3GPP TSG_CN **Tdoc NP-000275**
Plenary Meeting #8, Dusseldorf, Germany
21st – 23rd June 2000.

Source: **TSG_N WG "1"**

Title: **CRs to 3G Work Item "ASCI-R99"**

Agenda item: **6.9**

Document for: **APPROVAL**

Introduction:

This document contains **"4"** CRs on **Work Item "ASCI-R99",** that have been agreed by **TSG_N WG "1",** and are forwarded to **TSG_N Plenary** meeting #8 for approval.

SMG#32 plenary should have forwarded this document as in P-00-254.

Tdoc	Spec	CR	Rev	CAT	Rel.	Old Ver	New Ver	Subject
N1-000741	03.69	CRA017		D	R99	8.1.0	8.2.0	Clarification of anchor MSC address format
N1-000738	03.68	CRA024		F	R99	8.1.0	8.2.0	Call Release clarification at the Relay MSC
N1-000739	03.68	CRA025		F	R99	8.1.0	8.2.0	Speech transmission architecture clarification
N1-000740	03.68	CRA026		D	R99	8.1.0	8.2.0	Clarification of anchor MSC address format

3GPP CN WG1 Meeting #12
Hawaii, USA, 22-26 May 2000

Document N1-000738

CHANGE REQUEST

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03.68	**CR**	**A024**	Current Version:	8.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG CN #8	for approval	X	strategic		*(for SMG use only)*
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

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

Source: Nortel Networks **Date:** 2000-05-19

Subject: Call Release clarification at the Relay MSC.

Work item: ASCI

Category: *(only one category shall be marked with an X)*			**Release:**	
F	Correction	X	Phase 2	
A	Corresponds to a correction in an earlier release		Release 96	
B	Addition of feature		Release 97	
C	Functional modification of feature		Release 98	
D	Editorial modification		Release 99	X
			Release 00	

Reason for change:
In GSM 03.68, section 10.5 Call Release says that the Relay MSC will send an ISUP Release message to clear the call while the initiating service subscriber is on a dedicated channel and then the process will return to idle state, meaning that no further action is required at the Relay MSC.
Also, In Section 11.5 of GSM 03.69, there is no mention of using the MAP-E release message to release the VBS call originated from a Relay MSC. Note that the originating service subscriber of a VBS call stays on the dedicated connection all the time. This really implies that MAP-E release message is not used if the originating service subscriber is on a dedicated connection.
Therefore the paragraph about sending a MAP release message to the Anchor MSC is only applicable when the initiating subscriber is on a Group Call Channel.

Clauses affected: 11.4: call release part, 10.5: call release part and SDL: Figure 10: The VGCS handling process in the relay MSC sheet 6 of 6

Other specs Affected:			
Other releases of same spec		→ List of CRs:	
Other core specifications		→ List of CRs:	
MS test specifications / TBRs		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments:

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

11.4 Functional requirement of Anchor MSC

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Call release

If the anchor MSC receives a Release message from an entitled dispatcher or from the initiating service subscriber who currently has access to the uplink, it sends Send Group Call End Signal ACK messages to all relay MSCs, sends Release messages to all relay MSCs, sends Release messages to all dispatchers and BSCs, informs the GCR that the call is no longer on-going and the process returns to the idle state.

If the anchor MSC receives a Process Group Call Signalling message from a relay MSC indicating "release group call" or an ISUP Release message from a relay MSC indicating "Normal call clearing" while the initiating subscriber is still on a dedicated connection, ~~it~~ then the anchor MSC sends Send Group Call End Signal ACK messages to all relay MSCs, sends Release messages to all relay MSCs, sends Release messages to all dispatchers and BSCs, informs the GCR that the call is no longer on-going and the process returns to the idle state.

If the no activity time in the anchor MSC expires indicating that no voice activity has been detected for the time specified in the GCR, the anchor MSC sends Send Group Call End Signal ACK messages to all relay MSCs, sends Release messages to all relay MSCs, sends Release messages to all dispatchers and BSCs, informs the GCR that the call is no longer on-going and the process returns to the idle state.

