

CHANGE REQUEST

⌘ **29.002 CR 409** ⌘ rev **-** ⌘ Current version: **4.7.0** ⌘

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

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

Title:	⌘ Handling the MNRR flag in the HLR & SMS-GMSC		
Source:	⌘ Vodafone		
Work item code:	⌘ TEI4	Date:	⌘ 26 Mar 2002
Category:	⌘ F Non-critical, agreed by consensus Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Release: ⌘ Rel-4 Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ CR 29.002-349r2, approved in CN #14, had two errors: <ul style="list-style-type: none"> - The text in subclause 23.3.4 refers to the handling in the SMS-GMSC if the serving MSC fails to deliver the short message. The handling is equally applicable if the serving SGSN fails to deliver the short message; - The HLR can store two Mobile Not Reachable Reasons: one for delivery failure via the SGSN, and one for delivery failure via the MSC. These can both be reported to the HLR in the ReportSM-DeliveryStatus message; for proper handling in the SMS-GMSC, they should be carried in the InformServiceCentre as well
Summary of change:	⌘ Replace references to "serving MSC" with references to "serving node". Add Additional Absent Subscriber Diagnostic SM to the parameters of InformServiceCentre.
Consequences if not approved:	⌘ Inconsistent handling of short message delivery failure between MSC and SGSN

Clauses affected:	⌘ 12.6; 17.7.6; 23.3.4	
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘
Other comments:	⌘	

****** Text included for information ********7.6.8.9 Absent Subscriber Diagnostic SM**

This parameter is used to indicate the reason why the subscriber is absent. For the values for this parameter see 3GPP TS 23.140.

7.6.8.10 Alert Reason Indicator

This parameter indicates that the alert reason is sent to the HLR due to GPRS activity.

7.6.8.11 Additional SM Delivery Outcome

This parameter is used to indicate the GPRS delivery outcome in case a combination between delivery outcome for GPRS and non-GPRS are sent to the HLR.

7.6.8.12 Additional Absent Subscriber Diagnostic SM

This parameter indicates the reason of the additional SM Delivery Outcome.

****** First modified section ********12.6 MAP-INFORM-SERVICE-CENTRE service****12.6.1 Definition**

This service is used between the HLR and the gateway MSC to inform the Service Centre which MSISDN number is stored in the Message Waiting Data file. If the stored MSISDN number is not the same as the one received from the gateway MSC in the MAP-SEND-ROUTING-INFO-FOR-SM service primitive the stored MSISDN number is included in the message.

Additionally the status of MCEF, MNRF and MNRG flags and the inclusion of the particular Service Centre address in the Message Waiting Data list is informed to the gateway MSC when appropriate.

If the HLR has stored a single MNRR, the value is included in the Absent Subscriber Diagnostic SM parameter.

If the HLR has stored a second the MNRR, the value of the MNRR for the MSC is included in the Absent Subscriber Diagnostic SM parameter and the value of the MNRR for the SGSN is included in the Additional Absent Subscriber Diagnostic SM parameter.

The MAP-INFORM-SERVICE-CENTRE service is a non-confirmed service using the primitives from table 12.6/1.

12.6.2 Service primitives

Table 12.6/1: MAP-INFORM-SERVICE-CENTRE

Parameter name	Request	Indication
Invoke Id	M	M(=)
MSIsdn-Alert	C	C(=)
MWD Status	C	C(=)
Absent Subscriber Diagnostic SM	C	C(=)
Additional Absent Subscriber Diagnostic SM	<u>C</u>	<u>C(=)</u>

12.6.3 Parameter use

Invoke id

See definition in clause 7.6.1.

MSIsdn-Alert

See definition in clause 7.6.2. This parameter refers to the MSISDN stored in a Message Waiting Data file in the HLR.

MWD Status

See definition in clause 7.6.8. This parameter indicates the status of the MCEF, MNRF and MNRG flags and the status of the particular SC address presence in the Message Waiting Data list.

Absent Subscriber Diagnostic SM

See definition in clause 7.6.8.

Additional Absent Subscriber Diagnostic SM

See definition in clause 7.6.8.

