

**3GPP TSG CN Plenary Meeting #24**  
**2<sup>nd</sup> – 4<sup>th</sup> June 2004 Seoul, KOREA.**

**NP-040226**

**Source:** TSG CN WG4  
**Title:** Technical Enhancements and Improvements on Rel-6  
**Agenda item:** 9.21  
**Document for:** APPROVAL

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| <b>Spec</b> | <b>CR</b> | <b>Rev</b> | <b>Doc-2nd-Level<br/>N4-040</b> | <b>Phase</b> | <b>Subject</b>  | <b>Cat</b> | <b>Ver_C</b> |
|-------------|-----------|------------|---------------------------------|--------------|---|------------|--------------|
| 29.010      | 107       |            | 603                             | Rel-6        | Addition of cause code mapping for BSSAP Clear Request and RANAP lu Release Request | F          | 6.2.0        |
| 23.015      | 007       | 2          | 737                             | Rel-6        | ODB handling for existing PDP contexts  | F          | 5.0.0        |
| 29.010      | 106       | 3          | 755                             | Rel-6        | Removing of non-existing error indications from Location update mappings            | F          | 6.2.0        |

## CHANGE REQUEST

⌘ **29.010 CR 107** ⌘ rev **-** ⌘ Current version: **6.2.0** ⌘

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

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

|                        |  |                 |   |
|------------------------|--|-----------------|---|
| <b>Title:</b>          | ⌘ Addition of cause code mapping for BSSAP Clear Request and RANAP Iu Release Request          |                 |   |
| <b>Source:</b>         | ⌘ CN4  |                 |   |
| <b>Work item code:</b> | ⌘ TEI6   | <b>Date:</b>    | ⌘ 30/04/2004                              |
| <b>Category:</b>       | ⌘ <b>F</b>   | <b>Release:</b> | ⌘ Rel-6                                   |
|                        | Use <u>one</u> of the following categories:  |                 | Use <u>one</u> of the following releases: |
|                        | <b>F</b> (correction)  | R96             | (GSM Phase 2)                             |
|                        | <b>A</b> (corresponds to a correction in an earlier release)                                   | R97             | (Release 1996)                            |
|                        | <b>B</b> (addition of feature),  | R98             | (Release 1997)                            |
|                        | <b>C</b> (functional modification of feature)  | R99             | (Release 1998)                            |
|                        | <b>D</b> (editorial modification)  | Rel-4           | (Release 1999)                            |
|                        | Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> . | Rel-5           | (Release 4)                               |
|                        |  | Rel-6           | (Release 5)                               |
|                        |  |                 | (Release 6)                               |

|                                      |  |
|--------------------------------------|--|
| <b>Reason for change:</b>            | ⌘ In CN4 meeting #22 there was an LS from GERAN2 (N4-040034), which indicated that mapping of cause codes between RANAP Iu Release Request and BSSAP Clear Request were missing. The understanding of CN4 was that the missing mapping should be added to 29.010. This is a proposal for the missing mappings. |
| <b>Summary of change:</b>            | ⌘ The missing mappings between cause codes in RANAP Iu Release Request and BSSAP Clear Request have been added.  |
| <b>Consequences if not approved:</b> | ⌘ The mappings remain to be missing from the specifications.   |

|                              |   |   |   |                     |   |                           |   |
|------------------------------|---|---|---|---------------------|---|---------------------------|---|
| <b>Clauses affected:</b>     | ⌘ 4.6.6, 4.7.6  |   |   |                     |   |                           |   |
| <b>Other specs affected:</b> | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table> | Y | N | ⌘                   | X | Other core specifications | ⌘ |
| Y                            | N   |   |   |                     |   |                           |   |
| ⌘                            | X   |   |   |                     |   |                           |   |
|                              | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table>  | ⌘ | X | Test specifications |   |                           |   |
| ⌘                            | X   |   |   |                     |   |                           |   |
|                              | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table>  | ⌘ | X | O&M Specifications  |   |                           |   |
| ⌘                            | X   |   |   |                     |   |                           |   |
| <b>Other comments:</b>       | ⌘   |   |   |                     |   |                           |   |

**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.

## 4.6.6 Cause Code Mapping

When a Mobile Station is handed over between UMTS and GSM, a mapping of the cause codes used in the RANAP and the BSSMAP protocols is needed. The mapping described here is applicable to the BSSMAP protocol even when used inside MAP in the E-interface.

