3GPP TSG CN Meeting #27 **NP-050076**
9th - 11th March 2005. Tokyo, Japan.

Source: **TSG CN WG1**

Title: **CR to Rel-6 WI "TEI6" for TS 43.068, 43.069 and 24.008**

Agenda item: **9.21**

Document for: **APPROVAL**

This document contains 7 **CRs on Rel-6 Work Item "TEI6"**, that have been agreed by TSG CN WG1 CN#37 meeting and forwarded to TSG CN Plenary meeting #27 for approval.

TDoc #	Tdoc Title	Spec	CR #	Rev	CAT	C_Version	WI	Rel
N1-050281	EPRT Inter-PLMN Group Call notification for dispatchers	43.068	36	1	F	6.3.0	TEI6	Rel-6
N1-050282	EPRT Inter-PLMN Broadcast Call notification for dispatchers	43.069	23	1	F	6.1.0	TEI6	Rel-6
N1-050047	Correction of the heading of subclause 4.7.3.1.6, bullet d.1	24.008	932		F	6.7.0	TEI6	Rel-6
N1-050359	Missing Messages in MM and CC Summary Tables	24.008	935	1	F	6.7.0	TEI6	Rel-6
N1-050367	GPRS attach type while in DTM	24.008	951	1	F	6.7.0	TEI6	Rel-6
N1-050368	Detach for PS and CS during a ongoing CS connection	24.008	952	1	F	6.7.0	TEI6	Rel-6
N1-050369	Condition for Combined RAU after a DTM connection	24.008	953	1	F	6.7.0	TEI6	Rel-6

3GPP TSG-CN1 Meeting #37 **Tdoc N1-050047**
Sydney, Australia, 14-18 February 2004

CR-Form-v7.1

CHANGE REQUEST

⌘ **24.008** **CR** **932** ⌘ **rev** **-** ⌘ Current version: **6.7.0** ⌘

*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:	⌘	Correction of the heading of subclause 4.7.3.1.6, bullet d.1
Source:	⌘	Siemens AG
Work item code:	⌘	TEI6
Date:	⌘	01/02/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one 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 one 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:	⌘	With CR 04.08-A467r2 (P-99-456), bullet d of the abnormal cases during GPRS attach for the network side was split in two parts, d.1 and d.2. The 'virtual' mirror CR for R98, CR 04.08-A753r2 (see SMG#30, P-99-554), was not implemented correctly, since part of the heading of d.1 was lost.
Summary of change:	⌘	Addition of the missing part of the heading.
Consequences if not approved:	⌘	The description of the abnormal case d.1 is incomplete, since part of the description was only given in the lost part of the heading.

Clauses affected:	⌘	4.7.3.1.6

Other specs affected:	⌘	Y	N		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	

Other comments: ⌘

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/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.

4.7.3.1 GPRS attach procedure for GPRS services

…

4.7.3.1.6 Abnormal cases on the network side

The following abnormal cases can be identified:

a) Lower layer failure

If a low layer failure occurs before the message ATTACH COMPLETE has been received from the MS and a new P-TMSI (or a new P-TMSI and a new P-TMSI signature) has been assigned, the network shall consider both the old and new P-TMSI each with its corresponding P-TMSI-signature as valid until the old P-TMSI can be considered as invalid by the network (see subclause 4.7.1.5) and shall not resent the message ATTACH ACCEPT. During this period the network may:

- use the identification procedure followed by a P-TMSI reallocation procedure if the old P-TMSI is used by the MS in a subsequent message.

b) Protocol error

If the ATTACH REQUEST message is received with a protocol error, the network shall return an ATTACH REJECT message with one of the following reject causes:

#96: Mandatory information element error;

#99: Information element non-existent or not implemented;

#100: Conditional IE error;

#111: Protocol error, unspecified.

c) T3350 time-out

On the first expiry of the timer, the network shall retransmit the ATTACH ACCEPT message and shall reset and restart timer T3350.

This retransmission is repeated four times, i.e. on the fifth expiry of timer T3350, the GPRS attach procedure shall be aborted. If a new P-TMSI or a new P-TMSI together with a new P-TMSI signature were allocated in the ATTACH ACCEPT message, the network shall consider both the old and new P-TMSI each together with the corresponding P-TMSI signatures as valid until the old P-TMSI can be considered as invalid by the network (see subclause 4.7.1.5). During this period the network acts as specified for case a.

d.1) ATTACH REQUEST received after the ATTACH ACCEPT message has been sent and before the ATTACH COMPLETE message is received

- If one or more of the information elements in the ATTACH REQUEST message differ from the ones received within the previous ATTACH REQUEST message, the previously initiated GPRS attach procedure shall be aborted and the new GPRS attach procedure shall be progressed, or

- If no information element differ, then the ATTACH ACCEPT message shall be resent.

d.2) More than one ATTACH REQUEST received and no ATTACH ACCEPT or ATTACH REJECT message has been sent

- If one or more of the information elements in the ATTACH REQUEST message differs from the ones received within the previous ATTACH REQUEST message, the previously initiated GPRS attach procedure shall be aborted and the new GPRS attach procedure shall be progressed;

- If the information elements do not differ, then the network shall continue with the previous attach procedure and shall not treat any further this ATTACH REQUEST message.

e) ATTACH REQUEST received in state GMM-REGISTERED

If an ATTACH REQUEST message is received in state GMM-REGISTERED the network may initiate the GMM common procedures; if it turned out that the ATTACH REQUEST message was send by an MS that has already been attached, the GMM context, PDP contexts and MBMS contexts, if any, are deleted and the new ATTACH REQUEST is progressed.

f) ROUTING AREA UPDATE REQUEST message received before ATTACH COMPLETE message.

