

Source: TSG CN WG 1

Title: CR to R99 (with mirror CRs) on Work Item GSM/UMTS interworking towards  
09.08 and 49.008

Agenda item: 7.6

Document for: APPROVAL

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**Introduction:**

This document contains 3 CRs, **R99 with mirror CRs to Work Item " GSM/UMTS interworking"**, that have been agreed by **TSG CN WG1**, and are forwarded to TSG CN Plenary meeting #19 for approval.

Spec	CR	Rev	Cat	Phase	Subject	Version-Current	Version-New	Meeting-2nd-Level	Doc-2nd-Level
09.08	A141		F	R99	Corrections to the list of BSSMAP messages transferred on the E-interface	8.1.0	8.2.0	N1-28	N1-030084
49.008	001		A	Rel-4	Corrections to the list of BSSMAP messages transferred on the E-interface	4.0.1	4.1.0	N1-28	N1-030085
49.008	002		A	Rel-5	Corrections to the list of BSSMAP messages transferred on the E-interface	5.0.0	5.1.0	N1-28	N1-030086

CR-Form-v7

## CHANGE REQUEST

⌘ **49.008 CR 001** ⌘ rev **-** ⌘ Current version: **4.0.1** ⌘

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>	⌘ Corrections to the list of BSSMAP messages transferred on the E-interface		
<b>Source:</b>	⌘ Siemens AG		
<b>Work item code:</b>	⌘ GSM/UMTS interworking	<b>Date:</b>	⌘ 29.01.2003
<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>	⌘	<ol style="list-style-type: none"> <li>1) According to TS 29.010, Note 2 to the table in subclause 4.5.2, the BSSMAP message HANDOVER FAILURE may also be sent from MSC-A to MSC-I (= MSC-B) during subsequent inter-MSC handover back to MSC-A.</li> <li>2) The CLEAR REQUEST message may also be sent by MSC-T during handover execution, e.g. if the handover fails and the MS reverts to the old channel.</li> <li>3) According to TS 29.010, subclause 4.5.1, the BSSMAP messages for trace invocation may also be sent from MSC-A to MSC-T during handover resource allocation.</li> </ol>
<b>Summary of change:</b>	⌘	The missing descriptions for 2) and 3) are added in subclauses 5.6 and 5.9. The table in clause 6 is updated.
<b>Consequences if not approved:</b>	⌘	Inconsistent, ambiguous specification. Since from R99 onwards there is also the possibility to send RANAP messages via the E-interface, this ambiguity may result in wrong implementations (i.e. the sending MSC might use the wrong radio access network protocol). E.g., if MSC-T sends the RANAP message lu-Release-Request instead of the BSSMAP message Clear-Request, MSC-A could ignore the message, because it does not expect such a RANAP message.

<b>Clauses affected:</b>	⌘	5.3, 5.6, 5.9, 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> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table>	Y	N		X		X		X	Other core specifications	⌘
	Y	N										
		X										
	X											
	X											
		Test specifications										
		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.

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## 5 Use of the BSSAP on the E-interface

DTAP is used on the E-interface for the transfer of messages between the MSC-A and the MS.

The dedicated BSSMAP procedures (3GPP TS 48.008 subclause 3.1) used on the E-interface to some extent are:

- assignment;
- handover resource allocation;
- handover execution;
- internal handover indication;
- release due to BSS generated reasons;
- classmark handling;
- cipher mode control;
- trace invocation;
- queuing indication;
- data link control SAPI not equal to "0";
- Location Acquisition.
- LSA handling.
- Common ID.

### 5.1 DTAP

For the exchange of the DTAP messages (3GPP TS 48.008 subclause 2.2), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

### 5.2 Assignment

The Assignment procedure (3GPP TS 48.008 subclause 3.1.1) is applied on the E-interface with following conditions:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

The handling of terrestrial resources is not applicable.

### 5.3 Handover resource allocation

At Basic Inter-MSC Handover (3GPP TS 23.009) the Handover resource allocation procedure (3GPP TS 48.008 subclause 3.1.5.2) is applied on the E-interface with the following conditions:

- the MSC-A acts as the MSC;
- the MSC-T acts as the target BSS.