The mapping between the cause codes received in RANAP Relocation Required and the cause codes sent in BSSMAP Handover Request is as follows:

| 25.413                                  | 48.008                       | Notes |
|---|------------------------------|-------|
| RELOCATION REQUIRED                     | HANDOVER REQUEST             |       |
| -Time critical relocation               | -'uplink quality'            |       |
| -Resource optimisation relocation       | -Traffic                     |       |
| -Relocation desirable for radio reasons | -Better cell                 |       |
| -Directed retry                         | -Directed retry              |       |
| -Reduce Load in serving cell            | -Reduce Load in serving cell |       |
| -Any other value                        | -Better cell                 |       |

The mapping between the cause codes received in RANAP Relocation Cancel and the cause codes sent in BSSMAP Clear Command is as follows:

| 25.413                            | 48.008   | Notes |
|-----------------------------------|--|-------|
| RELOCATION CANCEL                 | CLEAR COMMAND                                      |       |
| -Trellocpreexpiry                 | -Radio interface failure, reversion to old channel |       |
| -Interaction with other procedure | -Radio interface failure, reversion to old channel |       |
| -Any other value                  | -Radio interface failure, reversion to old channel |       |

The mapping between the cause codes received in BSSMAP Handover Failure and the cause codes sent in RANAP Relocation Preparation Failure is as follows:

| 48.008   | 25.413  | Notes |
|--|---|-------|
| HANDOVER FAILURE                                   | RELOCATION PREP. FAILURE  |       |
| -Ciphering algorithm not supported                 | -Requested ciphering and/or integrity protection is not supported |       |
| -Circuit pool mismatch                             | -Relocation failure in Target CN/RNC or target system             | 1     |
| -Equipment failure                                 | -Relocation failure in Target CN/RNC or target system             |       |
| -Invalid message contents                          | -Abstract Syntax Error  |       |
| -No radio resource available                       | -Relocation failure in Target CN/RNC or target system             |       |
| -O and M intervention                              | -O and M intervention   | 2     |
| -Radio interface failure, reversion to old channel | -Relocation failure in Target CN/RNC or target system             |       |
| -Radio interface message failure                   | -Relocation failure in Target CN/RNC or target system             |       |
| -Requested speech version unavailable              | -Relocation failure in Target CN/RNC or target system             |       |
| -Requested terrestrial resource unavailable        | -Relocation failure in Target CN/RNC or target system             |       |
| -Requested transcoding/rate adaption unavailable   | -Relocation failure in Target CN/RNC or target system             |       |
| -Switch circuit pool                               | -Relocation failure in Target CN/RNC or target system             | 1     |
| -Terrestrial circuit already allocated             | -Relocation failure in Target CN/RNC or target system             |       |
| -Any other value                                   | -Relocation failure in Target CN/RNC or target system             |       |

NOTE 1: Cause code not used at inter-system handover.

NOTE 2: Cause code not applicable to this traffic case.

The mapping between the cause codes received in BSSMAP Clear Request and the cause codes sent in RANAP Iu Release Request is as follows:

| 48.008                                    | 25.413  | Notes |
|---|---|-------|
| CLEAR REQUEST                             | IU RELEASE REQUEST                                    |       |
| -Radio interface message failure          | -Relocation failure in Target CN/RNC or target system |       |
| -O and M intervention                     | -O and M intervention                                 |       |
| -Equipment failure                        | -Relocation failure in Target CN/RNC or target system |       |
| -Joined group call channel                | -Unspecified failure                                  |       |
| -Protocol failure between BSS and MSC     | -Message not compatible with receiver state           |       |
| -Preemption                               | -RAB pre-empted                                       |       |
| -Access restricted due to shared networks | -Access restricted due to shared networks             |       |
| -Any other value                          | -Relocation failure in Target CN/RNC or target system |       |

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

## 4.7.6 Cause Code Mapping

When a Mobile Station is handed over between GSM and UMTS, a mapping of the cause codes used in the BSSMAP and the RANAP protocols is needed. The mapping described here is applicable to the BSSMAP protocol even when used inside MAP in the E-interface.