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

17.7.6 Short message data types

```
MAP-SM-DataTypes {
    coitt identified-organization (4) etsi (0) mobileDomain (0)
    gsm-Network (1) modules (3) map-SM-DataTypes (16) version7 (7)}
```

```
. . .
<Unmodified ASN.1>
. . .
```

<pre>AlertServiceCentreArg ::= SEQUENCE { msisdn serviceCentreAddress ...}</pre>	<pre>ISDN-AddressString, AddressString,</pre>
--	---

```

InformServiceCentreArg ::= SEQUENCE {
    storedMSISDN                ISDN-AddressString                OPTIONAL,
    mw-Status_                  MW-Status_                        OPTIONAL,
    extensionContainer           ExtensionContainer                OPTIONAL,
    ... ,
    absentSubscriberDiagnosticSM AbsentSubscriberDiagnosticSM    OPTIONAL,
    additionalAbsentSubscriberDiagnosticSM [0] AbsentSubscriberDiagnosticSM OPTIONAL }
-- additionalAbsentSubscriberDiagnosticSM may be present only if
-- absentSubscriberDiagnosticSM is present.
-- if included, additionalAbsentSubscriberDiagnosticSM is for GPRS and
-- absentSubscriberDiagnosticSM is for non-GPRS

```

```

MW-Status ::= BIT STRING {
    sc-AddressNotIncluded (0),
    mnrf-Set (1),
    mcef-Set (2),
    mnrg-Set (3)} (SIZE (6..16))
-- exception handling:
-- bits 4 to 15 shall be ignored if received and not understood

```

```

. . .
<Unmodified ASN.1>
. . .

```

**** Next modified section ****

23.3.4 Procedures in the gateway MSC

...

<Unmodified text>

...

The GMSC invokes the procedure MAP_REPORT_SM_DELIVERY_STATUS, if:

- an absent subscriber_SM, an unidentified subscriber or SM delivery failure with error cause MS memory capacity exceeded indication is received from the servicing MSC, SGSN or both, and
- the SC address is not yet included in the MWD set, or
- the reason received from the serving MSC node (MSC or SGSN) for failure to deliver the message is absent subscriber_SM, unidentified subscriber or SM delivery failure with error cause MS memory capacity exceeded, and the corresponding flag in the HLR (as indicated the information received in the MAP_INFORM_SERVICE_CENTRE) is not set, or
- the reason received from the serving MSC node (MSC or SGSN) for failure to deliver the message is absent subscriber_SM and the absent subscriber diagnostic is different from the absent subscriber diagnostic received in the MAP_INFORM_SERVICE_CENTRE.

If absent subscriber diagnostic information (see 3GPP TS 23.140) is included with the absent subscriber_SM error indication then this information is relayed to the HLR using the procedure MAP_REPORT_SM_DELIVERY_STATUS.

In case the SMS was attempted to be delivered towards the MSC and the SGSN, and both delivery failed with causes described above, the two unsuccessful SMS delivery outcomes for GPRS and non GPRS are sent to the HLR.

In case the SMS was attempted to be delivered towards the MSC and the SGSN, and the first delivery failed with causes described above and the second delivery succeeded, the unsuccessful and successful SMS delivery outcomes for GPRS and non GPRS are sent to HLR.

**** End of document ****

CHANGE REQUEST

⌘ **29.002 CR 410** ⌘ rev **-** ⌘ Current version: **5.1.0** ⌘

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

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

Title:	⌘ Handling the MNRR flag in the HLR & SMS-GMSC		
Source:	⌘ CN4		
Work item code:	⌘ TEI4	Date:	⌘ 26 Mar 2002
Category:	⌘ A	Release:	⌘ Rel-5
	<i>Use one of the following categories:</i> 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.	<i>Use one of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)	