Timer T3350 shall be stopped. The allocated P-TMSI shall be considered as valid and the routing area updating procedure shall be progressed as described in subclause 4.7.5.

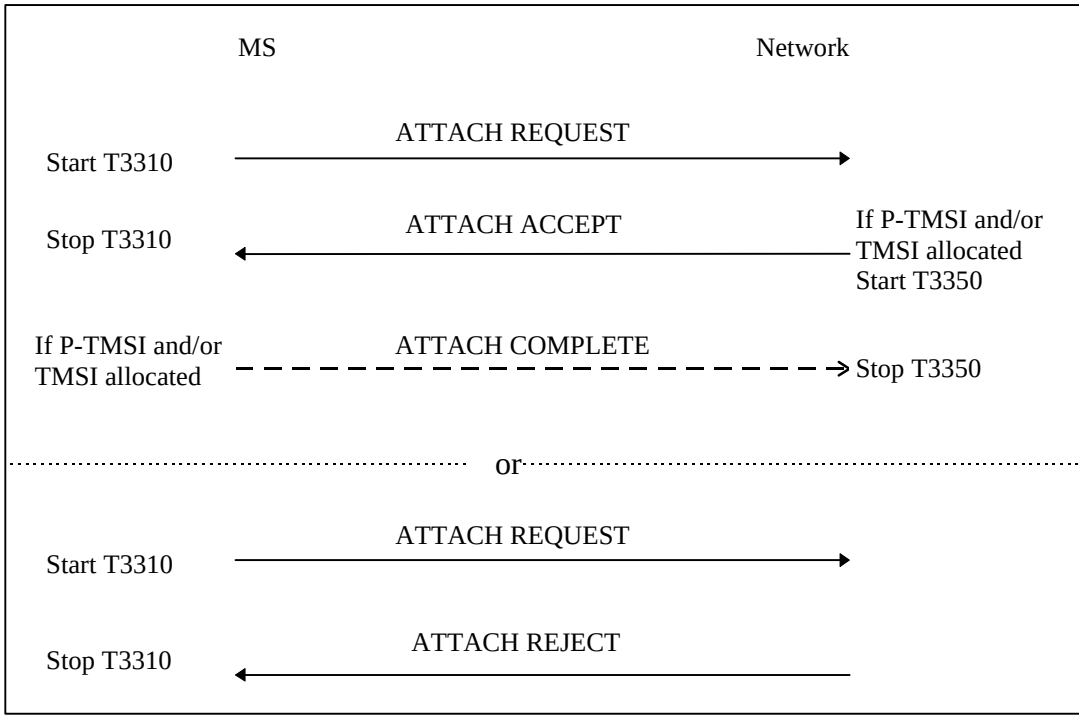

Figure 4.7.3/1 3GPP TS 24.008: GPRS attach procedure and combined GPRS attach procedure

3GPP TSG-CN1 Meeting #37 **Tdoc N1-050281**
Sydney, Australia, 14-18 February 2004

CR-Form-v7.1

CHANGE REQUEST

⌘ **43.068** **CR** **36** ⌘ **rev** **1** ⌘ Current version: **6.3.0** ⌘

*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:	⌘	EPRT Inter-PLMN Group Call notification for dispatchers
Source:	⌘	Nortel, Siemens
Work item code:	⌘	TEI6
Date:	⌘	04/02/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one 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 one 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:	⌘	During group call establishment where a dispatcher is receiving the call, it is necessary for that dispatcher to be able to distinguish between a VGCS call and a VBS call with the same Group Call Reference.
Summary of change:	⌘	Align group call identifiers used in notifications to dispatchers with those used between MSCs to initiate the call.
Consequences if not approved:	⌘	Dispatchers will not be able to adequately identify incoming VGCS calls or distinguish those calls from similar VBS calls. In certain application areas (e.g. railway use) this might give rise to a hazardous situation.

Clauses affected:	⌘	9.2, 11.3.1.5			
Other specs affected:	⌘	**Y**	**N**		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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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.

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 3GPP TS ~~24~~48.008 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.

If the group call area exceeds one MSC area and the call was originated in a relay MSC, this relay MSC will perform a second GCR interrogation when the anchor MSC sets up the link to the relay MSC (see subclause 11.5). The relay MSC shall use the group call reference as defined in subclause 9.1 as the identity for the second GCR interrogation.