The mapping between the cause codes received in BSSMAP Handover Required and the cause codes sent in RANAP Relocation Request is as follows:

| 48.008                       | 25.413                                  | Notes |
|------------------------------|---|-------|
| HANDOVER REQUIRED            | RELOCATION REQUEST                      |       |
| -Better Cell                 | -Relocation Desirable for Radio Reasons |       |
| -Directed retry              | -Directed retry                         |       |
| -Distance                    | -Time critical reloc.                   |       |
| -Downlink quality            | -Time critical reloc.                   |       |
| -Downlink strength           | -Time critical reloc.                   |       |
| -O and M intervention        | -O and M intervention                   |       |
| -Preemption                  | -RAB pre-empted                         |       |
| -Response to MSC invocation  | -Network Optimisation                   |       |
| -Switch circuit pool         |   | 1     |
| -Traffic                     | -Resource Optimisation Relocation       |       |
| -Uplink quality              | -Time critical reloc.                   |       |
| -Uplink strength             | -Time critical reloc.                   |       |
| -Reduce Load in serving cell | -Reduce Load in serving cell            |       |
| -Any other value             | -Relocation Desirable For Radio Reasons |       |

NOTE 1: Cause code not used at inter-system handover.

The mapping between the cause codes received in BSSMAP Handover Request and the cause codes sent in RANAP Relocation Request is as follows (the mapping is only used for the MAP-E interface):

| 48.008                       | 25.413                                  | Notes |
|------------------------------|---|-------|
| HANDOVER REQUEST             | RELOCATION REQUEST                      |       |
| -Better Cell                 | -Relocation Desirable for Radio Reasons |       |
| -Directed retry              | - Directed retry                        |       |
| -Distance                    | -Time critical reloc.                   |       |
| -Downlink quality            | -Time critical reloc.                   |       |
| -Downlink strength           | -Time critical reloc.                   |       |
| -O and M intervention        | -O and M intervention                   |       |
| -Preemption                  | -RAB pre-empted                         |       |
| -Response to MSC invocation  | -Network Optimisation                   |       |
| -Switch circuit pool         |   | 1     |
| -Traffic                     | -Resource Optimisation Relocation       |       |
| -Uplink quality              | -Time critical reloc.                   |       |
| -Uplink strength             | -Time critical reloc.                   |       |
| -Reduce Load in serving cell | -Reduce Load in serving cell            |       |
| -Any other value             | -Relocation Desirable For Radio Reasons |       |

NOTE 1: Cause code not used at inter-system handover.

The mapping between the cause codes received in BSSMAP Handover Failure and the cause codes sent in RANAP Iu Release Command is as follows:

| 48.008   | 25.413                 | Notes |
|--|------------------------|-------|
| HANDOVER FAILURE                                   | IU RELEASE COMMAND     |       |
| -Ciphering algorithm not supported                 |                        | 2     |
| -Circuit pool mismatch                             |                        | 1     |
| -Equipment failure                                 | -Relocation cancelled  |       |
| -Invalid message contents                          | -Abstract Syntax Error | 2     |
| -No radio resource available                       |                        |       |
| -O and M intervention                              | -O and M intervention  |       |
| -Radio interface failure, reversion to old channel | -Relocation cancelled  |       |
| -Radio interface message failure                   | -Relocation cancelled  |       |
| -Requested speech version unavailable              |                        | 2     |
| -Requested terrestrial resource unavailable        |                        | 2     |
| -Requested transcoding/rate adaption unavailable   |                        | 2     |
| -Switch circuit pool                               |                        | 1     |
| -Terrestrial circuit already allocated             | -Relocation cancelled  |       |
| -Any other value                                   | -Relocation cancelled  |       |

NOTE 1: Cause code not used at inter-system handover.

