

**3GPP TSG CN Plenary Meeting #20**  
**4<sup>th</sup> – 6<sup>th</sup> June 2003 Hämeenlinna, FINLAND.**

**NP-030210**

**Source:** TSG CN WG4  
**Title:** Corrections on LCS  
**Agenda item:** 7.4  
**Document for:** APPROVAL

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<b>Spec</b>	<b>CR</b>	<b>Rev</b>	<b>Doc-2nd-Level</b>	<b>Phase</b>	<b>Subject</b>	<b>Cat</b>	<b>Ver_C</b>
29.010	086		N4-030547	R99	Correction of LCS cause mapping between RANAP and BSSMAP	F	3.10.0
29.010	087		N4-030548	Rel-4	Correction of LCS cause mapping between RANAP and BSSMAP	A	4.5.0
29.010	088		N4-030549	Rel-5	Correction of LCS cause mapping between RANAP and BSSMAP	A	5.2.0

## CHANGE REQUEST

# 29.010 CR 086 # rev - # Current version: 3.10.0 #

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>	# Correction of LCS cause mapping between RANAP and BSSMAP		
<b>Source:</b>	# Ericsson		
<b>Work item code:</b>	# LCS	<b>Date:</b>	# 23/04/2003
<b>Category:</b>	# <b>F</b>	<b>Release:</b>	# R99
	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>	# This is an essential correction.
	<p>Cause values sent by RANAP are divided into two groups depending on how serious they are.</p> <p>The following principle is stated in RANAP (clause 9.2.1.4):</p> <p><i>The meaning of the different cause values is described in the following table. In general, "not supported" cause values indicate that the concerning capability is missing. On the other hand, "not available" cause values indicate that the concerning capability is present, but insufficient resources were available to perform the requested action.</i></p> <p>Cause values of type "not available" indicates thus a short term or temporary failure condition, and a subsequent request may be successful.</p> <p>The current text in 29.101 defines a mapping of RANAP cause "Requested Information not Available" to BSSMAP casue "System Failure", but since the RANAP cause indicates a temporary failure condition it is proposed to chage the mapping to the less severe BSSMAP casue "Position method failure".</p>
<b>Summary of change:</b>	# RANAP cause "Requested Information not Available" is mapped to BSSMAP casue "Position method failure".
<b>Consequences if not approved:</b>	# Transient failures indicated by RANAP cause "Requested Information not Available" will continue to be mapped to the more severe BSSMAP cause value "System Failure" which indicates a permanent failure.

<b>Clauses affected:</b>	# 4.9.2.2		
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">Y</td> <td style="padding: 2px 5px;">N</td> </tr> </table>	Y	N
Y	N		

<b>Other specs affected:</b>	⌘	<input checked="" type="checkbox"/>	Other core specifications	⌘	
		<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.

## 4.9.2 Cause Code Mapping

### 4.9.2.1 Inter-MSC Handover(GSM to GSM)

When a mobile station is handed over from GSM to GSM, no mapping of cause codes is required. The MSC shall use the cause codes specified in GSM 08.08.

After the inter-MSC handover, the MSC-B can perform intra-MSC GSM to UMTS handover. A mapping of the cause codes used in the RANAP and the BSSMAP protocols is needed after completion of the intra-MSC GSM to UMTS handover and is the same as for Inter-MSC Handover GSM to UMTS (see section 4.9.2.2).

### 4.9.2.2 Inter-MSC Handover (GSM to UMTS)

When a Mobile Station is handed over between GSM and UMTS, 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 Location Report and the LCS cause codes sent in BSSMAP Perform Location Response is as follows:

25.413	08.08	Notes
LOCATION REPORT	PERFORM LOCATION RESPONSE	
- Requested Report Type not Supported	- Position method failure	
- Requested Information not Available	- <del>Position method</del> System Failure	
- all other cause codes	- System Failure	

After the inter-MSC GSM to UMTS handover, the 3G MSC-B can perform intra-MSC UMTS to GSM handover. No mapping of cause codes is required after completion of the intra-MSC UMTS to GSM handover as for Inter-MSC Handover GSM to GSM (see section 4.9.2.1).

### 4.9.2.3 Inter-MSC Handover (UMTS to GSM)

When a mobile station is handed over from UMTS to GSM, no mapping of cause codes is required. The 3G-MSC shall use the cause codes specified in GSM 08.08.

After the inter-MSC UMTS to GSM handover, the 3G MSC-B can perform intra-MSC GSM to UMTS handover. A mapping of the cause codes used in the RANAP and the BSSMAP protocols is needed after completion of the intra-MSC GSM to UMTS handover and is the same as for Inter-MSC Handover GSM to UMTS (see section 4.9.2.2).

### 4.9.2.4 Inter-MSC SRNS Relocation

When a mobile station is handed over from UMTS to UMTS, no mapping of cause codes is required. Both 3G-MSCs shall use the cause codes specified in TS 25.413.

