

**3GPP TSG\_CN  
Plenary Meeting #9, Oahu, Hawaii  
20<sup>th</sup> – 22<sup>nd</sup> September 2000.**

**Tdoc NP-000449**

**Source:** TSG\_N WG 1  
**Title:** CRs to R00 Work Item ASCI  
**Agenda item:** 7.19.1  
**Document for:** APPROVAL

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**Introduction:**

This document contains 7 CRs on R00 Work Item ASCI, that has been agreed by TSG\_N WG1, and is forwarded to TSG\_N Plenary meeting #9 for approval.

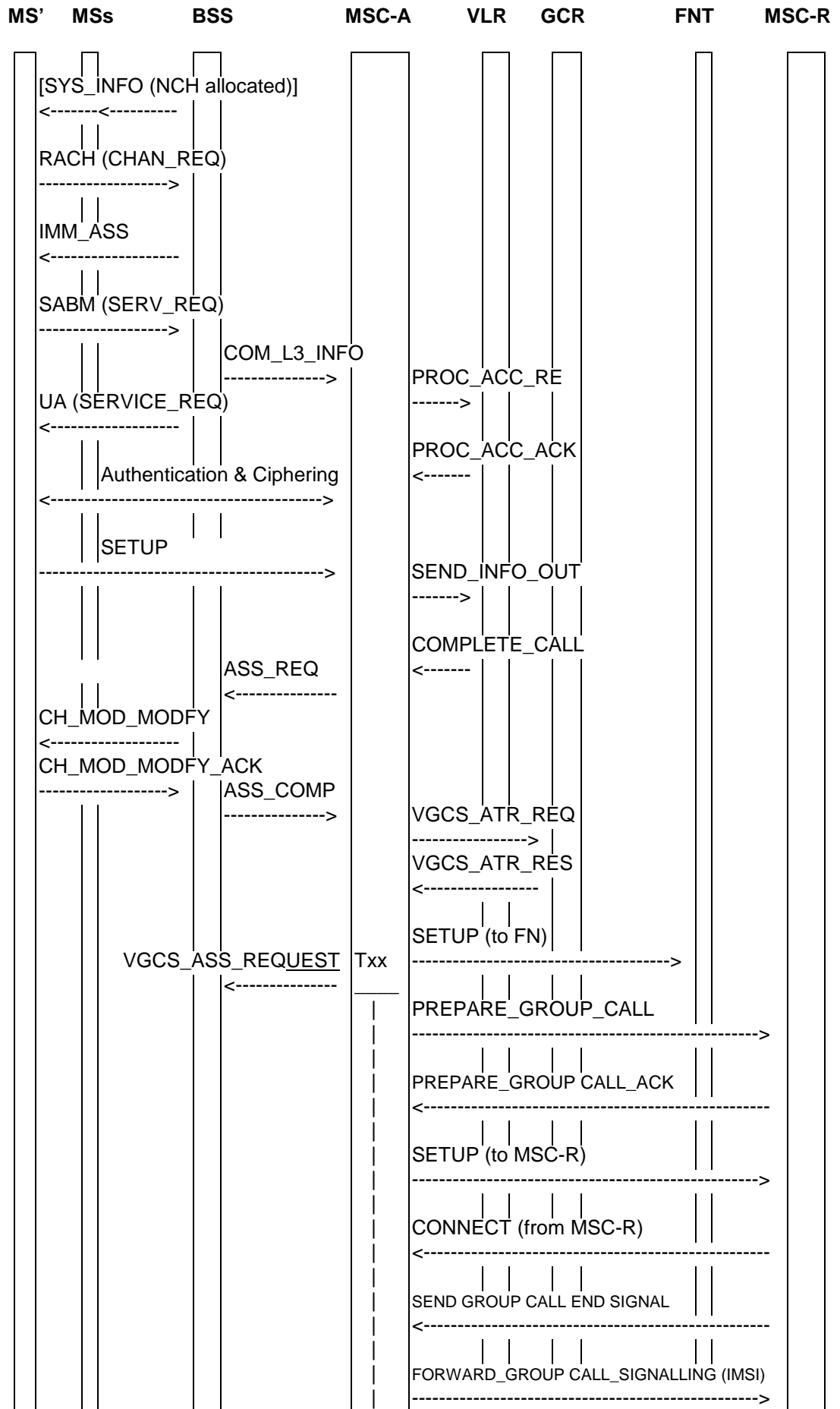
| Spec   | CR  | R | Doc-2nd-Level | Phase | Subject  | Cat | Ver_C | Ver_N |
|--------|-----|---|---------------|-------|--|-----|-------|-------|
| 43.068 | 002 |   | N1-000915     | R00   | Correction in the Notification procedure                                     | F   | 4.0.0 | 4.1.0 |
| 43.068 | 003 |   | N1-000918     | R00   | The longest GID has to be matched  | B   | 4.0.0 | 4.1.0 |
| 43.068 | 001 |   | N1-000873     | R00   | Uplink Release dataFlow correction   | F   | 4.0.0 | 4.1.0 |
| 43.069 | 001 |   | N1-000916     | R00   | Correction in the Notification procedure                                     | F   | 4.0.0 | 4.1.0 |
| 43.069 | 002 | 1 | N1-000970     | R00   | The longest GID has to be matched  | B   | 4.0.0 | 4.1.0 |
| 44.068 | 001 | 1 | N1-001006     | R00   | The repetition of the priority in the Call Reference IE in the SETUP message | C   | 4.0.0 | 4.1.0 |
| 44.069 | 001 | 1 | N1-001007     | R00   | The repetition of the priority in the Call Reference IE in the SETUP message | C   | 4.0.0 | 4.1.0 |