NOTE 2: Cause code not applicable to this traffic case.

The mapping between the cause codes received in RANAP Relocation Failure and the cause codes sent in BSSMAP Handover Failure is as follows (this mapping is only used for the MAP-E interface):

| 25.413                 | 48.008                       | Notes |
|------------------------|------------------------------|-------|
| RELOCATION FAILURE     | HANDOVER FAILURE             |       |
| -GERAN Iu-mode failure | -GERAN Iu-mode failure       |       |
| -Any other value       | -No radio resource available |       |

The mapping between the cause codes received in RANAP Relocation Failure and the cause codes sent in BSSMAP Handover Required Reject is as follows:

| 25.413   | 48.008   | Notes |
|--|--|-------|
| RELOCATION FAILURE   | HANDOVER REQUIRED REJECT                                   |       |
| -GERAN Iu-mode failure                                     | -GERAN Iu-mode failure                                     |       |
| -Incoming Relocation Not Supported Due To PUESBINE Feature | -Incoming Relocation Not Supported Due To PUESBINE Feature |       |
| -Any other value   | -No radio resource available                               |       |

The mapping between the RANAP and the BSSMAP assignment messages is used in the MAP-E interface. RANAP RAB Assignment Response with successful result is mapped to BSSMAP Assignment Complete; RANAP RAB Assignment Response with unsuccessful result is mapped to BSSMAP Assignment Failure. The mapping between the cause codes received in RANAP RAB Assignment Response and the cause codes sent in BSSMAP Assignment Failure is as follows (this mapping is only used for the MAP-E interface):

| 25.413  | 48.008                           | Notes |
|---|----------------------------------|-------|
| RAB ASSIGNMENT RESPONSE                             | ASSIGNMENT FAILURE               |       |
| -Requested traffic class not available              | -No radio resource available     |       |
| -Invalid RAB parameters value                       | -Invalid msg. contents           |       |
| -Requested max bit rate not available               | -No radio resource available     |       |
| -Requested max bit rate for DL not available        | -No radio resource available     |       |
| -Requested max bit rate for UL not available        | -No radio resource available     |       |
| -Requested guaranteed bit rate not available        | -No radio resource available     |       |
| -Requested guaranteed bit rate for DL not available | -No radio resource available     |       |
| -Requested guaranteed bit rate for UL not available | -No radio resource available     |       |
| -Requested transfer delay not achievable            | -No radio resource available     |       |
| -Invalid RAB param. combination                     | -Invalid msg. contents           |       |
| -Condition violation for SDU parameters             | -Invalid msg. contents           |       |
| -Condition violation for traffic handling priority  | -Invalid msg. contents           |       |
| -Condition violation for guaranteed bit rate        | -Invalid msg. contents           |       |
| -User plane not supported                           | -No radio resource available     |       |
| -Iu UP failure                                      | -Equipment failure               |       |
| -Tqueuing expiry                                    | -Radio interface message failure |       |
| -Invalid RAB id                                     | -Invalid msg. contents           |       |
| -Request superseded                                 | -No radio resource available     |       |
| -Relocation triggered                               | -Relocation triggered            |       |
| -GERAN Iu-mode failure                              | -GERAN Iu-mode failure           |       |
| -Any other value                                    | -Radio interface message failure |       |

The mapping between the cause codes received in RANAP Security Mode Reject and the cause codes sent in BSSMAP Cipher Mode Reject is as follows (this mapping is only used for the MAP-E interface):

| 25.413  | 48.008                             | Notes |
|---|------------------------------------|-------|
| SECURITY MODE REJECT  | CIPHER MODE REJECT                 |       |
| -Requested ciphering and/or integrity protection algorithms not supported | -Ciphering algorithm not supported |       |
| -Failure in the radio interface procedure                                 | -Radio interface message failure   |       |
| -Change of ciphering and/or integrity protection is not supported         | -Invalid msg. contents             |       |
| -Relocation triggered   | -Relocation triggered              |       |
| -Any other value  | -Radio interface message failure   |       |

The mapping between the cause codes received in RANAP Location Report and the cause codes sent in BSSMAP Handover Performed is as follows (this mapping is only used for the MAP-E interface):

| 25.413                               | 48.008             | Notes |
|--------------------------------------|--------------------|-------|
| LOCATION REPORT                      | HANDOVER PERFORMED |       |
| -User restriction start ind.         | -O&M intervention  | 1     |
| -User restriction start ind.         | -O&M intervention  |       |
| -Requested report type not supported |                    |       |
| -Any other value                     | -Better cell       |       |

NOTE 1: In this case, no Handover Performed is sent.