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 to service subscribers

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 CC and NDC may be omitted for internal calls. The numbering scheme is ~~according to~~based on ITU-T 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~~based on ITU-T 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

g) Identities used for notifications to dispatchers

Identities used for notification messages to dispatchers shall be identical to those used by dispatchers to initiate calls as described in subclause d).

A notification identity is presented to a dispatcher terminal by making use of CLIP. Between the anchor MSC and MSC to which the dispatcher is attached, the information may be carried using the Calling Party Number parameter or Generic Number Parameter as agreed between the network operators. The Country Code (CC) and National Destination Code (NDC) are used as normal for routing purposes. The numbering scheme is based on ITU-T Recommendation E.164. The Subscriber Number (SN) is used to indicate:

- the indication 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 shall be the same as the one dialled by dispatchers
- the group call reference as defined in subclause 9.1.

CC	**NDC**	**Prefix**	**Group call reference**

The Screening Indicator shall be set to “Network Provided”

The Type of Number shall be set to “International”

11.3.1.5 Called dispatchers

Dispatchers are connected into the voice group call as a standard point-to-point call. The notification of the identity of the received group call shall be supplied in the Calling Line Identity, formatted according to sub-clause 9.2.

3GPP TSG-CN1 Meeting #37 **Tdoc N1-050282**
Sydney, Australia, 14-18 February 2004

CR-Form-v7.1

CHANGE REQUEST

⌘ **43.069** **CR** **23** ⌘ **rev** **1** ⌘ Current version: **6.1.0** ⌘

*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:	⌘	EPRT Inter-PLMN Broadcast Call notification for dispatchers
Source:	⌘	Nortel, Siemens
Work item code:	⌘	TEI6
Date:	⌘	04/02/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one 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)*
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Use one of the following releases:
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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:	⌘	During broadcast call establishment where a dispatcher is receiving the call, it is necessary for that dispatcher to be able to distinguish between a VBS call and a VGCS call with the same Group Call Reference.
Summary of change:	⌘	Align broadcast call identifiers used in notifications to dispatchers with those used between MSCs to initiate the call.
Consequences if not approved:	⌘	Dispatchers will not be able to adequately identify incoming VBS calls or distinguish those calls from similar VGCS calls. In certain application areas (e.g. railway use) this might give rise to a hazardous situation.

Clauses affected:	⌘	9.2, 11.3.1.5

Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	
		X	Test specifications	
		X	O&M Specifications	

Other comments: ⌘

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

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 broadcast 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 3GPP TS ~~24~~48.008 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.

If the group call area exceeds one MSC area and the call was originated in a relay MSC, this relay MSC will perform a second GCR interrogation when the anchor MSC sets up the link to the relay MSC (see subclause 11.5). The relay MSC shall use the broadcast call reference as defined in subclause 9.1 as the identity for the second GCR interrogation.

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 to service subscribers

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 CC and NDC may be omitted for internal calls. The numbering scheme is ~~according to~~based on ITU-T 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.

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~~based on ITU-T Recommendation E.164. The Subscriber Number (SN) is used to indicate:

- the request of a ~~group~~ broadcast 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~~ broadcast call reference as defined in subclause 9.1.

CC	NDC	Prefix	~~Group~~ Broadcast call reference

g) Identities used for notifications to dispatchers

Identities used for notification messages to dispatchers shall be identical to those used by dispatchers to initiate calls as described in subclause d).

A notification identity is presented to a dispatcher terminal by making use of CLIP. Between the anchor MSC and MSC to which the dispatcher is attached, the information may be carried using the Calling Party Number parameter or Generic Number Parameter as agreed between the network operators. The Country Code (CC) and National Destination Code (NDC) are used as normal for routing purposes. The numbering scheme is based on ITU-T Recommendation E.164. The Subscriber Number (SN) is used to indicate:

- the indication of a broadcast call by use of a prefix. The length of the prefix shall be 1 to 2 digits; the actual value of the prefix shall be the same as the one dialled by dispatchers
- the broadcast call reference as defined in subclause 9.1.

CC	**NDC**	**Prefix**	**Broadcast call reference**

The Screening Indicator shall be set to “Network Provided”

The Type of Number shall be set to “International”

11.3.1.5 Called dispatchers

Dispatchers are connected into the voice broadcast call as a standard point-to-point call. The notification of the identity of the received broadcast call shall be supplied in the Calling Line Identity, formatted according to sub-clause 9.2.

3GPP TSG-CN1 Meeting #37 **Tdoc N1-050359**
Sydney, Australia, 14-18 February 2004

CR-Form-v7.1

CHANGE REQUEST

⌘ **24.008** **CR** **935** ⌘ **rev** **1** ⌘ Current version: **6.7.0** ⌘

*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 [X] Radio Access Network [ ] Core Network [X]

Title:	⌘	Missing Messages in MM and CC Summary Tables
Source:	⌘	Vodafone
Work item code:	⌘	TEI6
Date:	⌘	02/02/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one 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)*
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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:	⌘	Various messages are missing from the table of " Messages for mobility management " and table of " Messages for circuit-mode connections call control "
Summary of change:	⌘	The AUTHENTICATION FAILURE, CM SERVICE PROMPT messages are added to table 9.2.1, the CC-ESTABLISHMENT, CC-ESTABLISHMENT CONFIRMED, START CC, and RECALL messages are added to table 9.54.
Consequences if not approved:	⌘	Risk that messages are overlooked when considering MM and CC messages.