At Subsequent Inter-MSC Handover (3GPP TS 23.009) the Handover resource allocation procedure (3GPP TS 48.008 subclause 3.1.5.2) is applied on the E-interface with the following conditions:

- the MSC-I acts as the MSC;
- the MSC-T acts as the [target BSS](#);
- if the MSC that is the MSC-A is not also the MSC-T, then this MSC shall act as the target BSS towards the MSC-I and as the MSC towards the MSC-T.

The handling of terrestrial resources is not applicable.

## 5.4 Handover execution

For the Handover execution procedure (3GPP TS 48.008 subclause 3.1.5.3) the applicable parts on the E-interface are the transfer of HANDOVER DETECT, HANDOVER COMPLETE and HANDOVER FAILURE messages at inter MSC handover. For those parts, the involved MSCs shall act according to the following:

- the MSC that is the MSC-A, acts as the MSC;
- the MSC that is the MSC-I, if it is not also the MSC-A, acts as the serving BSS;
- the MSC that is the MSC-T, if it is not also the MSC-A, acts as the target BSS.

## 5.5 Internal handover indication

For the Internal handover indication (3GPP TS 48.008 subclauses 3.1.6 and 3.1.7), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

MSC internal handovers (inter-BSS and intra-BSS handover) at the MSC-I are decided and executed autonomously by that MSC together with the connected BSSs. At completion of the handover execution the MSC-I initiates the internal handover indication procedure.

## 5.6 Release due to BSS generated reasons

For the Release due to BSS generated reasons procedure (3GPP TS 48.008 subclause 3.1.9.2) the involved MSCs shall act according to the following:

- the MSC-I acts as the BSS;
- no further action is taken by the MSC-A.

[Additionally, at Basic Inter-MSC Handover and at Subsequent Inter-MSC Handover \(3GPP TS 23.009\), if the MSC that is the MSC-A is not also the MSC-T, the Release due to BSS generated reasons procedure \(3GPP TS 48.008 subclause 3.1.9.2\) is applied on the E-interface with the following conditions:](#)

- [the MSC-T acts as the BSS;](#)
- [no further action is taken by the MSC-A.](#)

## 5.7 Classmark handling

For the Classmark handling (3GPP TS 48.008 subclause 3.1.13), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

## 5.8 Cipher mode control

For the Cipher mode control (3GPP TS 48.008 subclause 3.1.14), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

## 5.9 Trace invocation

For the Trace invocation (3GPP TS 48.008 subclause 3.1.11), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

Additionally, at Basic Inter-MSC Handover and at Subsequent Inter-MSC Handover (3GPP TS 23.009), if the MSC that is the MSC-A is not also the MSC-T, the Trace invocation (3GPP TS 48.008 subclause 3.1.11) is applied on the E-interface with the following conditions:

- the MSC-A acts as the MSC;
- the MSC-T acts as the target BSS.

## 5.10 Queuing indication

For the Queuing Indication (3GPP TS 48.008 subclause 3.1.17), the involved MSCs shall act according to the following:

- at Assignment and at Basic Inter-MSC handover:
  - the MSC-A acts as the MSC;
  - the MSC-I acts as the BSS.
- at Subsequent Inter-MSC handover:
  - the MSC-I acts as the MSC;
  - the MSC-T acts as the BSS;
  - if the MSC that is the MSC-A is not also the MSC-T, then this MSC acts as the target BSS towards the MSC-I and as the MSC towards the MSC-T.

## 5.11 Data link control SAPI not equal to "0"

For the Data Link Control SAPI not Equal to "0" (3GPP TS 48.008 subclause 3.1.18), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

## 5.12 Location Acquisition

For the Location Acquisition procedure (3GPP TS 48.008 subclause 3.1.28), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;

- the MSC-I acts as the BSS.