The mapping between the cause codes received in RANAP Iu Release Request and the cause codes sent in BSSMAP Clear Request is as follows:

| 25.413   | 48.008                                    | Notes |
|--|---|-------|
| IU RELEASE REQUEST   | CLEAR REQUEST                             |       |
| -O and M intervention                                      | -O and M intervention                     |       |
| -Unspecified failure                                       | -Equipment failure                        |       |
| -Repeated integrity checking failure                       | -Invalid message contents                 |       |
| -Release due to UE generated signalling connection release | -Call control                             |       |
| -Radio connection with UE lost                             | -Radio interface failure                  |       |
| -Access restricted due to shared networks                  | -Access restricted due to shared networks |       |
| -Any other value   | -No radio resource available              |       |



## CHANGE REQUEST

⌘ **23.015 CR 007** ⌘ rev **2** ⌘ Current version: **5.0.0** ⌘

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

|                        |  |                 |  |
|------------------------|--|-----------------|--|
| <b>Title:</b>          | ⌘ ODB handling for existing PDP contexts   |                 |  |
| <b>Source:</b>         | ⌘ CN4  |                 |  |
| <b>Work item code:</b> | ⌘ TEI6   | <b>Date:</b>    | ⌘ 13/May/2004  |
| <b>Category:</b>       | ⌘ <b>F</b>   | <b>Release:</b> | ⌘ Rel-6  |
|                        | <i>Use <u>one</u> of the following categories:</i><br><b>F</b> (correction)<br><b>A</b> (corresponds to a correction in an earlier release)<br><b>B</b> (addition of feature),<br><b>C</b> (functional modification of feature)<br><b>D</b> (editorial modification)<br>Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> . |                 | <i>Use <u>one</u> of the following releases:</i><br><b>2</b> (GSM Phase 2)<br><b>R96</b> (Release 1996)<br><b>R97</b> (Release 1997)<br><b>R98</b> (Release 1998)<br><b>R99</b> (Release 1999)<br><b>Rel-4</b> (Release 4)<br><b>Rel-5</b> (Release 5)<br><b>Rel-6</b> (Release 6) |

|                                      |  |
|--------------------------------------|--|
| <b>Reason for change:</b>            | ⌘ The ODB stage 2 (TS 23.015) does not cover all requirements that the TS 22.041 describes.<br>The TS 22.041 defines the ODB categories for Packet Oriented Services. It says that Service Provider may at any time activate this feature and this shall terminate any relevant services in progress, and bar future requests for service covered by the barring category.<br>However, the current TS 23.015 describes only two cases such as 1) Barring of MS initiated PDP context activation 2) Barring of Network initiated PDP context activation. It seems that these two cases cannot cover the immediate barring effects to the existing PDP context that required in stage 1. |
| <b>Summary of change:</b>            | ⌘ This CR proposes handling method to existing PDP context barring.<br>In case that MAP Insert Subscriber Data message arrives to SGSN due to ODB status change, SGSN checks existing PDP contexts whether to be deleted or not.   |
| <b>Consequences if not approved:</b> | ⌘ The stage 1 requirement for ODB PS cannot be fulfilled by the stage 2 and this causes the unsatisfactory to operators for subscriber barring control.  |