Clauses affected:	⌘	9.2, 9.3			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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*** FIRST CHANGE ***

9.2 Messages for mobility management

Table 9.2.1/3GPP TS 24.008 summarizes the messages for mobility management.

Table 9.2.1/3GPP TS 24.008: Messages for mobility management

Registration messages:	Reference
IMSI DETACH INDICATION	9.2.12
LOCATION UPDATING ACCEPT	9.2.13
LOCATION UPDATING REJECT	9.2.14
LOCATION UPDATING REQUEST	9.2.15
Security messages:	**Reference**
AUTHENTICATION REJECT	9.2.1
AUTHENTICATION REQUEST	9.2.2
AUTHENTICATION RESPONSE	9.2.3
AUTHENTICATION FAILURE	9.2.3a
IDENTITY REQUEST	9.2.10
IDENTITY RESPONSE	9.2.11
TMSI REALLOCATION COMMAND	9.2.17
TMSI REALLOCATION COMPLETE	9.2.18
Connection management messages:	**Reference**
CM SERVICE ACCEPT	9.2.5
CM SERVICE PROMPT	9.2.5a
CM SERVICE REJECT	9.2.6
CM SERVICE ABORT	9.2.7
CM SERVICE REQUEST	9.2.9
CM RE-ESTABLISHMENT REQUEST	9.2.4
ABORT	9.2.8
Miscellaneous message:	**Reference**
MM INFORMATION	9.2.15a
MM STATUS	9.2.16
MM NULL	9.2.19

*** SECOND CHANGE ***

9.3 Messages for circuit-switched call control

Table 9.54/3GPP TS 24.008 summarizes the messages for circuit-switched call control.

Table 9.54/3GPP TS 24.008: Messages for circuit-mode connections call control.

Call establishment messages:	**Reference**
ALERTING	9.3.1
CALL CONFIRMED 1)	9.3.2
CALL PROCEEDING	9.3.3
CONNECT	9.3.5
CONNECT ACKNOWLEDGE	9.3.6
EMERGENCY SETUP 1)	9.3.8
PROGRESS	9.3.17
CC-ESTABLISHMENT	9.3.17a
CC-ESTABLISHMENT CONFIRMED	9.3.17b
START CC	9.3.23a
SETUP	9.3.23
Call information phase messages:	**Reference**
MODIFY 1)	9.3.13
MODIFY COMPLETE 1)	9.3.14
MODIFY REJECT 1)	9.3.15
USER INFORMATION	9.3.31
Call clearing messages:	**Reference**
DISCONNECT	9.3.7
RELEASE	9.3.18
RECALL	9.3.18a
RELEASE COMPLETE	9.3.19
Messages for supplementary service control	**Reference**
FACILITY	9.3.9
HOLD 1)	9.3.10
HOLD ACKNOWLEDGE 1)	9.3.11
HOLD REJECT 1)	9.3.12
RETRIEVE 1)	9.3.20
RETRIEVE ACKNOWLEDGE 1)	9.3.21
RETRIEVE REJECT 1)	9.3.22
Miscellaneous messages	**Reference**
CONGESTION CONTROL	9.3.4
NOTIFY	9.3.16
START DTMF 1)	9.3.24
START DTMF ACKNOWLEDGE 1)	9.3.25
START DTMF REJECT 1)	9.3.26
STATUS	9.3.27
STATUS ENQUIRY	9.3.28
STOP DTMF 1)	9.3.29
STOP DTMF ACKNOWLEDGE 1)	9.3.30

NOTE: Not supported by Blue Book ITU-T Rec. Q.931.

3GPP TSG-CN1 Meeting #37
Sydney, Australia, 14-18 February 2005

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CHANGE REQUEST

⌘ **24.008** CR **951** ⌘rev **1** ⌘ Current version: **6.7.0** ⌘

*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 [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	GPRS attach type while in DTM
Source:	⌘	Infineon Technologies
Work item code:	⌘	TEI6
Date:	⌘	04/02/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one 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 one 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:	⌘	Due to the MSC anchor principle, combined GMM procedures may not be performed in DTM during an ongoing CS connection. While this is explicitly defined for the RAU case, a similar definition is missing for the GPRS attach case.
Summary of change:	⌘	It is clarified that a GPRS MS in MS operation mode A shall perform the normal GPRS attach procedure during an ongoing circuit-switched transaction independent of the network operation mode.
Consequences if not approved:	⌘	Risk that a combined GPRS attach procedure is performed by a MS while in DTM. If the MS was handed over to a serving MSC, the SGSN would perform a location update towards the VLR of that serving MSC. In consequence the subscriber data in the VLR of the anchor MSC would be deleted by the HLR and the ongoing CS connection would be released.