## 5.13 LSA handling

For the LSA handling (3GPP TS 48.008 subclause 3.1.27), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

## 5.14 Common ID

For the Common Id (3GPP TS 48.008), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

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# 6 BSSMAP messages transferred on the E-interface

The following BSSMAP messages, defined in 3GPP TS 48.008 subclause 3.2.1, are transferred on the E-interface:

ASSIGNMENT REQUEST (MSC-A -> MSC-I)

Excluded information element: CIRCUIT IDENTITY CODE

ASSIGNMENT COMPLETE (MSC-I -> MSC-A)

Excluded information element: CIRCUIT POOL, CIRCUIT IDENTITY CODE

ASSIGNMENT FAILURE (MSC-I -> MSC-A)

Excluded information elements: CIRCUIT POOL, CIRCUIT POOL LIST

\* HANDOVER REQUEST (MSC-A -> MSC-T and MSC-I -> MSC-A)

Excluded information element: CIRCUIT IDENTITY CODE

\* HANDOVER REQUEST ACKNOWLEDGE (MSC-T -> MSC-A and MSC-A -> MSC-I)

Excluded information element: CIRCUIT POOL, CIRCUIT IDENTITY CODE

\* HANDOVER COMPLETE (MSC-T -> MSC-A)

\* HANDOVER FAILURE (MSC-T -> MSC-A, MSC-A -> MSC-I and MSC-I -> MSC-A)

Excluded information elements: CIRCUIT POOL, CIRCUIT POOL LIST

HANDOVER PERFORMED (MSC-I -> MSC-A)

\* HANDOVER DETECT (MSC-T -> MSC-A)

CLEAR REQUEST (MSC-I -> MSC-A and MSC-T -> MSC-A)

SAPI "n" REJECT (MSC-I -> MSC-A)

CONFUSION (MSC-T -> MSC-A, MSC-A -> MSC-T,

MSC-I -> MSC-A and MSC-A -> MSC-I)

# MSC INVOKE TRACE (MSC-A -> MSC-I and MSC-A -> MSC-T)

# BSS INVOKE TRACE	(MSC-I -> MSC-A and MSC-A -> MSC-T)
CIPHER MODE COMMAND	(MSC-A -> MSC-I)
CIPHER MODE COMPLETE	(MSC-I -> MSC-A)
CIPHER MODE REJECT	(MSC-I -> MSC-A)
** QUEUING INDICATION	(MSC-T -> MSC-A, MSC-I -> MSC-A, and MSC-A -> MSC-I)
CLASSMARK UPDATE	(MSC-I -> MSC-A and MSC-A -> MSC-T)
CLASSMARK REQUEST	(MSC-A -> MSC-I)
CONNECTION ORIENTED INFORMATION	(MSC-I -> MSC-A, MSC-A->MSC-I)
LSA INFORMATION	(MSC-A -> MSC-I)
PERFORM LOCATION REQUEST	(MSC-I->MSC-A, MSC-A -> MSC-I)
PERFORM LOCATION ABORT	(MSC-I->MSC-A, MSC-A -> MSC-I)
PERFORM LOCATION RESPONSE	(MSC-I -> MSC-A, MSC-A->MSC-I)
COMMON ID	(MSC-A -> MSC-I)

All other BSSMAP messages shall be considered as non-existent on the E-interface.

NOTE: Segmentation procedures for LCS CONNECTION ORIENTED INFORMATION message in 3GPP TS 48.008 apply to the corresponding message on the E-interface.

Some of the messages above are qualified by \*, \*\* or #. This signifies whether the message, when sent on the E-interface, is considered as:

- handover related message (\*);
- handover related when sent as a response to HANDOVER REQUEST (\*\*); or
- trace related message (#).