******* Next modified section ******

11.5 Functional requirement of Relay MSC

****

Call release

When receiving a release message from the anchor MSC for the dedicated connection which was set-up to for the initiating service subscriber located in the relay MSC area, the relay MSC releases the connection to the service subscriber and the process returns to the idle state.

When the initiating service subscriber releases the call while a dedicated connection to the anchor MSC is established, the relay MSC sends a release message for the dedicated connection to the anchor MSC and the process returns to the idle state.

When the initiating service subscriber releases the call, while on a group call channel, the relay MSC sends a Process Group Call Signalling message to the anchor MSC indicating "release group call" and waits for the Send Group Call End Signal Acknowledgement.

When receiving a Send Group Call End Signal Acknowledgement from the anchor MSC, the relay MSC releases all downlinks to cells inside the relay MSC area, informs the GCR that the call is no longer on-going and the process returns to the idle state.

******** Next modified section *********

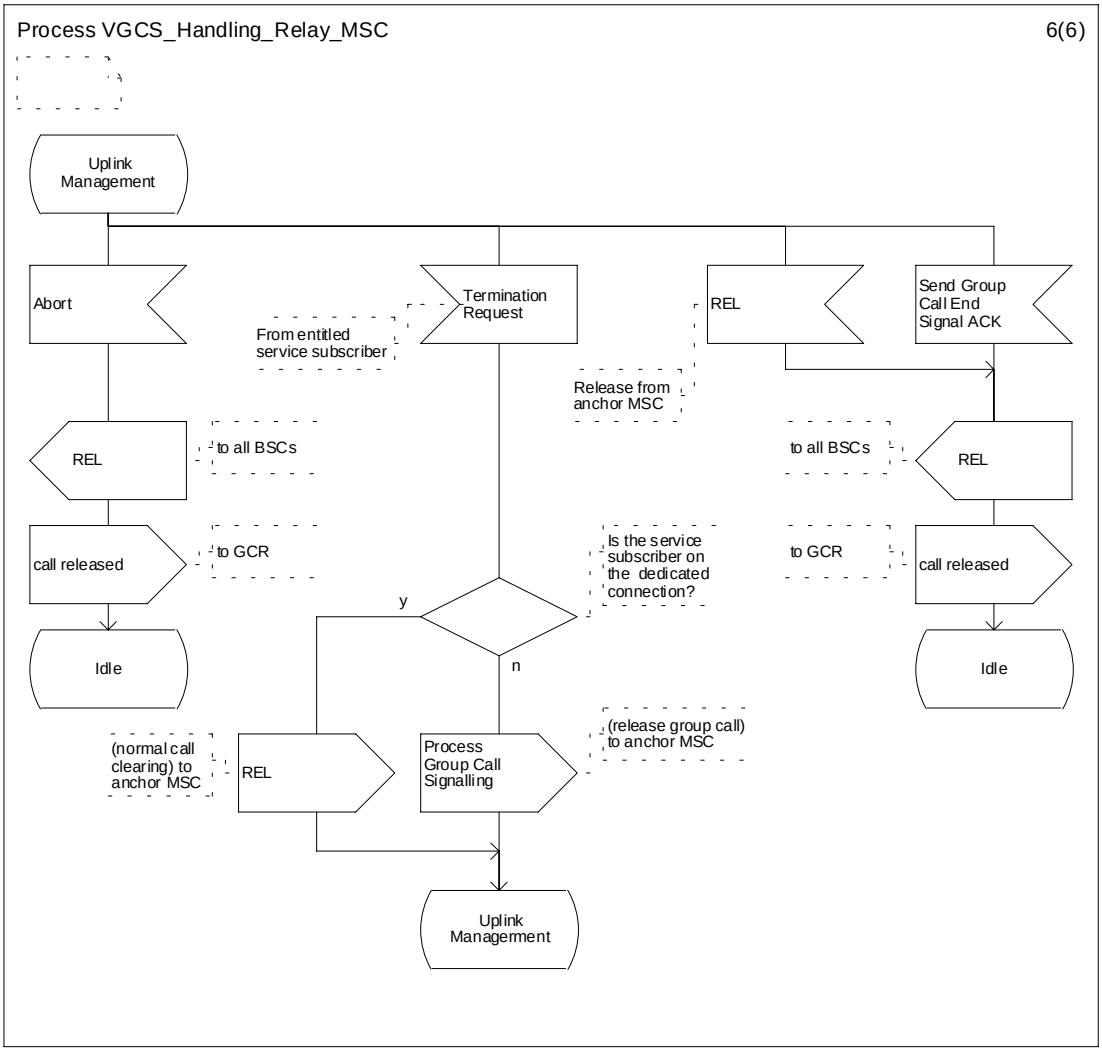
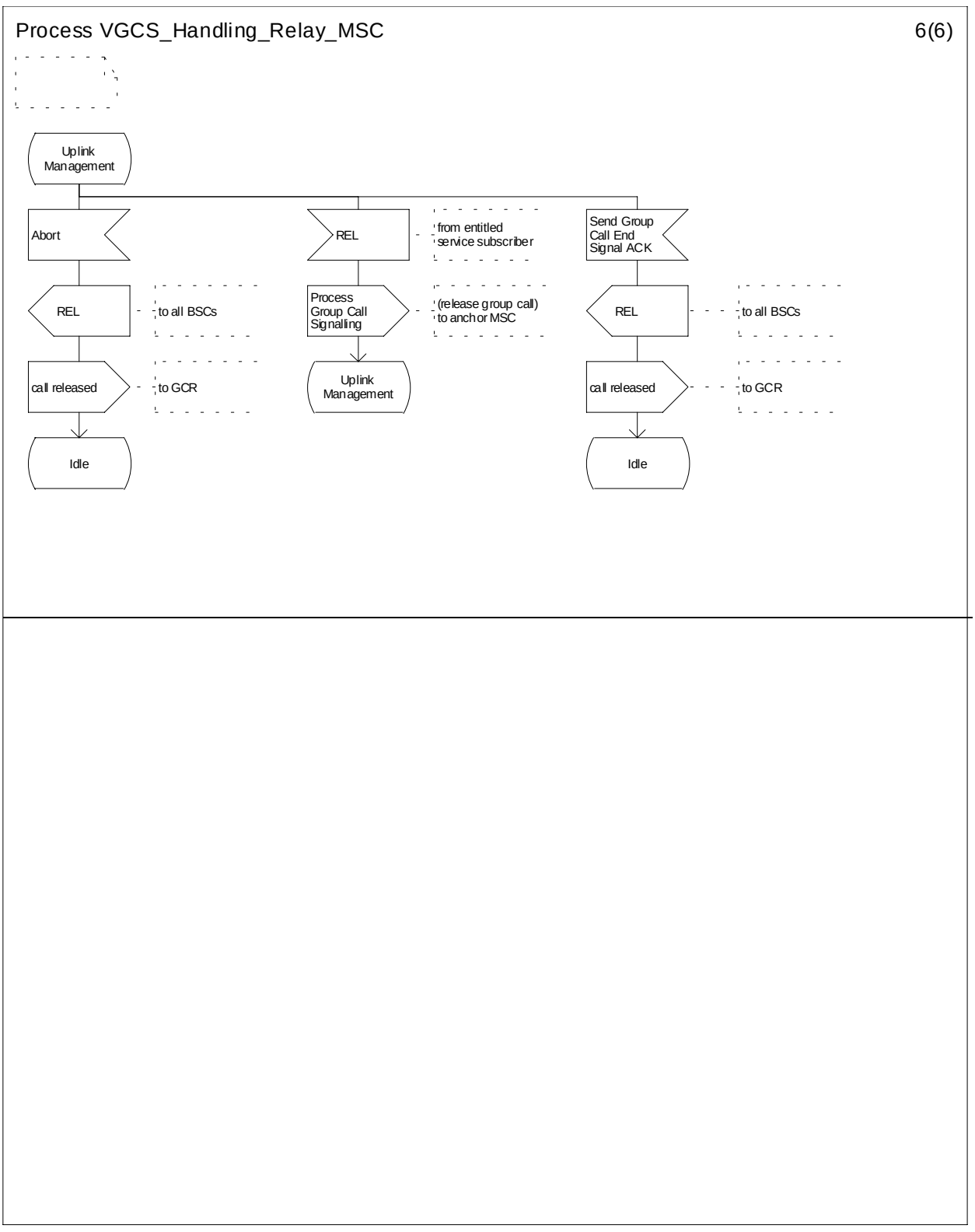