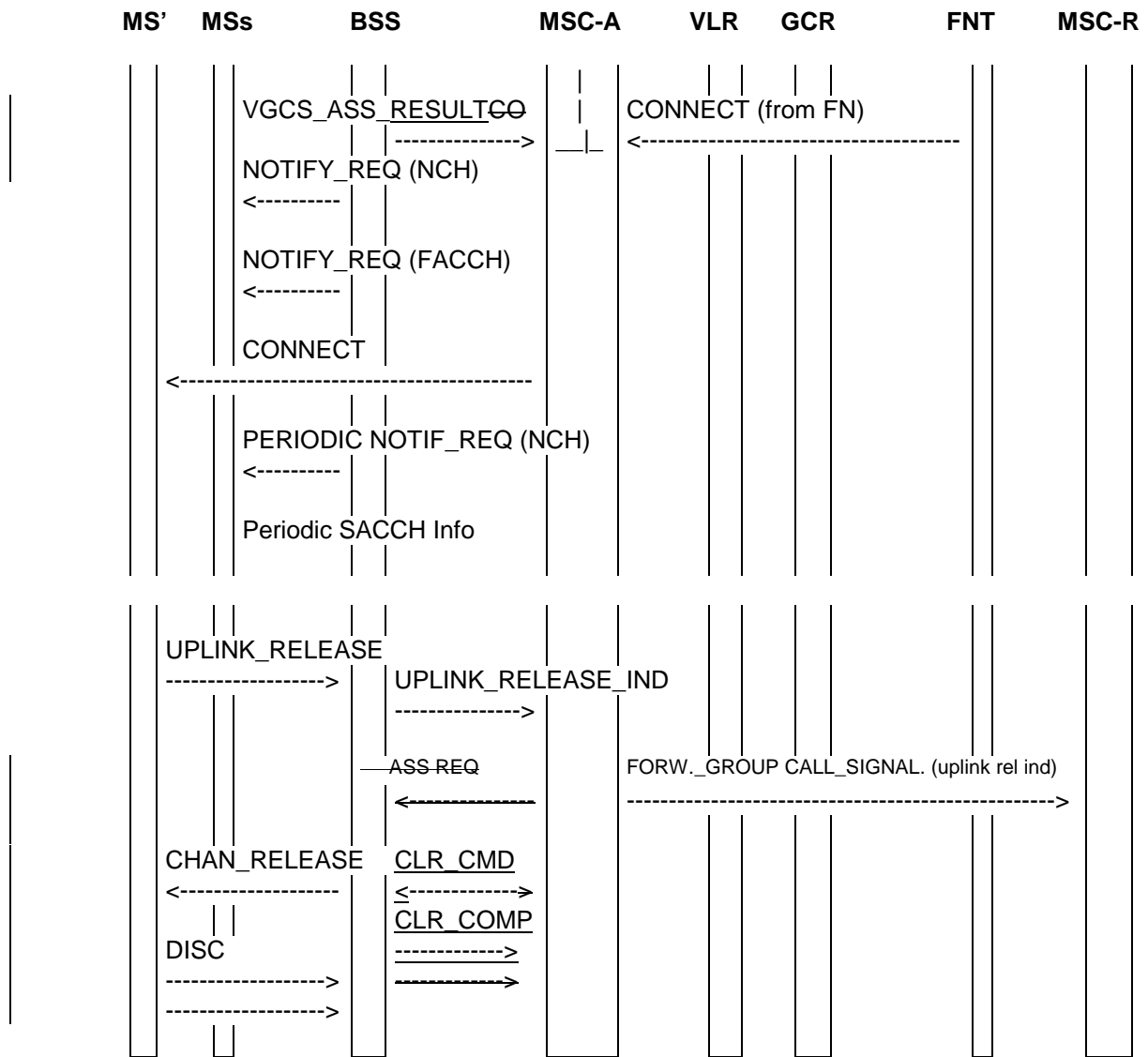


### 11.3.8 Overview of signalling

In this overview, the messages required to implement the specified concept are identified, and brief details are given of each message.

A diagrammatic representation of the voice group call message structure proposed and actions required is given in figures 2 to 7a.





NOTE: MS' = calling subscriber mobile station;  
 MSs = destination subscriber mobile stations;  
 FNT = fixed network user terminal;  
 MSC-A = anchor MSC;  
 MSC-R = relay MSC

**Figure 2: Signalling information required for establishing voice group calls by a service subscriber roaming in the anchor MSC area**

**SYS\_INFO (NCH allocated):** Message used to indicate if the NCH is allocated on the CCCH in the cell.

**Initial RACH CHAN\_REQ:** Standard message.

**IMM\_ASS:** Standard message send on the PCH.

**SERV\_REQ (voice group call):** Modified form of the current call request message L3-MM CM SERVICE REQUEST sent on the allocated channel. Teleservice Voice group call is indicated.

**UA (SERV\_REQ):** This message is used to acknowledge the layer 2 link and provide contention resolution of the service request.

**COM\_L3\_INFO:** The MSC is provided with initial information about the voice group call.

NOTE 2: Messages flows for authentication and ciphering are not represented although performed as normal.

**PROC\_ACC\_REQ:** The MAP\_PROCESS\_ACC\_REQ message is sent to the VLR to check the requested VGCS teleservice against the subscription data.

**PROC\_ACC\_ACK:** The MAP\_PROCESS\_ACC\_ACK message acknowledges the requested service.

**Authentication and Ciphering:** Authentication and Ciphering may be performed. Acknowledgement of the service request can also be performed by sending the CM SERVICE ACCEPT.

**SETUP:** The MSC is provided with details about the voice group call.

NOTE 3: Alternatively, an IMMEDIATE\_SETUP may have been sent as the initial message including all details of the voice group call. In this case no SETUP message must be sent.

**SEND\_INFO\_OUT:** The requested group ID is transferred to the VLR in the MAP\_SEND\_INFO\_FOR\_OUTGOING\_CALL message.

**COMPLETE\_CALL:** The VLR returns the MAP\_COMPLETE\_CALL message confirming the use of the requested group ID.

**ASSIGNMENT\_REQUEST:** Standard message.

**CHAN\_MOD\_MODIFY:** Standard message to modify the channel mode in case of very early assignment.

**CHAN\_MOD\_MODIFY\_ACK:** Standard message to acknowledge the modification of the channel mode.

**ASSIGNMENT\_COMPLETE:** Standard message.

NOTE 4: Alternatively, early assignment or OACSU procedures might be applied with the corresponding assignment messages not presented in figure 2.

**VGCS\_ATR\_REQ:** The group call attributes are requested from the GCR.

**VGCS\_ATR\_RES:** The requested information is returned from the GCR.

**VGCS\_ASSIGNMENT\_REQ:** This message is sent from the MSC to all affected BSCs, [ including the group call reference, the channel type and possibly the call priority and details on the ciphering.

NOTE 5: As an operator option the voice group call channels, the links to them and optionally also the links to dispatchers can already be established and permanently reserved in order to speed up the call set-up for emergency voice group calls.

**VGCS\_ASSIGNMENT\_RESULTCOMPLETE:** Acknowledgement message from the affected BSC in answer to the assignment requests. If the assignment is not successful, a VGCS\_ASSIGNMENT\_FAILURE message shall be sent instead.

**SETUP to fixed network users:** Based on the information determined about the users of external networks to be involved in the call, the MSC shall initiate calls to these users in the normal manner, depending on their mode of connection into the MSC, and shall connect them into the conference bridge. Alternatively normal calls to GSM subscribers may be established for dispatchers being GSM subscribers which is not presented in the diagram.

**PREPARE\_GROUP CALL:** The group call attributes are sent to every relay MSC and a Group Call number for call set-up to is requested.

**PREPARE\_GROUP CALL ACK:** The Group Call number for call set-up is returned to the anchor MSC.

**SETUP to MSC-R:** The ISUP connection is set-up to the relay MSC.

**CONNECT from MSC-R:** Set-up of the ISUP connection to the relay MSC is confirmed.

**SEND\_GROUP CALL\_END\_SIGNAL:** Indicates to the anchor MSC that conversation can start.

**FORWARD\_GROUP CALL\_SIGNALLING (IMSI):** The IMSI of the service subscriber who has established the voice group call and who is allowed to terminate the call is sent to every relay MSC.

**Txx:** Timer implemented in the MSC which is started with the incoming VGCS SETUP message and stops with the outgoing paging message. If the timer expires before the MSC receives all of the expected CHAN\_REQ\_ACK from the BSCs and the CONNECT messages from the external networks and SEND\_GROUP\_CALL\_END\_SIGNALs from the relay MSCs, the VGCS shall be established by the MSC to all available parts of the group call area.

**NOTIF\_REQ (NCH):** Messages for notification which contain the group call reference, the priority of the call if eMLPP is applied, and possibly the channel description of the voice group call channel to which the mobile stations shall listen and the number of the group key used for ciphering.

**NOTIF\_REQ (FACCH):** Message for notification sent on the FACCH to the mobile stations currently involved in other calls. The notification on the FACCH shall include the group call reference, and the priority level and may also include the channel description and the group ciphering key numbers.

**Periodic NOTIF\_REQ (NCH):** The notifications are sent periodically so that mobile stations moving into the area can join the voice group call.

**Periodic SACCH Info:** Periodic messages sent on SACCH. This message may include:

- information of changes of notifications;
- information used for cell re-selection.

**CONNECT:** Information to the mobile station of the calling subscriber that the VGCS is established with the related group call reference as the connected number.

**UPLINK\_RELEASE:** When the calling service subscriber wants to become a listening service subscriber for the first time, a message indicating release of the uplink is required to be sent from the MS to the BSS in order to set the uplink free.