Reason for change:	⌘ CR 29.002-349r2, approved in CN #14, had two errors: <ul style="list-style-type: none"> - The text in subclause 23.3.4 refers to the handling in the SMS-GMSC if the serving MSC fails to deliver the short message. The handling is equally applicable if the serving SGSN fails to deliver the short message; - The HLR can store two Mobile Not Reachable Reasons: one for delivery failure via the SGSN, and one for delivery failure via the MSC. These can both be reported to the HLR in the ReportSM-DeliveryStatus message; for proper handling in the SMS-GMSC, they should be carried in the InformServiceCentre as well
Summary of change:	⌘ Replace references to "serving MSC" with references to "serving node". Add Additional Absent Subscriber Diagnostic SM to the parameters of InformServiceCentre.
Consequences if not approved:	⌘ Inconsistent handling of short message delivery failure between MSC and SGSN

Clauses affected:	⌘ 12.6; 17.7.6; 23.3.4		
Other specs affected:	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘	
Other comments:	⌘ 29.002 v5.x.y did not exist when CR 29.002-349r2 was approved, so no mirror CR was required then. 29.002-5.1.0 exists now, so a mirror CR is required!		

****** Text included for information ********7.6.8.9 Absent Subscriber Diagnostic SM**

This parameter is used to indicate the reason why the subscriber is absent. For the values for this parameter see 3GPP TS 23.140.

7.6.8.10 Alert Reason Indicator

This parameter indicates that the alert reason is sent to the HLR due to GPRS activity.

7.6.8.11 Additional SM Delivery Outcome

This parameter is used to indicate the GPRS delivery outcome in case a combination between delivery outcome for GPRS and non-GPRS are sent to the HLR.

7.6.8.12 Additional Absent Subscriber Diagnostic SM

This parameter indicates the reason of the additional SM Delivery Outcome.

****** First modified section ********12.6 MAP-INFORM-SERVICE-CENTRE service****12.6.1 Definition**

This service is used between the HLR and the gateway MSC to inform the Service Centre which MSISDN number is stored in the Message Waiting Data file. If the stored MSISDN number is not the same as the one received from the gateway MSC in the MAP-SEND-ROUTING-INFO-FOR-SM service primitive the stored MSISDN number is included in the message.

Additionally the status of MCEF, MNRF and MNRG flags and the inclusion of the particular Service Centre address in the Message Waiting Data list is informed to the gateway MSC when appropriate.

If the HLR has stored a single MNRR, the value is included in the Absent Subscriber Diagnostic SM parameter.

If the HLR has stored a second the MNRR, the value of the MNRR for the MSC is included in the Absent Subscriber Diagnostic SM parameter and the value of the MNRR for the SGSN is included in the Additional Absent Subscriber Diagnostic SM parameter.

The MAP-INFORM-SERVICE-CENTRE service is a non-confirmed service using the primitives from table 12.6/1.

12.6.2 Service primitives

Table 12.6/1: MAP-INFORM-SERVICE-CENTRE

Parameter name	Request	Indication
Invoke Id	M	M(=)
MSIsdn-Alert	C	C(=)
MWD Status	C	C(=)
Absent Subscriber Diagnostic SM	C	C(=)
Additional Absent Subscriber Diagnostic SM	<u>C</u>	<u>C(=)</u>

12.6.3 Parameter use

Invoke id

See definition in clause 7.6.1.

MSIsdn-Alert

See definition in clause 7.6.2. This parameter refers to the MSISDN stored in a Message Waiting Data file in the HLR.

MWD Status

See definition in clause 7.6.8. This parameter indicates the status of the MCEF, MNRF and MNRG flags and the status of the particular SC address presence in the Message Waiting Data list.

Absent Subscriber Diagnostic SM

See definition in clause 7.6.8.

Additional Absent Subscriber Diagnostic SM

See definition in clause 7.6.8.