Figure 10: The VGCS handling process in the relay MSC (sheet 6 of 6)



~~Figure 10: The VGCS handling process in the relay MSC (sheet 6 of 6)~~

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CHANGE REQUEST

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03.68	**CR**	**A025**	Current Version:	8.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: TSG CN #8 *list expected approval meeting # here ↑*

for approval [X] for information [ ]

strategic [ ] non-strategic [ ] *(for SMG use only)*

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

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

Source: Nortel Networks **Date:** 2000-05-19

Subject: Speech transmission architecture clarification

Work item: ASCI

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

F	Correction	[X]
A	Corresponds to a correction in an earlier release	[ ]
B	Addition of feature	[ ]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Release:

Phase 2	[ ]
Release 96	[ ]
Release 97	[ ]
Release 98	[ ]
Release 99	[X]
Release 00	[ ]

Reason for change: Clarification about the distribution function.

Clauses affected: 7.1

Other specs Affected:

Other releases of same spec	[ ]	→ List of CRs:
Other core specifications	[ ]	→ List of CRs:
MS test specifications / TBRs	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

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7 Transmission

7.1 Transmission architecture

A conference bridge is required to connect the transmission paths of the nominated cells. The bridge is to be located within the group call anchor MSC. The group call anchor MSC is responsible for setting up all connections, both to the nominated cells (voice group call channels) in the group call anchor MSC and in any related group call relay MSC, and to the dispatchers. ~~There~~ Except when an originator, served by a relay MSC, is on the initial dedicated link, there shall be one link towards every relay MSC and a distribution function in the relay MSCs and from there one link per cell within the group call relay MSC which is involved in the voice group call.~~, i.e. t~~While ~~there is a talker~~the originator is on a dedicated link served by a relay MSC, there is an additional link from the anchor MSC to the relay MSC serving the ~~talker~~originator and an additional link from the relay MSC serving the ~~talker~~originator to the cell serving the ~~talker~~originator. There shall be no secondary bridges in BSCs. ~~or group call relay MSCs (the distribution function is not a secondary bridge)~~.

While a talker served by a relay MSC is on any other dedicated or group channel than the initial dedicated channel , the following applies: The distribution function shall be implemented using a secondary conference bridge at the relay MSC so that VGCS talker speech sent on the current channel uplink is transmitted to local relay cells as well as being transmitted over the link back to the anchor MSC, for distribution to the rest of the network, dispatchers and nominated cells at other relay MSCs.

NOTE 1: The conference bridge shall not mute the uplink speech.

~~**NOTE 2: As GSM Phase2+ evolves, distribution functions may be realised in the BSC.**~~

A mechanism is required to indicate the downlink muting and uplink busy when the dispatcher is talking. This mechanism is for further study.