**UPLINK\_RELEASE\_INDICATION:** The BSS informs the MSC on the uplink release.

**FORWARD\_GROUP CALL\_SIGNALLING (uplink release indication):** This message is sent to every relay MSC to indicate that the uplink is free.

**CLEAR COMMAND :** The MSC requests the BSS to clear radio and terrestrial resources associated with originator dedicated link if not already done.

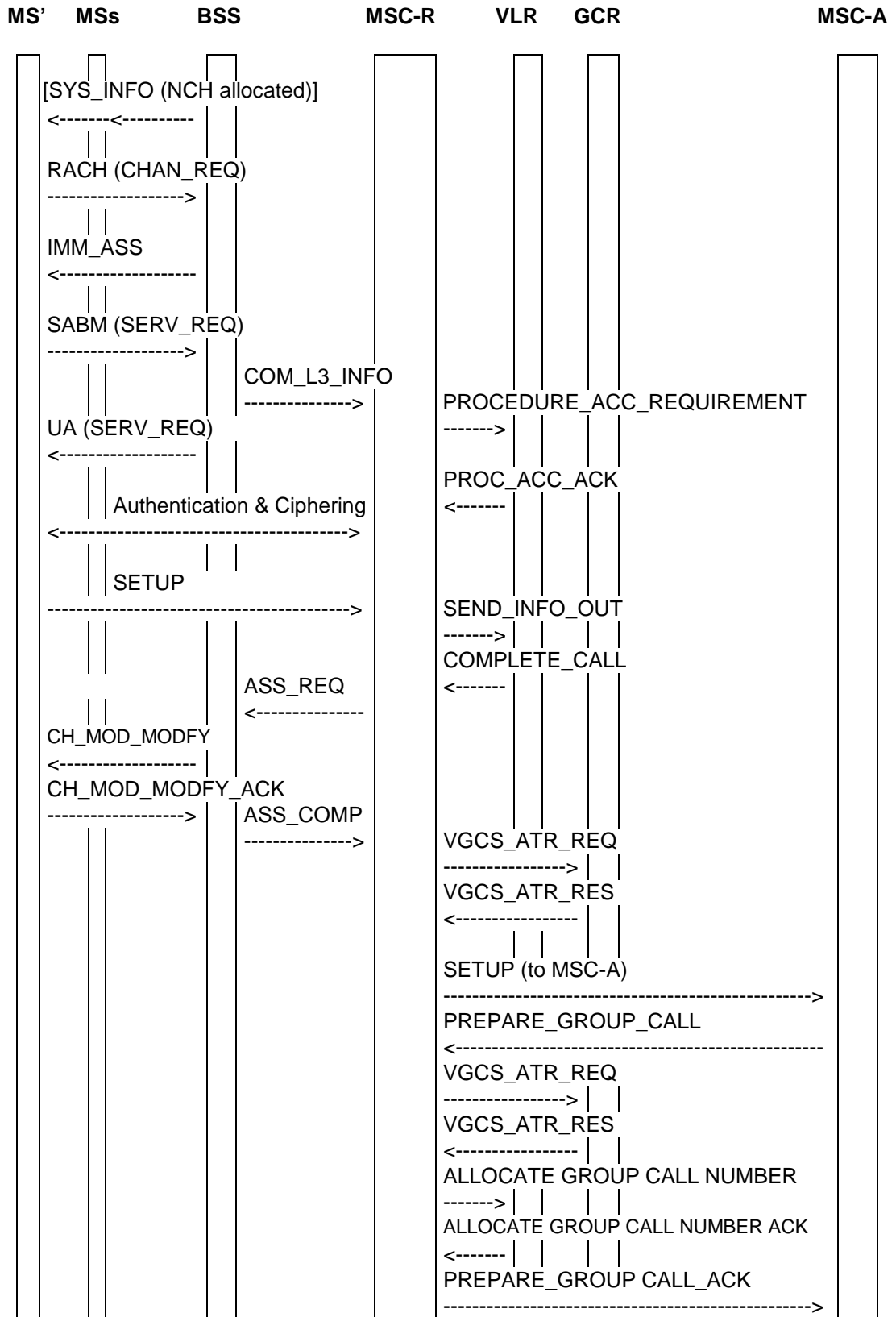
**ASSIGNMENT REQUEST:** ~~The MSC requests the BSC to assign the mobile to a Group call channel to the calling service subscriber. The ASSIGNMENT REQUEST shall contain the group call reference.~~

**CHAN\_RELEASE:** The BSS sends a channel release message to the calling service subscriber's mobile station including the channel description of the voice group call channel to which the mobile station shall tune to.

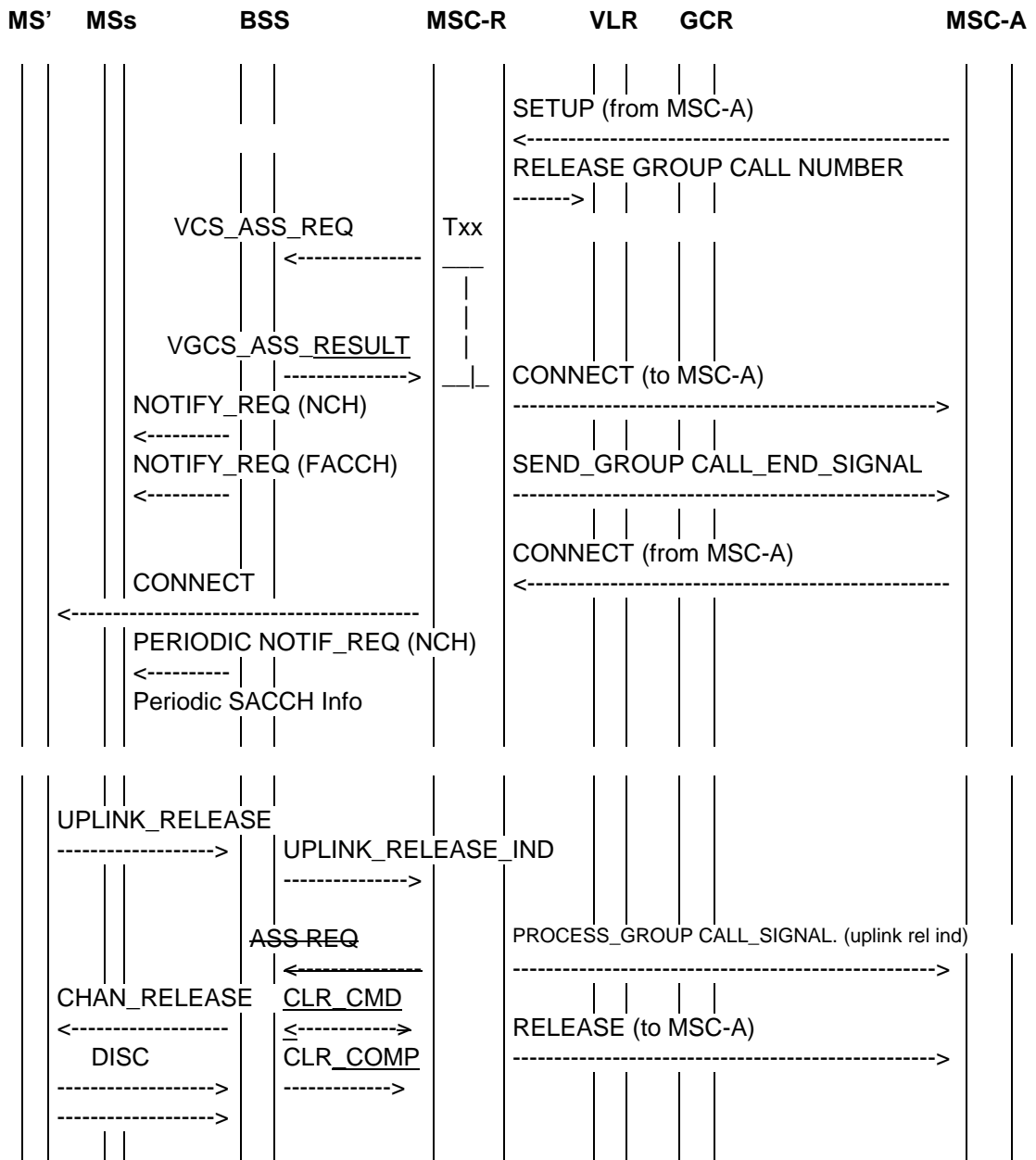
**ASSIGNMENT COMPLETE and CLR\_REQ:** When the MS moves the Group call channel the BSS sends the ASSIGNMENT COMPLETE and then the CLR\_REQ.