CR-Form-v7

## CHANGE REQUEST

⌘ **49.008 CR 002** ⌘ rev **-** ⌘ 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>	⌘ Corrections to the list of BSSMAP messages transferred on the E-interface		
<b>Source:</b>	⌘ Siemens AG		
<b>Work item code:</b>	⌘ GSM/UMTS interworking	<b>Date:</b>	⌘ 29.01.2003
<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>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>	⌘	<ol style="list-style-type: none"> <li>1) According to TS 29.010, Note 2 to the table in subclause 4.5.2, the BSSMAP message HANDOVER FAILURE may also be sent from MSC-A to MSC-I (= MSC-B) during subsequent inter-MSC handover back to MSC-A.</li> <li>2) The CLEAR REQUEST message may also be sent by MSC-T during handover execution, e.g. if the handover fails and the MS reverts to the old channel.</li> <li>3) According to TS 29.010, subclause 4.5.1, the BSSMAP messages for trace invocation may also be sent from MSC-A to MSC-T during handover resource allocation.</li> </ol>
<b>Summary of change:</b>	⌘	The missing descriptions for 2) and 3) are added in subclauses 5.6 and 5.9. The table in clause 6 is updated.
<b>Consequences if not approved:</b>	⌘	Inconsistent, ambiguous specification. Since from R99 onwards there is also the possibility to send RANAP messages via the E-interface, this ambiguity may result in wrong implementations (i.e. the sending MSC might use the wrong radio access network protocol). E.g., if MSC-T sends the RANAP message lu-Release-Request instead of the BSSMAP message Clear-Request, MSC-A could ignore the message, because it does not expect such a RANAP message.

<b>Clauses affected:</b>	⌘	5.3, 5.6, 5.9, 6									
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Y	N										
	X										
	X										
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<b>Other comments:</b>	⌘										

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## 5 Use of the BSSAP on the E-interface

DTAP is used on the E-interface for the transfer of messages between the MSC-A and the MS.

The dedicated BSSMAP procedures (3GPP TS 48.008 subclause 3.1) used on the E-interface to some extent are:

- assignment;
- handover resource allocation;
- handover execution;
- internal handover indication;
- release due to BSS generated reasons;
- classmark handling;
- cipher mode control;
- trace invocation;
- queuing indication;
- data link control SAPI not equal to "0";
- Location Acquisition.
- LSA handling.
- Common ID.

### 5.1 DTAP

For the exchange of the DTAP messages (3GPP TS 48.008 subclause 2.2), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

### 5.2 Assignment

The Assignment procedure (3GPP TS 48.008 subclause 3.1.1) is applied on the E-interface with following conditions:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

The handling of terrestrial resources is not applicable.

### 5.3 Handover resource allocation

At Basic Inter-MSC Handover (3GPP TS 23.009) the Handover resource allocation procedure (3GPP TS 48.008 subclause 3.1.5.2) is applied on the E-interface with the following conditions:

- the MSC-A acts as the MSC;
- the MSC-T acts as the target BSS.

At Subsequent Inter-MSD Handover (3GPP TS 23.009) the Handover resource allocation procedure (3GPP TS 48.008 subclause 3.1.5.2) is applied on the E-interface with the following conditions:

- the MSC-I acts as the MSC;
- the MSC-T acts as the [target BSS](#);
- if the MSC that is the MSC-A is not also the MSC-T, then this MSC shall act as the target BSS towards the MSC-I and as the MSC towards the MSC-T.

The handling of terrestrial resources is not applicable.

## 5.4 Handover execution

For the Handover execution procedure (3GPP TS 48.008 subclause 3.1.5.3) the applicable parts on the E-interface are the transfer of HANOVER DETECT, HANOVER COMPLETE and HANOVER FAILURE messages at inter MSC handover. For those parts, the involved MSCs shall act according to the following:

- the MSC that is the MSC-A, acts as the MSC;
- the MSC that is the MSC-I, if it is not also the MSC-A, acts as the serving BSS;
- the MSC that is the MSC-T, if it is not also the MSC-A, acts as the target BSS.

## 5.5 Internal handover indication

For the Internal handover indication (3GPP TS 48.008 subclauses 3.1.6 and 3.1.7), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

MSC internal handovers (inter-BSS and intra-BSS handover) at the MSC-I are decided and executed autonomously by that MSC together with the connected BSSs. At completion of the handover execution the MSC-I initiates the internal handover indication procedure.

## 5.6 Release due to BSS generated reasons

For the Release due to BSS generated reasons procedure (3GPP TS 48.008 subclause 3.1.9.2) the involved MSCs shall act according to the following:

- the MSC-I acts as the BSS;
- no further action is taken by the MSC-A.