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

17.7.6 Short message data types

```
MAP-SM-DataTypes {
    coitt identified-organization (4) etsi (0) mobileDomain (0)
    gsm-Network (1) modules (3) map-SM-DataTypes (16) version7 (7)}
```

```
. . .
<Unmodified ASN.1>
. . .
```

```
AlertServiceCentreArg ::= SEQUENCE {
    msisdn                ISDN-AddressString,
    serviceCentreAddress  AddressString,
    ...}
```



```

InformServiceCentreArg ::= SEQUENCE {
    storedMSISDN                ISDN-AddressString                OPTIONAL,
    mw-Status MW-Status          OPTIONAL,
    extensionContainer           ExtensionContainer                OPTIONAL,
    ... ,
    absentSubscriberDiagnosticSM AbsentSubscriberDiagnosticSM     OPTIONAL,
    additionalAbsentSubscriberDiagnosticSM [0] AbsentSubscriberDiagnosticSM OPTIONAL }
-- additionalAbsentSubscriberDiagnosticSM may be present only if
-- absentSubscriberDiagnosticSM is present.
-- if included, additionalAbsentSubscriberDiagnosticSM is for GPRS and
-- absentSubscriberDiagnosticSM is for non-GPRS

```

```

MW-Status ::= BIT STRING {
    sc-AddressNotIncluded (0),
    mnrf-Set (1),
    mcef-Set (2),
    mnrg-Set (3)} (SIZE (6..16))
-- exception handling:
-- bits 4 to 15 shall be ignored if received and not understood

```

```

. . .
<Unmodified ASN.1>
. . .

```

**** Next modified section ****

23.3.4 Procedures in the gateway MSC

...

<Unmodified text>

...

The GMSC invokes the procedure MAP_REPORT_SM_DELIVERY_STATUS, if:

- an absent subscriber_SM, an unidentified subscriber or SM delivery failure with error cause MS memory capacity exceeded indication is received from the servicing MSC, SGSN or both, and
- the SC address is not yet included in the MWD set, or
- the reason received from the serving MSC node (MSC or SGSN) for failure to deliver the message is absent subscriber_SM, unidentified subscriber or SM delivery failure with error cause MS memory capacity exceeded, and the corresponding flag in the HLR (as indicated the information received in the MAP_INFORM_SERVICE_CENTRE) is not set, or
- the reason received from the serving MSC node (MSC or SGSN) for failure to deliver the message is absent subscriber_SM and the absent subscriber diagnostic is different from the absent subscriber diagnostic received in the MAP_INFORM_SERVICE_CENTRE.

If absent subscriber diagnostic information (see 3GPP TS 23.140) is included with the absent subscriber_SM error indication then this information is relayed to the HLR using the procedure MAP_REPORT_SM_DELIVERY_STATUS.

In case the SMS was attempted to be delivered towards the MSC and the SGSN, and both delivery failed with causes described above, the two unsuccessful SMS delivery outcomes for GPRS and non GPRS are sent to the HLR.

In case the SMS was attempted to be delivered towards the MSC and the SGSN, and the first delivery failed with causes described above and the second delivery succeeded, the unsuccessful and successful SMS delivery outcomes for GPRS and non GPRS are sent to HLR.

**** End of document ****

CHANGE REQUEST

⌘ **29.002 CR 447** ⌘ rev **-** ⌘ Current version: **4.7.0** ⌘

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

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

Title:	⌘ Corrections in SS-code chapter		
Source:	⌘ CN4		
Work item code:	⌘ TEI4	Date:	⌘ 15.04.02
Category:	⌘ F Agreed by consensus Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Release: ⌘ Rel-4 Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ to correct references
Summary of change:	⌘ references are corrected
Consequences if not approved:	⌘ incorrect reference

Clauses affected:	⌘ 7.6.4		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> 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.

7.6.4 Supplementary services parameters

7.6.4.1 SS-Code

This parameter may refer to one supplementary service or a set of supplementary services as defined in 3G TS 22.004. For MAP ~~Release 4 '99~~ this includes:

- Calling Line Identification Presentation service (CLIP);
- Calling Line Identification Restriction service (CLIR);
- Connected Line Identification Presentation service (COLP);
- Connected Line Identification Restriction service (COLR);
- Calling Name Presentation (CNAP);
- All Call Forwarding services;
- Call Waiting (CW);
- Call Hold (HOLD);
- Multi-Party service (MPTY);
- Closed User Group (CUG);
- All Charging services;
- All Call Restriction services;
- Explicit Call Transfer service (ECT);
- enhanced Multi-Level Precedence and Pre-emption service (eMLPP);
- Completion of Calls to Busy Subscriber, originating side (CCBS-A);
- Completion of Calls to Busy Subscriber, destination side (CCBS-B);
- All LCS privacy exceptions (see clause 7.6.4.44);
- Mobile Originating Location Request (MO-LR) (see clause 7.6.4.4~~4~~^{5A});
- Multicall (MC).