NOTE 6: Alternatively, if no UPLINK\_RELEASE has been sent to the network by the mobile station, the network may transfer the mobile station to the voice group call channel by the channel mode modify procedure or by an assignment procedure or by a handover procedure.

**DISC:** Two layer 2 disconnect messages shall be sent by the mobile station to the network.







NOTE: MS' = calling subscriber mobile station;  
 MSs = destination subscriber mobile stations;  
 MSC-A = anchor MSC;  
 MSC-R = relay MSC

**Figure 3: Signalling information required for establishing voice group calls by a service subscriber roaming in the relay MSC area**

**SYS\_INFO (NCH allocated):** Message used to indicate if the NCH is allocated on the CCCH in the cell.

**Initial RACH CHAN\_REQ:** Standard message.

**IMM\_ASS:** Standard message send on the PCH.

**SERV\_REQ (voice group call):** Modified form of the current call request message L3-MM CM SERVICE REQUEST sent on the allocated channel. Teleservice Voice group call is indicated.

**UA (SERV\_REQ):** This message is used to acknowledge the layer 2 link and provide contention resolution of the service request.

**COM\_L3\_INFO:** The MSC is provided with initial information about the voice group call.

NOTE 1: Messages flows for authentication and ciphering are not represented although performed as normal.

**PROC\_ACC\_REQ:** The MAP\_PROCESS\_ACC\_REQ message is sent to the VLR to check the requested VGCS teleservice against the subscription data.

**PROC\_ACC\_ACK:** The MAP\_PROCESS\_ACC\_ACK message acknowledges the requested service.

**Authentication & Ciphering:** Authentication and Ciphering may be performed. Acknowledgement of the service request can also be performed by sending the CM SERVICE ACCEPT.

**SETUP:** The MSC is provided with details about the voice group call.

NOTE 2: Alternatively, an IMMEDIATE\_SETUP may have been send as the initial message including all details of the voice group call. In this case no SETUP message must be sent.

**SEND\_INFO\_OUT:** The requested group ID is transferred to the VLR in the MAP\_SEND\_INFO\_FOR\_OUTGOING\_CALL message.

**COMPLETE\_CALL:** The VLR returns the MAP\_COMPLETE\_CALL message confirming the use of the requested group ID.

**ASSIGNMENT\_REQUEST:** Standard message.

**CHAN\_MOD\_MODIFY:** Standard message to modify the channel mode in case of very early assignment.

**CHAN\_MOD\_MODIFY\_ACK:** Standard message to acknowledge the modification of the channel mode.

**ASSIGNMENT\_COMPLETE:** Standard message.

NOTE 3: Alternatively, early assignment or OACSU procedures might be applied with the corresponding assignment messages not presented in figure 3.

**VGCS\_ATR\_REQ:** The group call attributes are requested from the GCR.

**VGCS\_ATR\_RES:** The requested information (MSC-A address) is returned from the GCR.

**SETUP to MSC-A:** Based on information received from the GCR the relay MSC shall set-up a dedicated connection for the initiating service subscriber to the anchor MSC.

**PREPARE\_GROUP CALL:** The group call attributes (parts) are received from the anchor MSC.

**VGCS\_ATR\_REQ:** The group call attributes are requested from the GCR.

**VGCS\_ATR\_RES:** The requested information (cell list) is returned from the GCR.

**ALLOCATE GROUP CALL NUMBER:** The Group Call number is requested from the VLR.

**ALLOCATE GROUP CALL NUMBER ACK:** The Group Call number is returned from the VLR.

**PREPARE\_GROUP\_CALL\_ACK:** The Group Call number is sent to MSC-A.

**SETUP from MSC-A:** The ISUP connection is set-up between MSC-A and MSC-R.

**RELEASE GROUP CALL NUMBER:** The VLR is requested to release the Group Call number.

**VGCS\_ASSIGNMENT\_REQ:** This message is sent from the MSC to all affected BSCs, [one dedicated message for every requested channel in a cell,] including the group call reference, the channel type and possibly the call priority and details on the ciphering.

NOTE 4: As an operator option the voice group call channels, the links to them and optionally also the links to dispatchers can already be established and permanently reserved in order to speed up the call set-up for emergency voice group calls.

**VGCS\_ASSIGNMENT\_RESULTCOMPLETE:** Acknowledgement message from the affected BSC in answer to the assignment requests. If the assignment is not successful, a VGCS\_ASSIGNMENT\_FAILURE message shall be sent instead.

**CONNECT to MSC-A:** Set-up of the ISUP connection from the anchor MSC is confirmed.

**SEND\_GROUP\_CALL\_END\_SIGNAL:** Indicates to the anchor MSC that conversation can start. In addition the IMSI of service subscriber who has established the voice group call and who is allowed to terminate the call is included.

**Txx:** Timer implemented in the relay MSC which is started with the incoming SETUP message from the anchor MSC and stops with the outgoing paging message. If the timer expires before the MSC receives all of the expected CHAN\_REQ\_ACK from the BSCs, the VGCS shall be established by the relay MSC to all available parts of the group call area and the anchor MSC shall be informed that conversation can start.

**NOTIF\_REQ (NCH):** Messages for notification which contain the group call reference, the priority of the call if eMLPP is applied, and possibly the channel description of the voice group call channel to which the mobile stations shall listen and the number of the group key used for ciphering.

**NOTIF\_REQ (FACCH):** Message for notification sent on the FACCH to the mobile stations currently involved in other calls. The notification on the FACCH shall include the group call reference, and the priority level and may include also the channel description and the group ciphering key numbers.

**Periodic NOTIF\_REQ (NCH):** The notifications are sent periodically so that mobile stations moving into the area can join the voice group call.

**Periodic SACCH Info:** Periodic messages sent on the downlink of the SACCH informing mobile stations of:

- information of changes of notifications;
- information used for cell re-selection.

**CONNECT (from MSC-A):** Call set-up of the dedicated connection for the calling service subscriber is confirmed.

**CONNECT:** Information to the mobile station of the calling subscriber that the VGCS is established with the related group call reference as the connected number.

**UPLINK\_RELEASE:** When the calling service subscriber wants to become a listening service subscriber for the first time, a message indicating release of the uplink is required to be sent from the MS to the BSS in order to set the uplink free.

**UPLINK\_RELEASE\_INDICATION:** The BSS informs the MSC on the uplink release.

**PROCESS\_GROUP\_CALL\_SIGNALLING (uplink release indication):** To indicate to the anchor MSC that the uplink is free.

**CLEAR COMMAND :** The MSC requests the BSS to clear radio and terrestrial resources associated with originator dedicated link if not already done.

**~~ASSIGNMENT\_REQUEST:~~** ~~The MSC requests the BSC to assign a Group call channel to the calling service subscriber. The ASSIGNMENT\_REQUEST shall contain the group call reference.~~

**CHAN\_RELEASE:** The BSS sends a channel release message to the calling service subscriber's mobile station including the channel description of the voice group call channel to which the mobile station shall tune to.