[Additionally, at Basic Inter-MSD Handover and at Subsequent Inter-MSD Handover \(3GPP TS 23.009\), if the MSC that is the MSC-A is not also the MSC-T, the Release due to BSS generated reasons procedure \(3GPP TS 48.008 subclause 3.1.9.2\) is applied on the E-interface with the following conditions:](#)

- [the MSC-T acts as the BSS](#);
- [no further action is taken by the MSC-A](#).

## 5.7 Classmark handling

For the Classmark handling (3GPP TS 48.008 subclause 3.1.13), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

## 5.8 Cipher mode control

For the Cipher mode control (3GPP TS 48.008 subclause 3.1.14), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

## 5.9 Trace invocation

For the Trace invocation (3GPP TS 48.008 subclause 3.1.11), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

Additionally, at Basic Inter-MSC Handover and at Subsequent Inter-MSC Handover (3GPP TS 23.009), if the MSC that is the MSC-A is not also the MSC-T, the Trace invocation (3GPP TS 48.008 subclause 3.1.11) is applied on the E-interface with the following conditions:

- the MSC-A acts as the MSC;
- the MSC-T acts as the target BSS.

## 5.10 Queuing indication

For the Queuing Indication (3GPP TS 48.008 subclause 3.1.17), the involved MSCs shall act according to the following:

- at Assignment and at Basic Inter-MSC handover:
  - the MSC-A acts as the MSC;
  - the MSC-I acts as the BSS.
- at Subsequent Inter-MSC handover:
  - the MSC-I acts as the MSC;
  - the MSC-T acts as the BSS;
  - if the MSC that is the MSC-A is not also the MSC-T, then this MSC acts as the target BSS towards the MSC-I and as the MSC towards the MSC-T.

## 5.11 Data link control SAPI not equal to "0"

For the Data Link Control SAPI not Equal to "0" (3GPP TS 48.008 subclause 3.1.18), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

## 5.12 Location Acquisition

For the Location Acquisition procedure (3GPP TS 48.008 subclause 3.1.28), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;

- the MSC-I acts as the BSS.

## 5.13 LSA handling

For the LSA handling (3GPP TS 48.008 subclause 3.1.27), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

## 5.14 Common ID

For the Common Id (3GPP TS 48.008), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

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# 6 BSSMAP messages transferred on the E-interface

The following BSSMAP messages, defined in 3GPP TS 48.008 subclause 3.2.1, are transferred on the E-interface:

ASSIGNMENT REQUEST (MSC-A -> MSC-I)

Excluded information element: CIRCUIT IDENTITY CODE

ASSIGNMENT COMPLETE (MSC-I -> MSC-A)

Excluded information element: CIRCUIT POOL, CIRCUIT IDENTITY CODE

ASSIGNMENT FAILURE (MSC-I -> MSC-A)

Excluded information elements: CIRCUIT POOL, CIRCUIT POOL LIST

\* HANDOVER REQUEST (MSC-A -> MSC-T and MSC-I -> MSC-A)

Excluded information element: CIRCUIT IDENTITY CODE

\* HANDOVER REQUEST ACKNOWLEDGE (MSC-T -> MSC-A and MSC-A -> MSC-I)

Excluded information element: CIRCUIT POOL, CIRCUIT IDENTITY CODE

\* HANDOVER COMPLETE (MSC-T -> MSC-A)

\* HANDOVER FAILURE (MSC-T -> MSC-A, MSC-A -> MSC-I and MSC-I -> MSC-A)

Excluded information elements: CIRCUIT POOL, CIRCUIT POOL LIST

HANDOVER PERFORMED (MSC-I -> MSC-A)

\* HANDOVER DETECT (MSC-T -> MSC-A)

CLEAR REQUEST (MSC-I -> MSC-A and MSC-T -> MSC-A)

SAPI "n" REJECT (MSC-I -> MSC-A)

CONFUSION (MSC-T -> MSC-A, MSC-A -> MSC-T,

MSC-I -> MSC-A and MSC-A -> MSC-I)