Clauses affected:	⌘	4.7.3; 4.7.3.2

		Y	N		
Other specs Affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	

4.7.3 GPRS attach procedure

The GPRS attach procedure is used for two purposes:

- normal GPRS attach, performed by the MS to IMSI attach for GPRS services only. The normal GPRS attach procedure shall be used:

  - by GPRS MSs in MS operation mode C, independent of the network operation mode; ~~. It shall also be used~~

  - by GPRS MSs in MS operation modes A or B if the network operates in network operation mode II or III; and

  - by GPRS MSs in MS operation mode A, independent of the network operation mode, if a circuit-switched transaction is ongoing;

- combined GPRS attach procedure, used by GPRS MSs in MS operation modes A or B to attach the IMSI for GPRS and non-GPRS services provided that the network operates in network operation mode I.

With a successful GPRS attach procedure a GMM context is established.

Subclause 4.7.3.1 describes the GPRS attach procedure to attach the IMSI only for GPRS services. The combined GPRS attach procedure used to attach the IMSI for both GPRS and non-GPRS services is described in subclause 4.7.3.2.

If an IMSI attach for non-GPRS services is requested and a GMM context exists, the routing area updating procedure shall be used as described in subclause 4.7.5.2.

To limit the number of subsequently rejected attach attempts, a GPRS attach attempt counter is introduced. The GPRS attach attempt counter shall be incremented as specified in subclause 4.7.3.1.5. Depending on the value of the GPRS attempt counter, specific actions shall be performed. The GPRS attach attempt counter shall be reset when:

- the MS is powered on;
- a SIM/USIM is inserted;
- a GPRS attach procedure is successfully completed;
- a combined GPRS attach procedure is completed for GPRS services only with cause #2, #16, #17 or #22; or
- a GPRS attach procedure is completed with cause #11, #12, #13 or #15,

and additionally when the MS is in substate ATTEMPTING-TO-ATTACH:

- expiry of timer T3302;
- a new routing area is entered; or
- an attach is triggered by CM sublayer requests.

The mobile equipment shall contain a list of "forbidden location areas for roaming", as well as a list of "forbidden location areas for regional provision of service". The handling of these lists is described in subclause 4.4.1; the same lists are used by GMM and MM procedures.

The Mobile Equipment shall contain a list of "equivalent PLMNs". The handling of this list is described in subclause 4.4.1, the same list is used by GMM and MM procedures.

In a shared network, the MS shall choose one of the PLMN identities as specified in 3GPP TS 23.122 [14]. The MS shall construct the Routing Area Identification of the cell from this chosen PLMN identity, and the LAC and the RAC received on the BCCH. The chosen PLMN identity shall be indicated to the RAN in the RRC INITIAL DIRECT TRANSFER message (see 3GPP TS 25.331 [23c]). Whenever an ATTACH REJECT message with the cause "PLMN not allowed" is received by the MS, the chosen PLMN indentity shall be stored in the "forbidden PLMN list". Whenever an ATTACH REJECT message is received by the MS with the cause "Roaming not allowed in this location area", "Location Area not allowed", or "No suitable cells in Location Area", the constructed RAI shall be stored in the suitable list.

The network informs the MS about the support of specific features, such as LCS-MOLR, in the “Network feature support” Information Element. The information is either explicitly given by sending the “Network feature support” IE or implicitly by not sending it. The handling in the network is described in subclause 9.4.2.9. The MS may use the indication to inform the user about the availability of the appropriate services and it shall not request services that have not been indicated as available.

4.7.3.2 Combined GPRS attach procedure for GPRS and non-GPRS services

The combined GPRS attach procedure is a GMM procedure used by a GPRS MS operating in MS operation modes A or B for IMSI attach for GPRS and non-GPRS services if the network operates in network operation mode I.

If a GPRS MS operating in MS operation modes A or B is already attached for non-GPRS services by use of the MM specific IMSI attach procedure, but additionally wishes to perform an IMSI attach for GPRS services, the combined GPRS attach procedure shall also be used.

The attach type information element shall indicate "combined GPRS attach". In this case, the messages ATTACH ACCEPT, ATTACH COMPLETE, and ATTACH REJECT used by the combined GPRS attach procedure carry information for both the GPRS and the non-GPRS services.

A GPRS MS in MS operation mode A shall perform the normal GPRS attach procedure during an ongoing circuit-switched transaction.

4.7.5.2 Combined routing area updating procedure

Within a combined routing area updating procedure the messages ROUTING AREA UPDATE ACCEPT and ROUTING AREA UPDATE COMPLETE carry information for the routing area updating and the location area updating.