~~**ASSIGNMENT\_COMPLETE & CLR\_REQ:** When the MS moves the Group call channel the BSS sends the ASSIGNMENT\_COMPLETE and then the CLR\_REQ.~~

NOTE 5: Alternatively, if no UPLINK\_RELEASE has been sent to the network by the mobile station, the network may transfer the mobile station to the voice group call channel by the channel mode modify procedure or by an assignment procedure or by a handover procedure.

**DISC:** Two layer 2 disconnect messages shall be sent by the mobile station to the network.

**RELEASE to MSC-A:** The dedicated connection for the initiating service subscriber is released.

## 11.4 Functional requirement of Anchor MSC

The VGCS handling process in the anchor MSC is shown in figure 8.

### Successful call set-up

When the VGCS handling process in the anchor MSC receives a VGCS call set-up request from either a dispatcher or a service subscriber currently located in the anchor MSC's area or a service subscriber currently located in a relay MSC's area, it interrogates its associated GCR to retrieve the group call attributes, and waits for a response.

If the GCR returns a positive response containing the group call attributes, the anchor MSC sets up the downlinks to the cells inside the MSC area of the group call anchor MSC into which the call is to be sent, sets up the connections to the dispatchers to which a dedicated link is to be established, sets up the connections to the relay MSCs into which the call is to be sent, starts the No Activity Timer, sends Forward Group Call Signalling messages containing the IMSI of the service subscriber who has initiated the call -if the call was not initiated by a dispatcher- to all relay MSCs (however not to the relay MSC from which the IMSI was received within the Send Group Call End Signal message if the call was initiated by a service subscriber located in the relay MSC area), and waits for uplink management messages.

### Procedure Set-up Connections to Relay MSCs

The procedure is shown in figure 9.

The procedure sends PREPARE\_GROUP\_CALL messages to all relay MSCs and waits for the responses.

If a positive response containing a Group Call number is received from a relay MSC, the anchor MSC constructs an IAM using the Group Call number as called party address, sends it to the relay MSC and waits for the SEND\_GROUP\_CALL\_END\_SIGNAL message.

If the SEND\_GROUP\_CALL\_END\_SIGNAL message is received, the procedure checks whether responses from other relay MSCs are outstanding. Relay MSCs that do not send positive responses on the PREPARE\_GROUP\_CALL message are no longer considered to belong to the list of relay MSCs for this VGCS call.

### Negative response received from the GCR

If the GCR returns a negative response to the anchor MSC indicating that the call is already on-going, the anchor MSC checks whether the call was initiated by a dispatcher. If so, the dispatcher is connected to the on-going call and the process returns to the idle state. If the call was initiated by a service subscriber, a Release message indicating "user busy" is returned in order to force the mobile station of the service subscriber to look for notifications of the respective group ID on the NCH and join the group call.

If the negative response from the GCR indicates any other reason than "on-going call" the VGCS call set-up request is rejected by sending a release message back to the initiator and the process returns to the idle state.

### Uplink management

If the anchor MSC receives an Uplink Release message from a BSC, it marks the uplink as free, sends Forward Group Call Signalling messages indicating "uplink release indication" to all relay MSCs, sends Uplink Release ~~indication-command~~ messages to all other BSCs, restarts the No Activity Timer and waits for further uplink management messages.

If the anchor MSC receives an Uplink Request message from a BSC, it checks whether the uplink is marked as free. If so, an Uplink Request Confirm message is returned to the BSC, Forward Group Call Signalling messages indicating that the uplink is no longer free are sent to all relay MSCs, Uplink Seized Command messages are sent to all other BSCs, the uplink is marked busy and the process waits for further uplink management messages. If the uplink was not free when receiving the Uplink Request, the request is rejected.

If the anchor MSC receives an Uplink Cnf message from a BSC, it stores the received data and waits for further uplink management messages.

If the anchor MSC receives a Process Group Call Signalling message from a relay MSC indicating "uplink release indication", it ~~clears the dedicated connection which possibly has been established to the relay MSC,~~ marks the uplink as free, sends Forward Group Call Signalling messages indicating "uplink release indication" to all other relay MSCs, sends Uplink Release ~~indication-command~~ messages to all BSCs, restarts the No Activity Timer and waits for further uplink management messages.

If the anchor MSC receives a Process Group Call Signalling message from a relay MSC indicating "uplink request", it checks whether the uplink is marked as free. If so, a Forward Group Call Signalling message indicating "uplink request confirm" is returned to the relay MSC, Forward Group Call Signalling messages indicating that the uplink is no longer free are sent to all other relay MSCs, Uplink Seized Command messages are sent to all BSCs, the uplink is marked busy and the process waits for further uplink management messages. If the uplink was not free when receiving the Process Group Call Signalling message (Uplink Request), the request is rejected.

If the anchor MSC receives an ABORT message from a relay MSC, the connection to the relay MSC is released and the relay MSC is no longer considered to be part of the call.

### **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", 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 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.

## 11.5 Functional requirement of Relay MSC

The VGCS handling process in the relay MSC is shown in figure 10.

### **Successful call set-up initiated by a service subscriber**

When the VGCS handling process in the relay MSC receives a VGCS call set-up request from a service subscriber currently located in a relay MSC's area, it interrogates its associated GCR to retrieve the anchor MSC address and waits for a response.

If the GCR returns a positive response containing the anchor MSC address, the relay MSC sets up a dedicated connection for the initiating service subscriber to the anchor MSC by constructing an IAM with CLI set to the NDC plus prefix for VGCS plus group call reference, sending it to the anchor MSC, and waits for call release.

### **Negative response received from the GCR**

If the GCR returns a negative response to the relay MSC indicating that the call is already on-going, the relay MSC sends a Release message indicating "user busy" to the service subscriber in order to force the mobile station of the service subscriber to look for notifications of the respective group ID on the NCH and join the group call.

If the negative response from the GCR indicates any other reason than "on-going call" the VGCS call set-up request is rejected by sending a release message back to the initiator and the process returns to the idle state.

### **Successful call set-up initiated by the anchor MSC**

When the VGCS handling process in the relay MSC receives a PREPARE\_GROUP\_CALL message from the anchor MSC, it interrogates its associated GCR to retrieve the list of cells inside the relay MSC area into which the call is to be sent.

If the GCR returns a positive response, the relay MSC requests an Group Call number from its VLR.

If the VLR returns an Group Call number, a PREPARE\_GROUP CALL acknowledgement containing the Group Call number is returned to the anchor MSC and the relay MSC waits for the incoming call.

If the incoming call identified by the Group Call number is received, the relay MSC releases the Group Call number, sets up the downlinks to the cells inside the relay MSC area into which the call is to be sent, sends a SEND\_GROUP CALL END\_SIGNAL message to the anchor MSC and waits for uplink management messages.

### **Negative response received from the GCR**

If the GCR returns a negative response to the relay MSC, the relay MSC returns a PREPARE\_GROUP\_CALL negative response to the anchor MSC and returns to the idle state.

### **No Group Call number received from VLR**

If the VLR could not allocate a Group Call number, the relay MSC returns a PREPARE\_GROUP CALL\_CALL negative response to the anchor MSC, informs the GCR that the call is no longer on-going and returns to the idle state.

### **Uplink management**

If the relay MSC receives an Uplink Release message from a BSC, it marks the uplink as free, sends a Process Group Call Signalling message indicating "uplink release indication" to the anchor MSC, sends Uplink Release indication command messages to all other BSCs, releases the dedicated connection to the anchor MSC which possibly has been established and waits for further uplink management messages.

