, b, c or d, respectively.
 II, III, IV = group call areas.
 w, x, y, z = dispatchers connected via normal GSM links or external networks.

Figure 1: Logical concept of the VGCS