After the inter-MSC SRNS Relocation, the 3G MSC-B can perform intra-MSC UMTS to GSM handover. A mapping of the cause codes used in the RANAP and the BSSMAP protocols is needed after completion of the intra-MSC UMTS to GSM handover.

The mapping between the cause codes received in BSSMAP Perform Location Response and the LCS cause codes sent in RANAP Location Report is as follows:

08.08	25.413	Notes
PERFORM LOCATION RESPONSE	LOCATION REPORT	
- Position method failure	- Requested Report Type not Supported	
- System Failure	- Unspecified Failure	
- Protocol Error	- Unspecified Failure	
- Data missing in position request	- Unspecified Failure	
- Unexpected data value in position request	- Unspecified Failure	
- Target MS Unreachable	- Unspecified Failure	
- Location request aborted	- Unspecified Failure	
- Facility not supported	- Requested Report Type not Supported	
- Inter-BSC Handover Ongoing	- Unspecified Failure	
- Intra-BSC Handover Complete	- Unspecified Failure	
- Congestion	- Unspecified Failure	
- Unspecified	- Unspecified Failure	

## CHANGE REQUEST

# 29.010 CR 087 # rev - # Current version: 4.5.0 #

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>	# Correction of LCS cause mapping between RANAP and BSSMAP		
<b>Source:</b>	# CN4		
<b>Work item code:</b>	# LCS	<b>Date:</b>	# 23/04/2003
<b>Category:</b>	# <b>A</b>	<b>Release:</b>	# Rel-4
	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>	# Cause values sent by RANAP are divided into two groups depending on how serious they are. The following principle is stated in RANAP (clause 9.2.1.4): <i>The meaning of the different cause values is described in the following table. In general, "not supported" cause values indicate that the concerning capability is missing. On the other hand, "not available" cause values indicate that the concerning capability is present, but insufficient resources were available to perform the requested action.</i> Cause values of type "not available" indicates thus a short term or temporary failure condition, and a subsequent request may be successful.  The current text in 29.101 defines a mapping of RANAP cause "Requested Information not Available" to BSSMAP cause "System Failure", but since the RANAP cause indicates a temporary failure condition it is proposed to change the mapping to the less severe BSSMAP cause "Position method failure".
<b>Summary of change:</b>	# RANAP cause "Requested Information not Available" is mapped to BSSMAP cause "Position method failure".
<b>Consequences if not approved:</b>	# Transient failures indicated by RANAP cause "Requested Information not Available" will continue to be mapped to the more severe BSSMAP cause value "System Failure" which indicates a permanent failure.

<b>Clauses affected:</b>	# 4.9.2.2								
<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> <tr> <td></td> <td>Other core specifications</td> </tr> <tr> <td></td> <td>Test specifications</td> </tr> </table>	Y	N	#	X		Other core specifications		Test specifications
Y	N								
#	X								
	Other core specifications								
	Test specifications								

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.

## 4.9.2 Cause Code Mapping

### 4.9.2.1 Inter-MSC Handover (GSM to GSM)

When a mobile station is handed over from GSM to GSM, no mapping of cause codes is required. The MSC shall use the cause codes specified in 3GPP TS 48.008.

After the inter-MSC handover, the MSC-B can perform intra-MSC GSM to UMTS handover. A mapping of the cause codes used in the RANAP and the BSSMAP protocols is needed after completion of the intra-MSC GSM to UMTS handover and is the same as for Inter-MSC Handover GSM to UMTS (see section 4.9.2.2)..

### 4.9.2.2 Inter-MSC Handover (GSM to UMTS)

When a Mobile Station is handed over between GSM and UMTS, 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 Location Report and the LCS cause codes sent in BSSMAP Perform Location Response is as follows:

25.413	48.008	Notes
LOCATION REPORT	PERFORM LOCATION RESPONSE	
- Requested Report Type not Supported	- Position method failure	
- Requested Information not Available	- <u>Position method</u> <del>System Failure</del>	
- all other cause codes	- System Failure	

After the inter-MSC GSM to UMTS handover, the 3G MSC-B can perform intra-MSC UMTS to GSM handover. No mapping of cause codes is required after completion of the intra-MSC UMTS to GSM handover as for Inter-MSC Handover GSM to GSM (see section 4.9.2.1).

### 4.9.2.3 Inter-MSC Handover (UMTS to GSM)

When a mobile station is handed over from UMTS to GSM, no mapping of cause codes is required. The 3G-MSC shall use the cause codes specified in 3GPP TS 48.008.

After the inter-MSC UMTS to GSM handover, the 3G MSC-B can perform intra-MSC GSM to UMTS handover. A mapping of the cause codes used in the RANAP and the BSSMAP protocols is needed after completion of the intra-MSC GSM to UMTS handover and is the same as for Inter-MSC Handover GSM to UMTS (see section 4.9.2.2)..