If the relay MSC receives an Uplink Request message from a BSC, it checks whether the uplink is marked as free. If so, a Process Group Call Signalling message indicating "uplink request" is sent to the anchor

MSC, Uplink Seized Command messages are sent to all other BSCs, the uplink is marked busy and the process waits for further uplink management messages. If the uplink was not free when receiving the Uplink Request, the request is rejected.

If the relay MSC receives an Uplink Cnf message from a BSC, it stores the data and waits for further uplink management messages.

If the relay MSC receives a Forward Group Call Signalling message from an anchor MSC indicating "uplink release indication", it marks the uplink as free, sends Uplink Release ~~indication~~ command messages to all BSCs and waits for further uplink management messages.

If the relay MSC receives a Forward Group Call Signalling message from an anchor MSC indicating "uplink seized command", it marks the uplink as busy, sends Uplink Seized Command messages to all BSCs and waits for further uplink management messages.

If the relay MSC receives a Forward Group Call Signalling message from an anchor MSC indicating "uplink reject", it returns an Uplink Reject message to the BSC which has requested the uplink and waits for further uplink management messages.

If the relay MSC receives a Forward Group Call Signalling message from an anchor MSC indicating "uplink request confirm", it returns an Uplink Request Confirm message to the BSC which has requested the uplink, sets up a dedicated connection for the new talker to the anchor MSC (implementation option) and waits for further uplink management messages.

If the relay MSC receives a Forward Group Call Signalling message from an anchor MSC indicating "uplink release command", it sends an Uplink Release Command message to the BSC which currently has access to the uplink and waits for further uplink management messages.

If the relay MSC receives an ABORT message from an anchor MSC, it sends release messages to all BSCs, informs the GCR that the call is no longer on-going and the process returns to the idle state.

### **Call release**

When receiving a release message from the anchor MSC for the dedicated connection which was set-up 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, 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.



# CHANGE REQUEST

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

**43.068 CR 002**

Current Version: **4.0.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **TSGN#9**  
list expected approval meeting # here ↑

for approval   
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

**Source:** TSGN1 **Date:** 05/05/00

**Subject:** Notification procedure

**Work item:** ASCI

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

F Correction   
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   
Release 00

**Reason for change:** Suppress a remark concerning un-existing conflicts in idle mode

**Clauses affected:** 11.3.1.3 a)

**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:**



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

### 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**

| <b>MS states:</b>                             | <b>call type:</b> group call | point-to-point call     |
|---|------------------------------|-------------------------|
| Idle mode                                     | (section a)                  | (standard paging)       |
| group receive mode and<br>group transmit mode | (section b)                  | (section c)             |
| dedicated mode                                | (section b)                  | (standard Call Waiting) |

#### a) Notification for mobile stations in idle mode

Once the voice group call channel has been established in a cell or the network is waiting to receive notification responses to establish a voice group call channel, notifications shall be broadcast on the NCH in that cell.

The position of the NCH is derived from the system information of the BCCH.

The notification messages shall include the group call reference and possibly the description of the voice group call channel, the call priority if eMLPP is applied, an indication whether acknowledgements are required for this call and the group cipher key number.

A notification message can contain no, one or more notifications.

The notification process needs to continue throughout the duration of the group call, in order to permit the "late entry" of other mobile stations. Mobile stations moving into the group call area which are in idle mode shall be directed to the voice group call channel by the notification messages, possibly by means of the notification response procedure.

The scheduling of the notification messages in a cell shall be managed by the BSS. Information can be added in the messages to limit the required reception of NCH messages. The following constraints shall be met:

- The three first initial notifications (i.e. the first for a given group call) shall have priority over subsequent notifications (i.e. the messages for an on-going group call) and must be sent as soon as possible;

NOTE 1: In addition initial notification messages for calls with or above an operator defined priority level can be sent on all possible paging or access grant channels to reduce the delay for those mobile stations which are not using DRX.

- Afterwards, an on-going group call in the cell shall be periodically notified on the NCH.

Since the information for the establishment of a voice group call is sent onto the NCH rather than on the PCH as for normal point-to-point calls, the mobile station must listen to the PCH as well as to the NCH. A "reduced NCH monitoring" mechanism can be used to save power in the mobile station when listening to the NCH.

A mobile station able to receive voice group calls either, depending on the implementation:

- can use the "reduced NCH monitoring" mechanism. When entering a cell, the mobile station shall listen to the NCH to get the notifications of the voice group calls on-going in the cell. Afterwards, the mobile station needs to listen to the NCH only if it is informed on the availability of a notification for a new voice group call. This shall be based on the NCH status information provided, as indicated in GSM 04.08. ~~In situations where conflicts due to other idle mode tasks occur, the mobile station shall fulfil those idle mode tasks with priority in multiframe which do not correspond to the own paging subgroup;~~
- do not apply the "reduced NCH monitoring" mechanism and read all possible paging or access grant channels.

## CHANGE REQUEST

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

**43.069**
**CR**
**001**
Current Version: **4.0.0**

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

For submission to: **TSGN#9** for approval  for information 
strategic 
(for SMG use only)

list expected approval meeting # here ↑

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   
*(at least one should be marked with an X)*

**Source:** **TSGN1** **Date:** **05/05/00**

**Subject:** **Notification procedure**

**Work item:** **ASCI**

|  |   |                        |   |
|--|---|------------------------|---|
| <p><b>Category:</b></p> <p style="font-size: x-small;">(only one category shall be marked with an X)</p> | <p>F Correction <input checked="" type="checkbox"/></p> <p>A Corresponds to a correction in an earlier release <input type="checkbox"/></p> <p>B Addition of feature <input type="checkbox"/></p> <p>C Functional modification of feature <input type="checkbox"/></p> <p>D Editorial modification <input type="checkbox"/></p> | <p><b>Release:</b></p> | <p>Phase 2 <input type="checkbox"/></p> <p>Release 96 <input type="checkbox"/></p> <p>Release 97 <input type="checkbox"/></p> <p>Release 98 <input type="checkbox"/></p> <p>Release 99 <input type="checkbox"/></p> <p>Release 00 <input checked="" type="checkbox"/></p> |
|--|---|------------------------|---|

**Reason for change:** **Suppress a remark concerning un-existing conflicts in idle mode**

**Clauses affected:** **11.3.1.3 a)**

|                                     |   |  |
|-------------------------------------|---|--|
| <p><b>Other specs affected:</b></p> | <p>Other 3G core specifications <input type="checkbox"/> → List of CRs:</p> <p>Other GSM core specifications <input type="checkbox"/> → List of CRs:</p> <p>MS test specifications <input type="checkbox"/> → List of CRs:</p> <p>BSS test specifications <input type="checkbox"/> → List of CRs:</p> <p>O&amp;M specifications <input type="checkbox"/> → List of CRs:</p> |  |
|-------------------------------------|---|--|

**Other comments:**



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

### 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 clauses.

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

| <b>MS states:</b>  | <b>call type:</b> 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) |

#### a) Notification for mobile stations in idle mode

Once the voice broadcast channel has been established in a cell or the network is waiting to receive notification responses to establish a voice broadcast channel, notifications shall be broadcast on the NCH in that cell.

The position of the NCH shall be derived from the system information of the BCCH.

The notification messages shall include the broadcast call reference and possibly the description of the voice broadcast channel, the call priority if eMLPP is applied, and the group cipher key number.

A notification message can contain no, one or more notifications.

The notification process needs to continue throughout the duration of the broadcast call, in order to permit the "late entry" of other mobile stations. Mobile stations moving into the group call area which are in idle mode shall be directed to the voice broadcast channel by the notification messages, possibly by means of the notification response procedure.