|                              |  |   |   |                          |                                     |   |  |
|------------------------------|--|---|---|--------------------------|-------------------------------------|---|--|
| <b>Clauses affected:</b>     | ⌘ 2.6A (New sub clause)  |   |   |                          |                                     |   |  |
| <b>Other specs affected:</b> | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Other core specifications | Y | N | <input type="checkbox"/> | <input checked="" type="checkbox"/> | ⌘ |  |
| Y                            | N  |   |   |                          |                                     |   |  |
| <input type="checkbox"/>     | <input checked="" type="checkbox"/>  |   |   |                          |                                     |   |  |
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| Y                            | N  |   |   |                          |                                     |   |  |
| <input type="checkbox"/>     | <input checked="" type="checkbox"/>  |   |   |                          |                                     |   |  |
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| Y                            | N  |   |   |                          |                                     |   |  |
| <input type="checkbox"/>     | <input checked="" type="checkbox"/>  |   |   |                          |                                     |   |  |
| <b>Other comments:</b>       | ⌘  |   |   |                          |                                     |   |  |

**\*\*\*\* First modified section \*\*\*\***

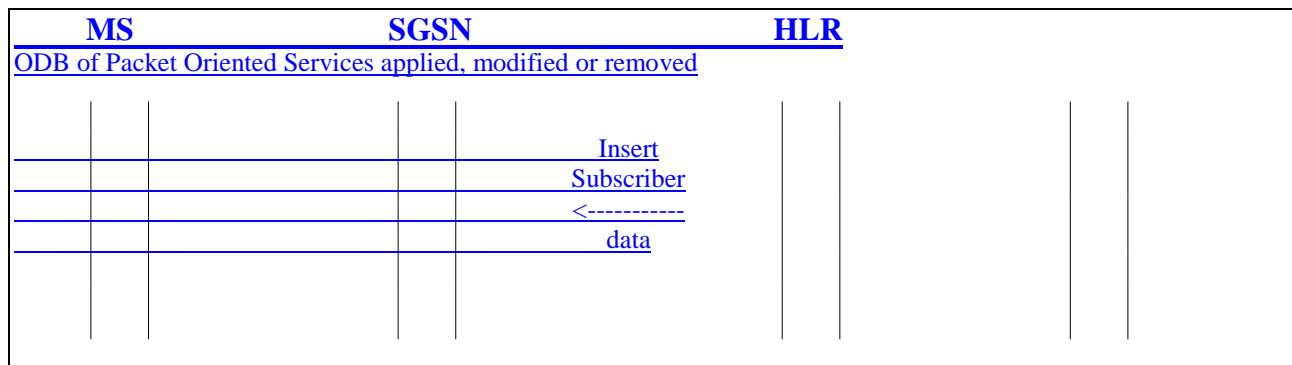
## 2.6A Barring of existing PDP contexts

Barring of existing PDP contexts shall be performed based on the Operator Determined Barring for Packet Oriented Services defined in 3G TS 22.041 [2].

### 2.6A.1 Application or Change of Barring in the HLR

If barring of Packet Oriented Services is applied to a subscription (or existing barring of Packet Oriented Services is modified or removed) by administrative action in the HLR, the HLR will update the subscription information accordingly, and transfer the updated subscription information to the SGSN using one or more Insert Subscriber Data operations, as shown in figure 2.6A.1/1.

If the VPLMN does not support Operator Determined Barring of Packet Oriented Services, the SGSN shall indicate this in the acknowledgement of the Insert Subscriber Data message. The HLR shall then, as an operator option, apply barring of roaming as described in subclause 2.3 or take any other action decided by the operator of the HPLMN.



**Figure 2.6A.1/1: Transfer of updated subscription information to SGSN**

### 2.6A.2 Invocation of Barring

Barring of existing PDP contexts is invoked in the SGSN. If the SGSN receives Insert Subscriber Data message due to barring of Packet Oriented Services is applied to a subscription (or existing barring of Packet Oriented Services is modified or removed) by administrative action in the HLR, the SGSN shall take the following action depending on barring category when one or more PDP contexts exist in SGSN.