CHANGE REQUEST

⌘ **29.002 CR 448** ⌘ rev **-** ⌘ Current version: **5.1.0** ⌘

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

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

Title:	⌘ Corrections in SS-code chapter		
Source:	⌘ CN4		
Work item code:	⌘ TEI	Date:	⌘ 15.05.02
Category:	⌘ A	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	R96 (Release 1996)	2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R97 (Release 1997)	
	B (addition of feature),	R98 (Release 1998)	
	C (functional modification of feature)	R99 (Release 1999)	
	D (editorial modification)	REL-4 (Release 4)	
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	REL-5 (Release 5)	

Reason for change:	⌘ to correct references		
Summary of change:	⌘ references are corrected		
Consequences if not approved:	⌘ incorrect reference		

Clauses affected:	⌘ 7.6.4		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications	⌘	
	<input type="checkbox"/> Test specifications		
	<input type="checkbox"/> 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:

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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.

7.6.4 Supplementary services parameters

7.6.4.1 SS-Code

This parameter may refer to one supplementary service or a set of supplementary services as defined in 3G TS 22.004. For MAP ~~Release 5 '99~~ this includes:

- Calling Line Identification Presentation service (CLIP);
- Calling Line Identification Restriction service (CLIR);
- Connected Line Identification Presentation service (COLP);
- Connected Line Identification Restriction service (COLR);
- Calling Name Presentation (CNAP);
- All Call Forwarding services;
- Call Waiting (CW);
- Call Hold (HOLD);
- Multi-Party service (MPTY);
- Closed User Group (CUG);
- All Charging services;
- All Call Restriction services;
- Explicit Call Transfer service (ECT);
- enhanced Multi-Level Precedence and Pre-emption service (eMLPP);
- Completion of Calls to Busy Subscriber, originating side (CCBS-A);
- Completion of Calls to Busy Subscriber, destination side (CCBS-B);
- All LCS privacy exceptions (see clause 7.6.4.44);
- Mobile Originating Location Request (MO-LR) (see clause 7.6.4.4~~4~~^{5A});
- Multicall (MC).

CHANGE REQUEST

⌘ **29.010 CR 052** ⌘ rev **-** ⌘ Current version: **4.2.0** ⌘

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

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

Title:	⌘ Check of NAM and Requesting Node Type on receipt of SendAuthenticationInfo		
Source:	⌘ CN4		
Work item code:	⌘ TEI4	Date:	⌘ 2002-04-11
Category:	⌘ F	Release:	⌘ Rel-4
	<i>Use one of the following categories:</i> 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.	<i>Use one of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)	

Reason for change:	⌘ Requesting Node Type parameter has been introduced in the Send Authentication Info invoke operation. To save signalling load, it would be beneficial to check that received Requesting Node Type with regard to the subscriber's Network Access Mode ('gprs-only', 'non-gprs only', 'both') in order to deny the mobile access already at authentication info request. Currently this check is done later on at receipt of the update location request.
Summary of change:	⌘ Indicated in the mapping table for Routing area updating the cause mapping when 'unknown subscriber' is returned in Send Authentication Info response message.
Consequences if not approved:	⌘ Un-necessary signalling load in case of authentication information request from VLR or SGSN for 'gprs only' or 'non-gprs only' subscribers.

Clauses affected:	⌘ § 3.2		
Other specs affected:	⌘ <input checked="" type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘ 29.002-397	
Other comments:	⌘		

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://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.