4.7.5.2.1 Combined routing area updating procedure initiation

The combined routing area updating procedure is initiated only by a GPRS MS operating in MS operation modes A or B, if the MS is in state GMM-REGISTERED and MM-IDLE, and if the network operates in network operation mode I:

- when a GPRS MS that is IMSI attached for GPRS and non-GPRS services detects a change of the routing area in state GMM-REGISTERED and MM-IDLE;
- when a GPRS MS that is IMSI attached for GPRS services wants to perform an IMSI attach for non-GPRS services;
- after termination of a non-GPRS service via non-GPRS channels to update the association if the MS has changed the RA during that non-GPRS service transaction;
- after termination of non-GPRS service via non-GPRS channels to update the association if GPRS services were suspended during the non-GPRS service but no resume is received. See 3GPP TS 23.060 subclause 16.2.1;
- after a CM SERVICE REJECT message with cause value #4 is received by the mobile station (see subclause 4.5.1.1); in this case the update type IE shall be set to "Combined RA/LA updating with IMSI attach";
- when a GPRS MS needs to update the network with the new MS Radio Access Capability IE;
- when a GPRS MS needs to update the network with a new DRX parameter IE; or
- in Iu mode, to re-synchronize the PMM mode of MS and network after RRC connection release with cause "Directed signalling connection re-establishment", see subclause 4.7.2.5.

In A/Gb mode, the routing and location area identification are broadcast on the broadcast channel(s). A combined routing area updating procedure shall abort any ongoing GMM procedure. Aborted GMM procedures shall be repeated after the combined routing area updating procedure has been successfully performed. The ROUTING AREA UPDATE REQUEST message shall always be the first message sent from the MS in the new routing area after routing area change.

In Iu mode, the routing and location area identification are broadcast on the broadcast channel(s) or sent to the MS via the PS signaling connection. A combined routing area updating procedure shall abort any ongoing GMM procedure. Aborted GMM procedures may be repeated after the combined routing area updating procedure has been successfully performed. The ROUTING AREA UPDATE REQUEST message shall always be the first GMM message sent from the MS in the new routing area after routing area change.

To initiate a combined routing area updating procedure the MS sends the message ROUTING AREA UPDATE REQUEST to the network, starts timer T3330 and changes to state GMM-ROUTING-UPDATING-INITIATED and MM LOCATION UPDATING PENDING. The value of the update type IE in the message shall indicate "combined RA/LA updating". If for the last attempt to update the registration of the location area a MM specific procedure was performed, the value of the update type IE in the ROUTING AREA UPDATE REQUEST message shall indicate "combined RA/LA updating with IMSI attach". Furthermore the MS shall include the TMSI status IE if no valid TMSI is available.

A GPRS MS in MS operation modes A or B that is in an ongoing circuit-switched transaction, shall initiate the combined routing area updating procedure after the circuit-switched transaction has been released, if the MS has changed the RA during the circuit-switched transaction and if the network operates in network operation mode I.

A GPRS MS in MS operation mode A shall initiate the combined routing area updating procedure with IMSI attach after the circuit-switched transaction has been released if a GPRS attach was performed during the circuit-switched transaction and provided that the network operates in network operation mode I.

A GPRS MS in MS operation mode A shall perform the normal routing area update procedure during an ongoing circuit-switched transaction.

In Iu mode, if the MS wishes to prolong the established PS signalling connection after the normal routing area updating procedure (for example, the MS has any CM application request pending), it may set a follow-on request pending indicator on (see subclause 4.7.13).

In Iu mode, when a ROUTING AREA UPDATE REQUEST is received by the SGSN over a new PS signalling connection while there is an ongoing PS signalling connection (network is already in mode PMM-CONNECTED) for this UE, the network shall progress the routing area update procedure as normal and release the previous PS signalling connection when the routing area update procedure has been accepted by the network.

NOTE: The re-establishment of the radio bearers of active PDP contexts is done as described in subclause "Service Request procedure".

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CHANGE REQUEST

⌘ **24.008** **CR** **952** ⌘ **rev** **1** ⌘ Current version: **6.7.0** ⌘

*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 [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Detach for PS and CS during a ongoing CS connection
Source:	⌘	Infineon Technologies
Work item code:	⌘	TEI6
Date:	⌘	04/02/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one 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 one 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:	⌘	Due to the MSC anchor principle, combined GMM procedures may not be performed in DTM during an ongoing CS connection. While this is explicitly defined for the RAU case, a similar definition is missing for the combined GPRS detach case.
Summary of change:	⌘	It is clarified, that a combined or IMSI detach via the GMM detach procedure may only performed if no circuit switched transaction is ongoing.
Consequences if not approved:	⌘	Risk that a combined GPRS detach procedure is performed by a MS while in DTM. If the MS was handed over to a serving MSC in a different RA, the Gs association in the SGSN would be broken due to the non-combined RAU. In this case the SGSN would not perform the IMSI detach towards the serving MSC/VLR at all and in consequence the ongoing call would not be released.
Clauses affected:	⌘	4.7.4

Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	
		X	Test specifications	
		X	O&M Specifications	

Other comments: ⌘

4.7.4 GPRS detach procedure

The GPRS detach procedure is used:

- to detach the IMSI for GPRS services only. Independent of the network operation mode, this procedure is used by all kind of GPRS MSs;
- as a combined GPRS detach procedure used by GPRS MSs operating in MS operation mode A or B to detach the IMSI for GPRS and non-GPRS services or for non-GPRS services only, if the network operates in network operation mode I and no circuit-switched transaction is ongoing; or
- in the case of a network failure condition to indicate to the MS that a re-attach with successive activation of previously active PDP contexts shall be performed. In this case, the MS may also perform the procedures needed in order to activate any previously active multicast service(s).