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03.68	CR	A026	Current Version:	8.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG CN #8	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

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

Source: Siemens AG **Date:** 2000-05-15

Subject: Clarification of anchor MSC address format

Work item: ASCI

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

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification	X		Release 99	X
				Release 00	

Reason for change:

When a service subscriber located in a Relay MSC originates a VGCS, the call must be routed to the VGCS Anchor MSC. Chapter 11.5 " Functional requirement of Relay MSC" describes the use of the anchor MSC address as called party address for this call routing. Later on within the anchor MSC the GCR data retrieval must be invoked to allow further VGCS set up.

In order to avoid interoperability problems between the Relay MSC and the anchor MSC, the format of the anchor MSC address must be described in chapter 9.2 "Use of identities in the network". This is in analogy to the dispatcher originated call set up, where used called party address layout is described in chapter 9.2.d "Identities used by dispatchers for VGCS establishment".

The functional structure of anchor MSC address is the same as for dispatcher originated calls. This allows the reuse of the dispatcher related numbering / routing facilities for VGCS also for service subscriber without imposing new requirements on the networks numbering plan structure.

Clauses affected: 9.2 "Use of identities in the network"

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM 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:


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9.1 Elementary identities for group calls

a) Group ID

The group ID shall be a binary number with a maximum value depending on the composition of the group call reference defined under c).

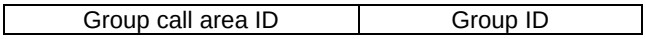
VGCS shall also be provided in case of roaming. If this applies, certain group IDs shall be defined as supra-PLMN group IDs which have to be co-ordinated between the network operators and which shall be known in the networks and in the SIM.

b) Group call area ID

The group call area ID shall be a binary number uniquely assigned to a group call area in one network and with a maximum value depending on the composition of the group call reference defined under c).

c) Group call reference

Each voice group call in one network is uniquely identified by its Group call reference. The group call reference is composed of the group ID and the group call area ID. In the case where the routing of dispatcher originated calls is performed without the HLR (see subclause 8.3), the group call reference shall have a maximum length of 8 digits. The composition of the group call area ID and the group ID can be specific for each network operator.



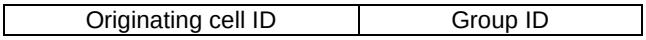
9.2 Use of identities in the network

For each voice group call the identifications as defined in the following shall be used within the network for the related purpose mentioned.

For voice group call services which are to operate in more than one PLMN, group identities have to be co-ordinated between the network operators involved.

a) Identities used for GCR requests for service subscriber originated voice group calls

In case of a service subscriber originated call, the identity of the call used by the MSC in which the call is originated to interrogate the GCR shall consist of the originating serving cell identity as defined in GSM 08.08 and the group ID as defined in subclause 9.1.



A service subscriber initiating a voice group call has to call the wanted group ID. The MSC in which the call is originated shall accumulate from the BSS the called group ID and the originating cell ID.

If the group call area exceeds one MSC area, the identity used to interrogate the GCR by an MSC in which the call was not originated shall consist of the group call reference as defined in subclause 9.1.

b) Identities used for GCR requests for dispatcher originated voice group calls

In case of dispatcher originated call the identity used by the MSC to interrogate the GCR shall consist of the group call reference as defined in subclause 9.1.

c) Identities used for notifications

Identities used for notification messages shall consist of the group call reference as defined in subclause 9.1.

d) Identities used by dispatchers for voice group call establishment

For dispatcher originated calls an MSISDN is dialled. The Country Code (CC) and National Destination Code (NDC) are used as normal for routing purposes. The numbering scheme is according to CCITT Recommendation E.164. The Subscriber Number (SN) is used to indicate:

- the request of a group call by use of a prefix. The length of the prefix shall be 1 to 2 digits;
- the wanted group call reference as defined in subclause 9.1.