- For 'bar subscribers completely from the Packet Oriented Services', SGSN shall deactivate all existing PDP contexts.
- For 'bar a subscriber from requesting Packet Oriented Services from access points that are within the HPLMN whilst the subscriber is roaming in a VPLMN', SGSN shall check whether or not the subscriber is located in the HPLMN. If it is not and the GGSN being accessed is located in HPLMN, then all associated PDP contexts with this path shall be deactivated..
- For 'bar a subscriber from requesting Packet Oriented Services from access points that are within the roamed to VPLMN', SGSN shall check whether or not the subscriber is located in the HPLMN. If it is not and the GGSN being accessed is located in VPLMN, then all associated PDP contexts with this path shall be deactivated.;

## CHANGE REQUEST

⌘ **29.010 CR 106** ⌘ rev **3** ⌘ Current version: **6.2.0** ⌘

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

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

|                        |  |                 |   |
|------------------------|--|-----------------|---|
| <b>Title:</b>          | ⌘ Removing of non-existing error indications from Location update mappings                     |                 |   |
| <b>Source:</b>         | ⌘ CN4  |                 |   |
| <b>Work item code:</b> | ⌘ TEI6   | <b>Date:</b>    | ⌘ 14/05/2004                              |
| <b>Category:</b>       | ⌘ <b>F</b>   | <b>Release:</b> | ⌘ Rel-6                                   |
|                        | Use <u>one</u> of the following categories:  |                 | Use <u>one</u> of the following releases: |
|                        | <b>F</b> (correction)  | 2               | (GSM Phase 2)                             |
|                        | <b>A</b> (corresponds to a correction in an earlier release)                                   | R96             | (Release 1996)                            |
|                        | <b>B</b> (addition of feature),  | R97             | (Release 1997)                            |
|                        | <b>C</b> (functional modification of feature)  | R98             | (Release 1998)                            |
|                        | <b>D</b> (editorial modification)  | R99             | (Release 1999)                            |
|                        | Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> . | Rel-4           | (Release 4)                               |
|                        |  | Rel-5           | (Release 5)                               |
|                        |  | Rel-6           | (Release 6)                               |

|                                      |   |
|--------------------------------------|---|
| <b>Reason for change:</b>            | ⌘ In last CN4 meeting new errors for MAP UPDATE LOCATION was accepted to be added to the table 3.8. However such errors does not exist in the MAP operation. Because the table 3.8 is intended for mapping between external interfaces such non-existing errors should not be added to the table. The same principle should be followed as for the table in chapter 3.2 for Routeing area updating, where the handling and use of errors in Routeing area update reject e.g. because of Administrative Restriction of Subscribers' Access is described in a note. |
| <b>Summary of change:</b>            | ⌘ The new non-existing errors are removed from the table 3.8. New table has been added to show the mapping from internal interface between MSC and VLR to the interface used between MSC and MS   |
| <b>Consequences if not approved:</b> | ⌘ Non-existing errors are referred to in the external mapping table and will cause unnecessary confusion.   |

|                              |  |                     |   |                          |                                     |                           |   |
|------------------------------|--|---------------------|---|--------------------------|-------------------------------------|---------------------------|---|
| <b>Clauses affected:</b>     | ⌘ 1.1, 3.8   |                     |   |                          |                                     |                           |   |
| <b>Other specs affected:</b> | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> | Y                   | N | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Other core specifications | ⌘ |
| Y                            | N  |                     |   |                          |                                     |                           |   |
| <input type="checkbox"/>     | <input checked="" type="checkbox"/>  |                     |   |                          |                                     |                           |   |
|                              | <input checked="" type="checkbox"/>  | Test specifications | ⌘ |                          |                                     |                           |   |
|                              | <input checked="" type="checkbox"/>  | O&M Specifications  | ⌘ |                          |                                     |                           |   |
| <b>Other comments:</b>       | ⌘  |                     |   |                          |                                     |                           |   |