3.2 Routing area updating

	04.08	09.02	Notes
Forward message	GMM (ROUTEING AREA UPDATE REQUEST) MS classmark 1 MS classmark 4 GPRS Ciphering key seq number Mobile station identity Old routeing area identification	MAP_UPDATE_GPRS LOCATION request - - - IMSI -	-
Positive results	GMM (ROUTEING AREA UPDATE ACCEPT) Routeing area identification Mobile station identity C Mobile station C Reject: IMSI unknown in HLR C Reject: MSC temporarily not reacheable	MAP_UPDATE_GPRS LOCATION response - - - - -	 1 2 3 4
Negative results	GMM (ROUTEING AREA UPDATE REJECT) Network failure GPRS services not allowed in this PLMN GPRS services not allowed GPRS services and non GPRS services not allowed C GPRS services not allowed C GPRS services and non-GPRS services not allowed MS identity cannot be derived by the network GPRS services not allowed in this PLMN LA not allowed Roaming not allowed in this LA No Suitable cells in location area GPRS services not allowed in this PLMN Illegal MS Illegal ME Network failure Network failure Network failure Network failure Network failure	MAP_UPDATE_GPRS LOCATION response - Unknown HLR Unknown subscriber (no GPRS subscription) Unknown subscriber (IMSI unknown) Unknown subscriber (no GPRS subscription) Unknown subscriber (IMSI unknown) - Roaming not allowed: PLMN not allowed - - - Operator determined barring - - System Failure Unexpected data value MAP_U/P_ABORT MAP_NOTICE MAP_CLOSE	 5 6 7 8 9 10 11

NOTE 1: The mobile station identity is inserted by the SGSN if the SGSN wants to deallocate or re-allocate a P-TMSI. If the SGSN wants to deallocate the P-TMSI it shall include the IMSI. If the SGSN wants to re-allocate the P-TMSI it shall include the new P-TMSI. If a P-TMSI is included, the MS shall respond with a ROUTEING AREA UPDATE COMPLETE message.

- NOTE 2: The mobile station identity is inserted by the SGSN if it is received in a BSSAP+ LOCATION UPDATE ACCEPT message from the VLR. If a TMSI is included, the MS shall respond with a ROUTEING AREA UPDATE COMPLETE message. Only used in the Combined Routeing and Location Area procedure.
- NOTE 3: This reject cause is inserted on the positive response by the SGSN if the SGSN receives a BSSAP+ LOCATION UPDATE REJECT message from the VLR indicating in the reject cause IMSI unknown in HLR. Only used in the Combined Routeing and Location Area procedure.
- NOTE 4: This reject cause is inserted on the positive response by the SGSN if the SGSN does not receive any response from the VLR to a previous BSSAP+ LOCATION UPDATE REQUEST message. Only used in the Combined Routeing and Location Area procedure.
- NOTE 5: The Unknown RA error is only generated as a result of incorrect information being inserted by the BSS.
- NOTE 6: The HLR shall send Unknown subscriber with diagnostic value No GPRS subscription if the HLR indicates that there is an error in the type of subscription (i.e. SGSN requests service for a non-GPRS only subscriber). The HLR may also send this error in the MAP SEND AUTHENTICATION INFO RESPONSE message.
- NOTE 7: The HLR shall send Unknown subscriber with diagnostic value IMSI unknown if the HLR indicates that the IMSI provided by the SGSN is unknown.
- NOTE 8: The HLR shall send Unknown subscriber with diagnostic value No GPRS subscription if the HLR indicates that there is an error in the type of subscription (i.e. SGSN requests service for a non-GPRS only subscriber). Used in the Combined Routeing and Location Area procedure. The HLR may also send this error in the MAP SEND AUTHENTICATION INFO RESPONSE message.
- NOTE 9: This reject cause is inserted if the SGSN receives a MAP GPRS UPDATE LOCATION negative response message indicating IMSI unknown. Used in the Combined Routeing and Location Area procedure.
- NOTE 10: This reject cause is inserted if the SGSN does not receive any response from the old SGSN to a previous SGSN CONTEXT REQUEST message.
- NOTE 11 The 'No Suitable cells in location area' error is generated when the MS has access to only part of the PLMN, but where there may also be suitable location areas available. The MS retries on another location area.