# MSC INVOKE TRACE (MSC-A -> MSC-I and MSC-A -> MSC-T)

# BSS INVOKE TRACE	(MSC-I -> MSC-A and MSC-A -> MSC-T)
CIPHER MODE COMMAND	(MSC-A -> MSC-I)
CIPHER MODE COMPLETE	(MSC-I -> MSC-A)
CIPHER MODE REJECT	(MSC-I -> MSC-A)
** QUEUING INDICATION	(MSC-T -> MSC-A, MSC-I -> MSC-A, and MSC-A -> MSC-I)
CLASSMARK UPDATE	(MSC-I -> MSC-A and MSC-A -> MSC-T)
CLASSMARK REQUEST	(MSC-A -> MSC-I)
CONNECTION ORIENTED INFORMATION	(MSC-I -> MSC-A, MSC-A->MSC-I)
LSA INFORMATION	(MSC-A -> MSC-I)
PERFORM LOCATION REQUEST	(MSC-I->MSC-A, MSC-A -> MSC-I)
PERFORM LOCATION ABORT	(MSC-I->MSC-A, MSC-A -> MSC-I)
PERFORM LOCATION RESPONSE	(MSC-I -> MSC-A, MSC-A->MSC-I)
COMMON ID	(MSC-A -> MSC-I)

All other BSSMAP messages shall be considered as non-existent on the E-interface.

NOTE: Segmentation procedures for LCS CONNECTION ORIENTED INFORMATION message in 3GPP TS 48.008 apply to the corresponding message on the E-interface.

Some of the messages above are qualified by \*, \*\* or #. This signifies whether the message, when sent on the E-interface, is considered as:

- handover related message (\*);
- handover related when sent as a response to HANDOVER REQUEST (\*\*); or
- trace related message (#).

CR-Form-v7

## CHANGE REQUEST

⌘ **09.08 CR A141** ⌘ rev **-** ⌘ Current version: **8.1.0** ⌘

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

<b>Title:</b>	⌘ Corrections to the list of BSSMAP messages transferred on the E-interface		
<b>Source:</b>	⌘ Siemens AG		
<b>Work item code:</b>	⌘ GSM/UMTS interworking	<b>Date:</b>	⌘ 29.01.2003
<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>	⌘	1) According to TS 29.010, Note 2 to the table in subclause 4.5.2, the BSSMAP message HANDOVER FAILURE may also be sent from MSC-A to MSC-I (= MSC-B) during subsequent inter-MSC handover back to MSC-A.
		2) The CLEAR REQUEST message may also be sent by MSC-T during handover execution, e.g. if the handover fails and the MS reverts to the old channel.
		3) According to TS 29.010, subclause 4.5.1, the BSSMAP messages for trace invocation may also be sent from MSC-A to MSC-T during handover resource allocation.
<b>Summary of change:</b>	⌘	The missing descriptions for 2) and 3) are added in subclauses 5.6 and 5.9. The table in clause 6 is updated.
<b>Consequences if not approved:</b>	⌘	Inconsistent, ambiguous specification. Since from R99 onwards there is also the possibility to send RANAP messages via the E-interface, this ambiguity may result in wrong implementations (i.e. the sending MSC might use the wrong radio access network protocol). E.g., if MSC-T sends the RANAP message lu-Release-Request instead of the BSSMAP message Clear-Request, MSC-A could ignore the message, because it does not expect such a RANAP message.

<b>Clauses affected:</b>	⌘	5.3, 5.6, 5.9, 6									
<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;">X</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X	X	X	X	X	X	Other core specifications
	Y	N									
	X	X									
X	X										
X	X										
		Test specifications									
		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.

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## 5 Use of the BSSAP on the E-interface

DTAP is used on the E-interface for the transfer of messages between the MSC-A and the MS.

The dedicated BSSMAP procedures (3GPP TS 08.08 subclause 3.1) used on the E-interface to some extent are:

- assignment;
- handover resource allocation;
- handover execution;
- internal handover indication;
- release due to BSS generated reasons;
- classmark handling;
- cipher mode control;
- trace invocation;
- queuing indication;
- data link control SAPI not equal to "0";
- Location Acquisition.
- LSA handling.
- Common ID.