### 4.9.2.4 Inter-MSC SRNS Relocation

When a mobile station is handed over from UMTS to UMTS, no mapping of cause codes is required. Both 3G-MSCs shall use the cause codes specified in TS 25.413.

After the inter-MSC SRNS Relocation, the 3G MSC-B can perform intra-MSC UMTS to GSM handover. A mapping of the cause codes used in the RANAP and the BSSMAP protocols is needed after completion of the intra-MSC UMTS to GSM handover.



The mapping between the cause codes received in BSSMAP Perform Location Response and the LCS cause codes sent in RANAP Location Report is as follows:

48.008	25.413	Notes
PERFORM LOCATION RESPONSE	LOCATION REPORT	
- Position method failure	- Requested Report Type not Supported	
- System Failure	- Unspecified Failure	
- Protocol Error	- Unspecified Failure	
- Data missing in position request	- Unspecified Failure	
- Unexpected data value in position request	- Unspecified Failure	
- Target MS Unreachable	- Unspecified Failure	
- Location request aborted	- Unspecified Failure	
- Facility not supported	- Requested Report Type not Supported	
- Inter-BSC Handover Ongoing	- Unspecified Failure	
- Intra-BSC Handover Complete	- Unspecified Failure	
- Congestion	- Unspecified Failure	
- Unspecified	- Unspecified Failure	

## CHANGE REQUEST

# **29.010 CR 088** # rev - # Current version: **5.2.0** #

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>	# Correction of LCS cause mapping between RANAP and BSSMAP		
<b>Source:</b>	# CN4		
<b>Work item code:</b>	# LCS	<b>Date:</b>	# 23/04/2003
<b>Category:</b>	# <b>A</b>	<b>Release:</b>	# Rel-5
	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)
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<b>Reason for change:</b>	# Cause values sent by RANAP are divided into two groups depending on how serious they are. The following principle is stated in RANAP (clause 9.2.1.4): <i>The meaning of the different cause values is described in the following table. In general, "not supported" cause values indicate that the concerning capability is missing. On the other hand, "not available" cause values indicate that the concerning capability is present, but insufficient resources were available to perform the requested action.</i> Cause values of type "not available" indicates thus a short term or temporary failure condition, and a subsequent request may be successful.  The current text in 29.101 defines a mapping of RANAP cause "Requested Information not Available" to BSSMAP cause "System Failure", but since the RANAP cause indicates a temporary failure condition it is proposed to change the mapping to the less severe BSSMAP cause "Position method failure".
<b>Summary of change:</b>	# RANAP cause "Requested Information not Available" is mapped to BSSMAP cause "Position method failure".
<b>Consequences if not approved:</b>	# Transient failures indicated by RANAP cause "Requested Information not Available" will continue to be mapped to the more severe BSSMAP cause value "System Failure" which indicates a permanent failure.

<b>Clauses affected:</b>	# 4.9.2.2						
<b>Other specs affected:</b>	#						
	<table border="1" style="display: inline-table; vertical-align: middle;"> <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> <tr> <td></td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications #	Y	N	#	X		X
Y	N						
#	X						
	X						
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#	X						

**Other comments:** ⌘

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25.413	48.008	Notes
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After the inter-MSC GSM to UMTS handover, the 3G MSC-B can perform intra-MSC UMTS to GSM handover. No mapping of cause codes is required after completion of the intra-MSC UMTS to GSM handover as for Inter-MSC Handover GSM to GSM (see section 4.9.2.1).

### 4.9.2.3 Inter-MSC Handover (UMTS to GSM)

When a mobile station is handed over from UMTS to GSM, no mapping of cause codes is required. The 3G-MSC shall use the cause codes specified in 3GPP TS 48.008.

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### 4.9.2.4 Inter-MSC SRNS Relocation

When a mobile station is handed over from UMTS to UMTS, no mapping of cause codes is required. Both 3G-MSCs shall use the cause codes specified in TS 25.413.

After the inter-MSC SRNS Relocation, the 3G MSC-B can perform intra-MSC UMTS to GSM handover. A mapping of the cause codes used in the RANAP and the BSSMAP protocols is needed after completion of the intra-MSC UMTS to GSM handover.

The mapping between the cause codes received in BSSMAP Perform Location Response and the LCS cause codes sent in RANAP Location Report is as follows:

48.008	25.413	Notes
PERFORM LOCATION RESPONSE	LOCATION REPORT	
- Position method failure	- Requested Report Type not Supported	
- System Failure	- Unspecified Failure	
- Protocol Error	- Unspecified Failure	
- Data missing in position request	- Unspecified Failure	
- Unexpected data value in position request	- Unspecified Failure	
- Target MS Unreachable	- Unspecified Failure	
- Location request aborted	- Unspecified Failure	
- Facility not supported	- Requested Report Type not Supported	
- Inter-BSC Handover Ongoing	- Unspecified Failure	
- Intra-BSC Handover Complete	- Unspecified Failure	
- Congestion	- Unspecified Failure	
- Unspecified	- Unspecified Failure	