The scheduling of the notification messages in a cell shall be managed by the BSS. Information can be added in the messages to limit the required reception of NCH messages. The following constraints shall be met:

- The three first initial notifications (i.e. the first for a given broadcast call) shall have priority over subsequent notifications (i.e. the messages for an on-going broadcast call) and must be sent as soon as possible;

NOTE: In addition initial notification messages for calls with or above an operator defined priority level can be sent on all possible paging or access grant channels to reduce the delay for those mobile stations which are not using DRX.

- Afterwards, an on-going broadcast call in the cell shall be periodically notified on the NCH.

Since the information for the establishment of a voice broadcast call is sent onto the NCH rather than on the PCH as for normal point-to-point calls, the mobile station must listen to the PCH as well as to the NCH. A "reduced NCH monitoring" mechanism can be used to save power in the mobile station when listening to the NCH.

A mobile station able to receive voice broadcast calls either, depending on the implementation:

- can use the "reduced NCH monitoring" mechanism. When entering a cell, the mobile station shall listen to the NCH to get the notifications of the voice broadcast calls on-going in the cell. Afterwards, the mobile station needs to listen to the NCH only if it is informed on the availability of a notification for a new voice broadcast call. This shall be based on the NCH status information provided, as indicated in GSM 04.08. ~~In situations where conflicts due to other idle mode tasks occur, the mobile station shall fulfil those idle mode tasks with priority in multiframe which do not correspond to the own paging subgroup;~~
- do not apply the "reduced NCH monitoring" mechanism and read all possible paging or access grant channels.

# CHANGE REQUEST

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

**43.068 CR 003**

Current Version: **4.0.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **TSGN#9**  
list expected approval meeting # here ↑

for approval   
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

**Source:**

TSGN1

**Date:**

25.07.2000

**Subject:**

Identification of Group ID - The longest GID has to be matched

**Work item:**

ASCI

**Category:**

(only one category shall be marked with an X)

F Correction   
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   
Release 00

**Reason for change:**

To ensure the correct matching of the Group ID in the Group Call Reference

**Clauses affected:**

9.1

**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:**



help.doc

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

## 9 Identities

### 9.1 Elementary identities for group calls

#### a) Group ID

The group ID ~~shall be~~ is a sequence of decimal digits ~~binary number~~ with a maximum value-length depending on the composition of the group call reference defined under c).

The mobile station derives the group ID from the group call reference by identifying the longest group ID amongst those stored in the SIM and matching the least significant digits of the group call reference. If no group ID is stored in the SIM that matches the least significant digits of the group call reference, the mobile station is not able to derive the group ID from the group call reference.

Note: The network should use Group IDs matching an initial part of other group IDs with greatest care, if at all.

Example: A mobile station storing the group IDs 678, 2678 and 42678 (and only those) in the SIM will derive group ID 2678 from group call reference 13452678.

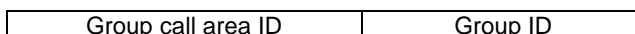
~~VBS shall also be provided in case of roaming. If this applies, certain group IDs shall be defined as supra-PLMN group IDs which have to be co-ordinated between the network operators and which shall be known in the networks and in the SIM.~~

#### b) Group call area ID

The group call area ID ~~is a sequence of decimal digits~~ ~~shall be a binary number~~ uniquely assigned to a group call area in one network and with a maximum value-length 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 a sequence of decimal digits composed of the group ID (as the least significant part) and the group call area ID (as the most significant part). 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 decimal digits. The composition of the group call area ID and the group ID can be specific for each network operator.



Note: Only on the radio interface (and consequently on the Abis and A interface), the group call reference and group id are encoded as binary numbers with leading zeros in order to meet length restrictions of certain messages on the radio interface. As a consequence, the network cannot distinguish Group Ids sent by the mobile station only differing (in decimal notation) by leading zeros.

### 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 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.



|                     |          |
|---------------------|----------|
| Originating cell ID | Group ID |
|---------------------|----------|

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 references 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.

**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 [tbc];
- 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.

|  |  |   |  |
|--|--|---|--|
| <h1>CHANGE REQUEST</h1>  |  | <small>Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.</small> |  |
| <b>43.069 CR 002r1</b>   |  | Current Version: <b>4.0.0</b>   |  |
| <small>GSM (AA.BB) or 3G (AA.BBB) specification number ↑</small> |  | <small>↑ CR number as allocated by MCC support team</small>   |  |
| For submission to: <b>TSGN#9</b>                                 |  | for approval <input checked="checked" type="checkbox"/>   |  |
| <small>list expected approval meeting # here ↑</small>           |  | for information <input type="checkbox"/>  |  |
|  |  | strategic <input type="checkbox"/>  |  |
|  |  | non-strategic <input type="checkbox"/> <small>(for SMG use only)</small>  |  |

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   
(at least one should be marked with an X)

**Source:** TSGN1 **Date:** 25.07.2000

**Subject:** Identification of Group ID - The longest GID has to be matched

**Work item:** ASCII

|  |   |                 |   |
|--|---|-----------------|---|
| <b>Category:</b><br><small>(only one category shall be marked with an X)</small> | F Correction <input type="checkbox"/><br>A Corresponds to a correction in an earlier release <input type="checkbox"/><br>B Addition of feature <input checked="checked" type="checkbox"/><br>C Functional modification of feature <input type="checkbox"/><br>D Editorial modification <input type="checkbox"/> | <b>Release:</b> | Phase 2 <input type="checkbox"/><br>Release 96 <input type="checkbox"/><br>Release 97 <input type="checkbox"/><br>Release 98 <input type="checkbox"/><br>Release 99 <input type="checkbox"/><br>Release 00 <input checked="checked" type="checkbox"/> |
|--|---|-----------------|---|

**Reason for change:** To ensure the correct matching of the Group ID in the Broadcast Call Reference

**Clauses affected:** 9.1

|                              |  |
|------------------------------|--|
| <b>Other specs affected:</b> | Other 3G core specifications <input type="checkbox"/> → List of CRs:<br>Other GSM core specifications <input type="checkbox"/> → List of CRs:<br>MS test specifications <input type="checkbox"/> → List of CRs:<br>BSS test specifications <input type="checkbox"/> → List of CRs:<br>O&M specifications <input type="checkbox"/> → List of CRs: |
|------------------------------|--|

**Other comments:**



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

## 9 Identities

### 9.1 Elementary identities for broadcast calls

#### a) Group ID

The group ID ~~shall be~~ is a sequence of decimal digits ~~binary number~~ with a maximum value-length depending on the composition of the broadcast call reference defined under c).

The mobile station derives the group ID from the broadcast call reference by identifying the longest group ID amongst those stored in the SIM and matching the least significant digits of the broadcast call reference. If no group ID is stored in the SIM that matches the least significant digits of the broadcast call reference, the mobile station is not able to derive the group ID from the broadcast call reference.

Note: The network should use Group IDs matching an initial part of other group IDs with greatest care, if at all.

Example: A mobile station storing the group IDs 678, 2678 and 42678 (and only those) in the SIM will derive group ID 2678 from BROADCAST call reference 13452678.

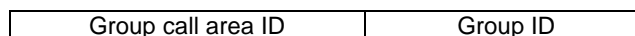
~~VBS shall also be provided in case of roaming. If this applies, certain group IDs shall be defined as supra-PLMN group IDs which have to be co-ordinated between the network operators and which shall be known in the networks and in the SIM.~~

#### b) Group call area ID

The group call area ID ~~is a sequence of decimal digits~~ ~~shall be a binary number~~ uniquely assigned to a group call area in one network and with a maximum value-length depending on the composition of the broadcast call reference defined under c).