### 5.1 DTAP

For the exchange of the DTAP messages (3GPP TS 08.08 subclause 2.2), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

### 5.2 Assignment

The Assignment procedure (3GPP TS 08.08 subclause 3.1.1) is applied on the E-interface with following conditions:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

The handling of terrestrial resources is not applicable.

### 5.3 Handover resource allocation

At Basic Inter-MSC Handover (3GPP TS 03.09) the Handover resource allocation procedure (3GPP TS 08.08 subclause 3.1.5.2) is applied on the E-interface with the following conditions:

- the MSC-A acts as the MSC;
- the MSC-T acts as the target BSS.

At Subsequent Inter-MSC Handover (3GPP TS 03.09) the Handover resource allocation procedure (3GPP TS 08.08 subclause 3.1.5.2) is applied on the E-interface with the following conditions:

- the MSC-I acts as the MSC;
- the MSC-T acts as the [target BSS](#);
- if the MSC that is the MSC-A is not also the MSC-T, then this MSC shall act as the target BSS towards the MSC-I and as the MSC towards the MSC-T.

The handling of terrestrial resources is not applicable.

## 5.4 Handover execution

For the Handover execution procedure (3GPP TS 08.08 subclause 3.1.5.3) the applicable parts on the E-interface are the transfer of HANDOVER DETECT, HANDOVER COMPLETE and HANDOVER FAILURE messages at inter MSC handover. For those parts, the involved MSCs shall act according to the following:

- the MSC that is the MSC-A, acts as the MSC;
- the MSC that is the MSC-I, if it is not also the MSC-A, acts as the serving BSS;
- the MSC that is the MSC-T, if it is not also the MSC-A, acts as the target BSS.

## 5.5 Internal handover indication

For the Internal handover indication (3GPP TS 08.08 subclause 3.1.6 and 3.1.7), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

MSC internal handovers (inter-BSS and intra-BSS handover) at the MSC-I are decided and executed autonomously by that MSC together with the connected BSSs. At completion of the handover execution the MSC-I initiates the internal handover indication procedure.

## 5.6 Release due to BSS generated reasons

For the Release due to BSS generated reasons procedure (3GPP TS 08.08 subclause 3.1.9.2) the involved MSCs shall act according to the following:

- the MSC-I acts as the BSS;
- no further action is taken by the MSC-A.

[Additionally, at Basic Inter-MSC Handover and at Subsequent Inter-MSC Handover \(3GPP TS 03.09\), if the MSC that is the MSC-A is not also the MSC-T, the Release due to BSS generated reasons procedure \(3GPP TS 08.08 subclause 3.1.9.2\) is applied on the E-interface with the following conditions:](#)

- [the MSC-T acts as the BSS;](#)
- [no further action is taken by the MSC-A.](#)

## 5.7 Classmark handling

For the Classmark handling (3GPP TS 08.08 subclause 3.1.13), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

## 5.8 Cipher mode control

For the Cipher mode control (3GPP TS 08.08 subclause 3.1.14), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

## 5.9 Trace invocation

For the Trace invocation (3GPP TS 08.08 subclause 3.1.11), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

Additionally, at Basic Inter-MSC Handover and at Subsequent Inter-MSC Handover (3GPP TS 03.09), if the MSC that is the MSC-A is not also the MSC-T, the Trace invocation (3GPP TS 08.08 subclause 3.1.11) is applied on the E-interface with the following conditions:

- the MSC-A acts as the MSC;
- the MSC-T acts as the target BSS.

## 5.10 Queuing indication

For the Queuing Indication (3GPP TS 08.08 subclause 3.1.17), the involved MSCs shall act according to the following:

- at Assignment and at Basic Inter-MSC handover:
  - the MSC-A acts as the MSC;
  - the MSC-I acts as the BSS.
- at Subsequent Inter-MSC handover:
  - the MSC-I acts as the MSC;
  - the MSC-T acts as the BSS;
  - if the MSC that is the MSC-A is not also the MSC-T, then this MSC acts as the target BSS towards the MSC-I and as the MSC towards the MSC-T.