CC	NDC	Prefix	Group call reference

e) Identities used for VLR requests for service subscriber originated group calls

The group ID shall be used on the B-Interface for VLR requests.

f) Anchor MSC address for routing of service subscriber originated calls from Relay MSC to anchor MSC

For service subscriber located in Relay MSCs originated calls an anchor MSC address is used as called party address to route the call to the anchor MSC. The anchor MSC address structure is the same as for dispatcher originated calls (see subclause d)) The Country Code (CC) and National Destination Code (NDC) are used as normal for routing purposes. The numbering scheme is according to CCITT Recommendation E.164. The Subscriber Number (SN) is used to indicate:

- the request of a group call by use of a prefix. The length of the prefix shall be 1 to 2 digits; the actual value of the prefix may be different than the one dialled by dispatchers.
- the wanted group call reference as defined in subclause 9.1.

CC	NDC	Prefix	Group call reference

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Hawaii, USA, 22-26 May 2000

Document N1-000741

CHANGE REQUEST

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03.69	CR	A017	Current Version:	8.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG CN #8	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

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

Source: Siemens AG **Date:** 2000-05-15

Subject: Clarification of anchor MSC address format

Work item: ASCI

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

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification	X		Release 99	X
				Release 00	

Reason for change:

When a service subscriber located in a Relay MSC originates a VBS, the call must be routed to the VBS Anchor MSC. Chapter 11.5 " Functional requirement of Relay MSC" describes the use of the anchor MSC address as called party address for this call routing. Later on within the anchor MSC the GCR data retrieval must be invoked to allow further VBS set up.

In order to avoid interoperability problems between the Relay MSC and the anchor MSC, the format of the anchor MSC address must be described in chapter 9.2 "Use of identities in the network". This is in analogy to the dispatcher originated call set up, where used called party address layout is described in chapter 9.2.d "Identities used by dispatchers for VBS establishment".

The functional structure of anchor MSC address is the same as for dispatcher originated calls. This allows the reuse of the dispatcher related numbering / routing facilities for VBS also for service subscriber without imposing new requirements on the networks numbering plan structure.

Clauses affected: 9.2 "Use of identities in the network"

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM 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:


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

9 Identities

9.1 Elementary identities for group calls

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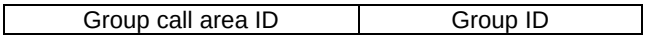
c) Group call reference

Each voice group call in one network is uniquely identified by its Group call reference. The group call reference is composed of the group ID and the group call area ID. In the case where the routing of dispatcher originated calls is performed without the HLR (see subclause 8.3), the group call reference shall have a maximum length of 8 digits. The composition of the group call area ID and the group ID can be specific for each network operator.



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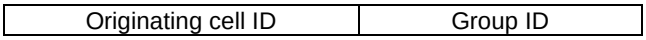

A service subscriber initiating a voice group call has to call the wanted group ID. The MSC in which the call is originated shall accumulate from the BSS the called group ID and the originating cell ID.

If the group call area exceeds one MSC area, the identity used to interrogate the GCR by an MSC in which the call was not originated shall consist of the group call reference as defined in subclause 9.1.

b) Identities used for GCR requests for dispatcher originated voice group calls

In case of dispatcher originated call the identity used by the MSC to interrogate the GCR shall consist of the group call reference as defined in subclause 9.1.

c) Identities used for notifications

Identities used for notification messages shall consist of the group call reference as defined in subclause 9.1.

d) Identities used by dispatchers for voice group call establishment

For dispatcher originated calls an MSISDN is dialled. The Country Code (CC) and National Destination Code (NDC) are used as normal for routing purposes. The numbering scheme is according to CCITT Recommendation E.164. The Subscriber Number (SN) is used to indicate:

- the request of a group call by use of a prefix. The length of the prefix shall be 1 to 2 digits;
- the wanted group call reference as defined in subclause 9.1.

CC	NDC	Prefix	Group call reference

e) Identities used for VLR requests for service subscriber originated group calls

The group ID shall be used on the B-Interface for VLR requests.

f) Anchor MSC address for routing of service subscriber originated calls from Relay MSC to anchor MSC

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- the wanted group call reference as defined in subclause 9.1.

CC	NDC	Prefix	Group call reference