After completion of a GPRS detach procedure or combined GPRS detach procedure for GPRS and non-GPRS services the GMM context is released.

The GPRS detach procedure shall be invoked by the MS if the MS is switched off, the SIM/USIM card is removed from the MS or if the GPRS or non-GPRS capability of the MS is disabled. The procedure may be invoked by the network to detach the IMSI for GPRS services. The GPRS detach procedure causes the MS to be marked as inactive in the network for GPRS services, non-GPRS services or both services.

In A/Gb mode, if the GPRS detach procedure is performed, the PDP contexts and the MBMS contexts, if any, are deactivated locally without peer to peer signalling between the SM and LLC entities in the MS and the network.

In Iu mode, if the GPRS detach procedure is performed, the PDP contexts and the MBMS contexts, if any, are deactivated locally without peer to peer signalling between the SM entities in the MS and the network.

4.7.4.1 MS initiated GPRS detach procedure

4.7.4.1.1 MS initiated GPRS detach procedure initiation

The GPRS detach procedure is initiated by the MS by sending a DETACH REQUEST message. The detach type information element may indicate "GPRS detach with switching off", "GPRS detach without switching off", "IMSI detach", "GPRS/IMSI detach with switching off" or "GPRS/IMSI detach without switching off".

The MS shall include the P-TMSI in the DETACH REQUEST message. The MS shall also include a valid P-TMSI signature, if available.

If the MS is not switched off and the MS is in the state GMM_REGISTERED, timer T3321 shall be started after the DETACH REQUEST message has been sent. If the detach type information element value indicates "IMSI Detach" the MS shall enter GMM-REGISTERED.IMSI-DETACH_INITIATED, otherwise the MS shall enter the state GMM-DEREGISTERED-INITIATED. If the detach type information element value indicates "IMSI Detach" or "GPRS/IMSI Detach", state MM IMSI DETACH PENDING is entered. If the MS is to be switched off, the MS shall try for a period of 5 seconds to send the DETACH REQUEST message. If the MS is able to send the DETACH REQUEST message during this time the MS may be switched off.

If the detach type information element value indicates "GPRS detach without switching off " and the MS is attached for GPRS and non-GPRS services and the network operates in network operation mode I, then if in the MS the timer T3212 is not already running, the timer T3212 shall be set to its initial value and restarted after the DETACH REQUEST message has been sent.

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CHANGE REQUEST

⌘ **24.008** **CR** **953** ⌘ **rev** **1** ⌘ Current version: **6.7.0** ⌘

*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:	⌘	Condition for Combined RAU after a DTM connection
Source:	⌘	Siemens, Infineon Technologies
Work item code:	⌘	TEI6
Date:	⌘	04/02/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one 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 one 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: ⌘

1) Due to the MSC anchor principle, combined GMM procedures may not be performed in DTM during an ongoing CS connection. According to 3GPP TS 29.018 the GS-association in the SGSN will be set to Gs-NULL if a non-combined RAU is received. In order to re-establish the Gs association in the SGSN the MS shall perform a combined routing area updating procedure with IMSI attach after the circuit-switched transaction has been released.

According to the DTM stage 2, 3GPP TS 43.055, the MS shall perform a normal RAU in order to resume the GPRS service if during a CS connection a HO from a non DTM to DTM cell is performed.

But in 24.008 the condition when to perform a combined routing area updating procedure with IMSI attach after the circuit-switched transaction has been released is, that "the MS has changed the RA" during the circuit-switched transaction. But with this condition the above mentioned case of a GPRS resumption during the ongoing CS connection within the same RA is not covered.

2) In subclause 4.7.5.1 an incorrect name ("normal routing area updating") is given for the update type to be used for normal routing area updating. The correct name is "RA updating" (see subclause 10.5.5.18).

Summary of change: ⌘

1) It is clarified, that A GPRS MS in MS operation mode A shall initiate the combined routing area updating procedure with IMSI attach after the circuit-switched transaction has been released if a GPRS attach or a routing area updating procedure with update type "normal routing area updating" was performed during the circuit-switched transaction and provided that the network operates in network operation mode I.

2) The correct name of the update type is given.

Consequences if not approved:	⌘	The Gs association will not be re-established in the SGSN if a RA is performed in order to resume GPRS during an ongoing CS connection within the same RA.

Clauses affected:	⌘	4.7.5.1, 4.7.5.2.1			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

4.7.5.1 Normal and periodic routing area updating procedure

Periodic routing area updating is used to periodically notify the availability of the MS to the network. The value of the update type IE in the ROUTING AREA UPDATE REQUEST message shall indicate "periodic updating". The procedure is controlled in the MS by timer T3312. When timer T3312 expires, the periodic routing area updating procedure is started. Start and reset of timer T3312 is described in subclause 4.7.2.2.