## 5.11 Data link control SAPI not equal to "0"

For the Data Link Control SAPI not Equal to "0" (3GPP TS 08.08 subclause 3.1.18), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

## 5.12 Location Acquisition

For the Location Acquisition procedure (3GPP TS 08.08 subclause 3.1.28), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

## 5.13 LSA handling

For the LSA handling (3GPP TS 08.08 subclause 3.1.27), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

## 5.14 Common ID

For the Common Id (3GPP TS TS 08.08), the involved MSCs shall act according to the following:

- the MSC-A acts as the MSC;
- the MSC-I acts as the BSS.

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# 6 BSSMAP messages transferred on the E-interface

The following BSSMAP messages, defined in 3GPP TS 08.08 subclause 3.2.1, are transferred on the E-interface:

ASSIGNMENT REQUEST (MSC-A -> MSC-I)

Excluded information element: CIRCUIT IDENTITY CODE

ASSIGNMENT COMPLETE (MSC-I -> MSC-A)

Excluded information element: CIRCUIT POOL, CIRCUIT IDENTITY CODE

ASSIGNMENT FAILURE (MSC-I -> MSC-A)

Excluded information elements: CIRCUIT POOL, CIRCUIT POOL LIST

\* HANDOVER REQUEST (MSC-A -> MSC-T and MSC-I -> MSC-A)

Excluded information element: CIRCUIT IDENTITY CODE

\* HANDOVER REQUEST ACKNOWLEDGE(MSC-T -> MSC-A and MSC-A -> MSC-I)

Excluded information element: CIRCUIT POOL, CIRCUIT IDENTITY CODE

\* HANDOVER COMPLETE (MSC-T -> MSC-A)

\* HANDOVER FAILURE (MSC-T -> MSC-A, [MSC-A -> MSC-I](#) and MSC-I -> MSC-A)

Excluded information elements: CIRCUIT POOL, CIRCUIT POOL LIST

HANDOVER PERFORMED (MSC-I -> MSC-A)

\* HANDOVER DETECT (MSC-T -> MSC-A)

CLEAR REQUEST (MSC-I -> MSC-A [and MSC-T -> MSC-A](#))

SAPI "n" REJECT (MSC-I -> MSC-A)

CONFUSION (MSC-T -> MSC-A, MSC-A -> MSC-T,  
MSC-I -> MSC-A and MSC-A -> MSC-I)

# MSC INVOKE TRACE (MSC-A -> MSC-I [and MSC-A -> MSC-T](#))

# BSS INVOKE TRACE (MSC-I -> MSC-A and MSC-A -> MSC-T)

CIPHER MODE COMMAND (MSC-A -> MSC-I)

CIPHER MODE COMPLETE	(MSC-I -> MSC-A)
CIPHER MODE REJECT	(MSC-I -> MSC-A)
** QUEUING INDICATION	(MSC-T -> MSC-A, MSC-I -> MSC-A, and MSC-A -> MSC-I)
CLASSMARK UPDATE	(MSC-I -> MSC-A and MSC-A -> MSC-T)
CLASSMARK REQUEST	(MSC-A -> MSC-I)
CONNECTION ORIENTED INFORMATION	(MSC-I -> MSC-A, MSC-A->MSC-I)
LSA INFORMATION	(MSC-A -> MSC-I)
PERFORM LOCATION REQUEST	(MSC-I->MSC-A, MSC-A -> MSC-I)
PERFORM LOCATION ABORT	(MSC-I->MSC-A, MSC-A -> MSC-I)
PERFORM LOCATION RESPONSE	(MSC-I -> MSC-A, MSC-A->MSC-I)
COMMON ID	(MSC-A -> MSC-I)

All other BSSMAP messages shall be considered as non-existent on the E-interface.

NOTE: Segmentation procedures for LCS CONNECTION ORIENTED INFORMATION message in 3GPP TS 08.08 apply to the corresponding message on the E-interface.

Some of the messages above are qualified by \*, \*\* or #. This signifies whether the message, when sent on the E-interface, is considered as:

- handover related message (\*);
- handover related when sent as a response to HANDOVER REQUEST (\*\*); or
- trace related message (#).