#### c) Broadcast call reference

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



Note: Only on the radio interface (and consequently on the Abis and A interface), the BROADCAST call reference and group id are encoded as binary numbers with leading zeros in order to meet length restrictions of certain messages on the radio interface. As a consequence, the network cannot distinguish Group Ids sent by the mobile station only differing (in decimal notation) by leading zeros.

### 9.2 Use of identities in the network

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

For voice group 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 BROADCAST 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.

|                     |          |
|---------------------|----------|
| Originating cell ID | Group ID |
|---------------------|----------|

A service subscriber initiating a voice BROADCAST 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 BROADCAST call reference as defined in subclause 9.1.

**b) Identities used for GCR requests for dispatcher originated voice BROADCAST calls**

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

**c) Identities used for notifications**

Identities used for notification messages shall consist of the BROADCAST call reference as defined in subclause 9.

**d) Identities used by dispatchers for voice BROADCAST 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 BROADCAST call by use of a prefix. The length of the prefix shall be 1 to 2 digits [tbc];
- the wanted BROADCAST call reference as defined in subclause 9.1.

|    |     |        |                          |
|----|-----|--------|--------------------------|
| CC | NDC | Prefix | BROADCAST call reference |
|----|-----|--------|--------------------------|

**e) Identities used for VLR requests for service subscriber originated BROADCAST calls**

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

# CHANGE REQUEST

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

**44.068 CR 001r1**

Current Version: **4.0.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **TSGN#9**  
list expected approval meeting # here ↑

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

**Source:** TSGN1 **Date:** 05/05/2000

**Subject:** The repetition of the priority in the Call Reference IE in the SETUP message

**Work item:** ASCII

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

|   |                                     |                         |                                     |
|---|-------------------------------------|-------------------------|-------------------------------------|
| F Correction  | <input type="checkbox"/>            | <b>Release:</b> Phase 2 | <input type="checkbox"/>            |
| A Corresponds to a correction in an earlier release | <input type="checkbox"/>            | Release 96              | <input type="checkbox"/>            |
| B Addition of feature                               | <input type="checkbox"/>            | Release 97              | <input type="checkbox"/>            |
| C Functional modification of feature                | <input checked="" type="checkbox"/> | Release 98              | <input type="checkbox"/>            |
| D Editorial modification                            | <input type="checkbox"/>            | Release 99              | <input type="checkbox"/>            |
|   |                                     | Release 00              | <input checked="" type="checkbox"/> |

**Reason for change:** The purpose is to introduce an indication that the repeated priority in the Call Reference IE for a SETUP message must be the same as the priority set in the SERVICE\_REQUEST message.

**Clauses affected:** 9.4.1

**Other specs affected:**

|                               |                          |                |  |
|-------------------------------|--------------------------|----------------|--|
| Other 3G core specifications  | <input type="checkbox"/> | → List of CRs: |  |
| Other GSM core specifications | <input type="checkbox"/> | → List of CRs: |  |
| MS test specifications        | <input type="checkbox"/> | → List of CRs: |  |
| BSS test specifications       | <input type="checkbox"/> | → List of CRs: |  |
| O&M specifications            | <input type="checkbox"/> | → List of CRs: |  |

**Other comments:**



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

## 9.4.1 Call Reference

The *Call Reference* information element identifies the group call reference or group Id of a group call. It is coded as shown below. It is a type 3 information element.

*<call reference>* ::= **reference** { **0 spare\_3** / **1 priority** } { **0 <continuation>** / **1** }

*<continuation>* ::= **0 spare\_7** *<continuation>* / **1 spare\_7**

### Attributes

The information element defines a reference which, depending on the situation, is to be interpreted as a group call reference or as a group id. If the **priority** field is present in *<call reference>*, the information element also specifies a priority.

If the *Call Reference* IE is included in the SETUP message and if the **priority** field is present in *<call reference>*, then the MS shall set the priority value ~~must~~ to be the same as the priority value in the CM SERVICE REQUEST message.

### Field contents

The field of the *call state* information element are coded as shown in table 9.2.

**Table 9.2: *call reference* information element**

|   |                             |
|---|-----------------------------|
| <b>reference</b> (27 bits)  |                             |
| This field contains the 27 bit binary encoding (with leading zeroes) of the number the decimal encoding of which (with leading zeroes) is the group call reference or the group id (see GSM 03.03). |                             |
| <b>priority</b> (3 bits)  |                             |
| This field encodes the priority level of the call (see GSM 03.67):  |                             |
| Bits  |                             |
| 0 0 0   | priority level 4            |
| 0 0 1   | priority level 3            |
| 0 1 0   | priority level 2            |
| 0 1 1   | priority level 1            |
| 1 0 0   | priority level 0            |
| 1 0 1   | priority level B            |
| 1 1 0   | priority level A            |
| 1 1 1   | reserved                    |
| <b>spare3</b> (3 bits)  | This field shall be ignored |
| <b>spare7</b> (7 bits)  | This field shall be ignored |

# CHANGE REQUEST

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

**44.069 CR 001r1**

Current Version: **4.0.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **TSGN#9**  
 list expected approval meeting # here ↑

for approval   
 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

**Source:** TSGN1 **Date:** 05/05/2000

**Subject:** The repetition of the priority in the Call Reference IE in the SETUP message

**Work item:** ASCI

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

F Correction   
 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   
 Release 00

**Reason for change:**

The purpose is to introduce an indication that the repeated priority in the Call Reference IE for a SETUP message must be the same as the priority set in the SERVICE\_REQUEST message.

**Clauses affected:** 9.4.1

**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:**



help.doc

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

## 9.4.1 Call Reference

The *Call Reference* information element identifies the broadcast call reference or broadcast Id of a broadcast call. It is coded as shown below. It is a type 3 information element.

`<call reference>` ::= **reference** { **0 spare\_3** / **1 priority** } { **0** *<continuation>* / **1** }

`<continuation>` ::= **0 spare\_7** *<continuation>* / **1 spare\_7**

### Attributes

The information element defines a reference which, depending on the situation, is to be interpreted as a broadcast call reference or as a broadcast id. If the **priority** field is present in `<call reference>`, the information element also specifies a priority.

If the *Call Reference* IE is included in the SETUP message and if the **priority** field is present in `<call reference>`, then the MS shall set the priority value ~~must~~ to be the same as the priority value in the CM SERVICE REQUEST message.

### Field contents

The field of the *call state* information element are coded as shown in table 9.2.

**Table 9.2: *call reference* information element**

|   |   |   |                       |
|---|---|---|-----------------------|
| <b>reference</b> (27 bits)  |   |   |                       |
| This field contains the 27 bit binary encoding (with leading zeroes) of the number the decimal encoding of which (with leading zeroes) is the broadcast call reference or the broadcast id (see GSM 03.03). |   |   |                       |
| <b>priority</b> (3 bits)  |   |   |                       |
|   | 3 | 2 | 1                     |
|   | 0 | 0 | 0                     |
|   | 0 | 0 | 1                     |
|   | 0 | 1 | 0                     |
|   | 0 | 1 | 1                     |
|   | 1 | 0 | 0                     |
|   | 1 | 0 | 1                     |
|   | 1 | 1 | 0                     |
|   | 1 | 1 | 1                     |
|   |   |   | reserved              |
|   |   |   | call priority level 4 |
|   |   |   | call priority level 3 |
|   |   |   | call priority level 2 |
|   |   |   | call priority level 1 |
|   |   |   | call priority level 0 |
|   |   |   | call priority level B |
|   |   |   | call priority level A |
| <b>spare3</b> (3 bits)  |   |   |                       |
| This field shall be ignored   |   |   |                       |
| <b>spare7</b> (7 bits)  |   |   |                       |
| This field shall be ignored   |   |   |                       |