**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.

## 1.1 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TS 21.905: "3G Vocabulary".
- [2] 3GPP TS 23.009: "Handover procedures".
- [3] 3GPP TS 23.040: "Technical realization of the Short Message Service (SMS) Point to Point (PP)".
- [4] 3GPP TS 24.008: "Mobile Radio Interface Layer 3 specification; Core Network Protocols-Stage 3".
- [5] 3GPP TS 24.010: "Mobile radio interface layer 3 Supplementary services specification - General aspects".
- [6] 3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".
- [7] 3GPP TS 25.413: "Iu interface RANAP signalling".
- [8] 3GPP TS 27.001: "General on Terminal Adaptation Functions (TAF) for Mobile Stations (MS)".
- [9] 3GPP TS 29.002: "Mobile Application Part (MAP) specification".
- [10] 3GPP TS 29.007: "General requirements on interworking between the Public Land Mobile Network (PLMN) and the Integrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN)".
- [11] 3GPP TS 29.011: "Digital cellular telecommunications system (Phase 2+); Signalling interworking for supplementary services".
- [12] 3GPP TS 48.008: "Mobile Switching Centre - Base Station System (MSC - BSS) interface Layer 3 specification".
- [13] GSM 09.03: "Digital cellular telecommunications system (Phase 2+); Signalling requirements on interworking between the Integrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN) and the Public Land Mobile Network (PLMN)".
- [14] 3GPP TS 49.008: "Digital cellular telecommunications system (Phase 2+); Application of the Base Station System Application Part (BSSAP) on the E-interface".
- [15] 3GPP TS 29.108: "Application of the Radio Access Network Application Part (RANAP) on the E-interface".
- [16] 3GPP TS 23.271: "Functional stage 2 description of LCS".
- [17] 3GPP TS 43.051: "Technical Specification Group GSM/EDGE; Radio Access Network; Overall description - Stage 2".

[xx] [3GPP TS 23.012: "Location management procedures"](#).

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

### 3.8 Location update

|                  | 24.008  | 29.002   | Notes                     |
|------------------|---|--|---------------------------|
| Forward message  | MM (LOCATION UPDATING REQUEST)<br><br>Location area id<br>Mobile identity<br>Mobile station classmark 1<br>Mobile station classmark 2<br>Ciphering key seq number<br>Location update type   | MAP_UPDATE_LOCATION_request<br><br>IMSI<br><br>-<br>-<br>-<br>-  |                           |
| Positive results | MM (LOCATION UPDATING ACCEPT)<br><br>Location area identity<br>Mobile identity<br>Follow on proceed   | MAP_UPDATE_LOCATION_response<br><br>-<br>-<br>-  |                           |
| Negative results | MM (LOCATION UPDATING REJECT)<br><br>IMSI unknown in HLR<br>PLMN not allowed<br>LA not allowed<br><br>Roaming not allowed in this LA<br>No Suitable cells in location area<br>PLMN not allowed<br><br>Illegal MS<br>Illegal ME<br>Network failure<br>Network failure<br>Network failure<br>Network failure<br>Network failure | MAP_UPDATE_LOCATION_response<br><br>Unknown subscriber<br>Roaming not allowed:<br>PLMN not allowed<br><del>LA not allowed</del><br><del>National Roaming</del><br><del>not allowed</del><br><del>RAT not allowed</del><br><br>Operator determined barring<br>-<br>-<br>System Failure<br>Unexpected data value<br>MAP_U/P_ABORT<br>MAP_NOTICE<br>MAP_CLOSE | 1<br><br>-<br>-<br>-<br>- |

NOTE 1 The HLR shall also send this error if there is an error in the type of subscription (i.e. VLR requests service for a GPRS only subscriber).

~~NOTE 2 This code is inserted by the VLR depending on subscription information received from the HLR.~~

If the VLR finds out that the access is denied due to Administrative Restriction of Subscribers' Access based on subscription info received from HLR, VLR will send negative response to the MSC. The MSC will map the received cause using following mapping table:

| 24.008           |                                    |                               | Notes |
|------------------|------------------------------------|-------------------------------|-------|
| Negative results | MM (LOCATION UPDATING REJECT)      | UPDATE_LOCATION AREA response | 1     |
|                  | PLMN not allowed                   | PLMN not allowed              |       |
|                  | LA not allowed                     | LA not allowed                |       |
|                  | Roaming not allowed in this LA     | National Roaming not allowed  |       |
|                  | No Suitable cells in location area | RAT not allowed               |       |

NOTE 1 The UPDATE LOCATION AREA response refers to the internal interface used between VLR and MSC (see 3GPP TS 23.012 [xx]).