In A/Gb mode, the normal routing area updating procedure is initiated:

- when the MS detects a change of the routing area in state GMM-REGISTERED;
- when the MS determines that GPRS resumption shall be performed;
- when the MS needs to update the network with the new MS Radio Access Capability IE; or
- when the MS needs to update the network with the new DRX parameter IE.

The ROUTING AREA UPDATE REQUEST message shall always be the first data sent by the MS when a routing area border is crossed. The routing area identification is broadcast on the broadcast channel(s).

In Iu mode, the normal routing area updating procedure is initiated when the MS detects a change of the routing area in state GMM-REGISTERED. The ROUTING AREA UPDATE REQUEST message shall always be the first GMM message sent by the MS when a routing area border is crossed.

A normal routing area updating shall abort any ongoing GMM procedure. Aborted GMM procedures may be repeated after the normal routing area updating procedure has been successfully performed. The value of the update type IE included in the message shall indicate "~~normal routing area~~RA updating".

********** NEXT MODIFIED SECTION **********

4.7.5.2.1 Combined routing area updating procedure initiation

The combined routing area updating procedure is initiated only by a GPRS MS operating in MS operation modes A or B, if the MS is in state GMM-REGISTERED and MM-IDLE, and if the network operates in network operation mode I:

- when a GPRS MS that is IMSI attached for GPRS and non-GPRS services detects a change of the routing area in state GMM-REGISTERED and MM-IDLE;
- when a GPRS MS that is IMSI attached for GPRS services wants to perform an IMSI attach for non-GPRS services;
- after termination of a non-GPRS service via non-GPRS channels to update the association if the MS has changed the RA during that non-GPRS service transaction;
- after termination of a non-GPRS service via non-GPRS channels to update the association if GPRS services were suspended during the non-GPRS service but no resume is received. See 3GPP TS 23.060, subclause 16.2.1;
- after termination of a non-GPRS service via non-GPRS channels to update the association, if the GPRS MS in MS operation mode A performed a normal GPRS attach or a normal routing area updating procedure during the circuit-switched transaction;
- after a CM SERVICE REJECT message with cause value #4 is received by the mobile station (see subclause 4.5.1.1); in this case the update type IE shall be set to "Combined RA/LA updating with IMSI attach";
- when a GPRS MS needs to update the network with the new MS Radio Access Capability IE;
- when a GPRS MS needs to update the network with a new DRX parameter IE; or
- in Iu mode, to re-synchronize the PMM mode of MS and network after RRC connection release with cause "Directed signalling connection re-establishment", see subclause 4.7.2.5.

In A/Gb mode, the routing and location area identification are broadcast on the broadcast channel(s). A combined routing area updating procedure shall abort any ongoing GMM procedure. Aborted GMM procedures shall be repeated after the combined routing area updating procedure has been successfully performed. The ROUTING AREA UPDATE

REQUEST message shall always be the first message sent from the MS in the new routing area after routing area change.

In Iu mode, the routing and location area identification are broadcast on the broadcast channel(s) or sent to the MS via the PS signalling connection. A combined routing area updating procedure shall abort any ongoing GMM procedure. Aborted GMM procedures may be repeated after the combined routing area updating procedure has been successfully performed. The ROUTING AREA UPDATE REQUEST message shall always be the first GMM message sent from the MS in the new routing area after routing area change.

To initiate a combined routing area updating procedure the MS sends the message ROUTING AREA UPDATE REQUEST to the network, starts timer T3330 and changes to state GMM-ROUTING-UPDATING-INITIATED and MM LOCATION UPDATING PENDING. The value of the update type IE in the message shall indicate "combined RA/LA updating". If for the last attempt to update the registration of the location area a MM specific procedure was performed, the value of the update type IE in the ROUTING AREA UPDATE REQUEST message shall indicate "combined RA/LA updating with IMSI attach". Furthermore the MS shall include the TMSI status IE if no valid TMSI is available.

A GPRS MS in MS operation mode~~s A or~~ B that is in an ongoing circuit-switched transaction~~,~~ shall initiate the combined routing area updating procedure after the circuit-switched transaction has been released, if the MS has changed the RA during the circuit-switched transaction and if the network operates in network operation mode I.

A GPRS MS in MS operation mode A shall initiate the combined routing area updating procedure with IMSI attach after the circuit-switched transaction has been released, if a normal GPRS attach or a normal routing area updating procedure was performed during the circuit-switched transaction and provided that the network operates in network operation mode I.

A GPRS MS in MS operation mode A shall perform the normal routing area update procedure during an ongoing circuit-switched transaction.

In Iu mode, if the MS wishes to prolong the established PS signalling connection after the normal routing area updating procedure (for example, the MS has any CM application request pending), it may set a follow-on request pending indicator on (see subclause 4.7.13).

In Iu mode, when a ROUTING AREA UPDATE REQUEST is received by the SGSN over a new PS signalling connection while there is an ongoing PS signalling connection (network is already in mode PMM-CONNECTED) for this UE, the network shall progress the routing area update procedure as normal and release the previous PS signalling connection when the routing area update procedure has been accepted by the network.

NOTE: The re-establishment of the radio bearers of active PDP contexts is done as described in subclause "Service Request procedure".