3GPP TSG CN Plenary
Meeting #10, Bangkok, Thailand
6th – 8th December 2000

Tdoc NP-000~~677~~724

Source: **TSG CN WG 1**

Title: **CRs to R99 Work Item** GSM-UMTS interworking,

Agenda item: **7.16**

Document for: **APPROVAL**

Introduction:

This document contains 1 CR on **R99** Work Item **"** GSM-UMTS interworking,**"**, that have been agreed by **TSG CN WG1**, and are forwarded to TSG CN Plenary meeting #10 for approval.

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
23.009	015	2	N1-001412	R99	GSM to UMTS Handover: Location Reporting in	F	3.4.0

3GPP TSG-CN1 Meeting #14

Tdoc N1-001412
(Rev of N1-001383 (rev of 1176))

Cardiff, Wales - 20 - 24 November, 2000

CR-Form-v3

CHANGE REQUEST

⌘ **23.009** **CR** **015** ⌘ rev **2** ⌘ Current version: **3.4.0** ⌘

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

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

Title:	⌘	GSM to UMTS Handover: Location Reporting in 3G_MSC-B
Source:	⌘	Ericsson
Work item code:	⌘	GSM – UMTS Interworking
Date:	⌘	2000-11-25
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
- ***F*** *(essential correction)*
- ***A*** *(corresponds to a correction in an earlier release)*
- ***B*** *(Addition of feature),*
- ***C*** *(Functional modification of feature)*
- ***D*** *(Editorial modification)*

Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	3G_MSC-B or 3G_MSC-B' should always initiate the Location Reporting Control procedure towards the target RNC since the MAP-E interface doesn't support initiation of the Location Reporting Control procedure from MSC-A in case of an inter-MSC GSM to UMTS handover. If no reporting control is required from the target RNC, after an inter-MSC GSM to UMTS handover, neither legal interception nor location based services running in the anchor MSC will work, due to that the RNC does not inform of location changes.
Summary of change:	⌘	Location Reporting Control procedure is introduced in GSM to UMTS HO.
Consequences if not approved:	⌘	Neither Legal Interception nor Location based services will work properly after the GSM to UMTS HO.

Clauses affected:	⌘	6.2.2 and 8.2		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	29.010 CR008, 23.009 CR018
Other comments:	⌘			

*** First Modification ***

6.2.2 Intra-3G_MSC GSM to UMTS Handover

The procedure for a successful Intra-3G_MSC handover is shown in figure 9. It is assumed that selection of a candidate UE/MS has already taken place within the BSC based upon the criteria presented in clause 5. The exact algorithm, in the BSC, for determining a candidate UE/MS is not addressed in the present document. The procedures discussed do not make use of the Mobile Application Part (MAP), represented by signalling function 4 in figures 4 and 6. The procedure described in this subclause covers case ii).

In case of subsequent handover the following applies. If 3G_MSC-B supports Location Reporting Control, 3G_MSC-B shall always initiate the Location Reporting Control procedure towards the target RNS since no request for Location Reporting is received from MSC-A. If supported by the 3G_MSC-B, the Location Reporting Control procedure shall be initiated after the Relocation Resource Allocation procedure has been executed successfully.

In the case of ongoing voice group calls, the handover does not take place since voice group calls are not supported in UMTS.

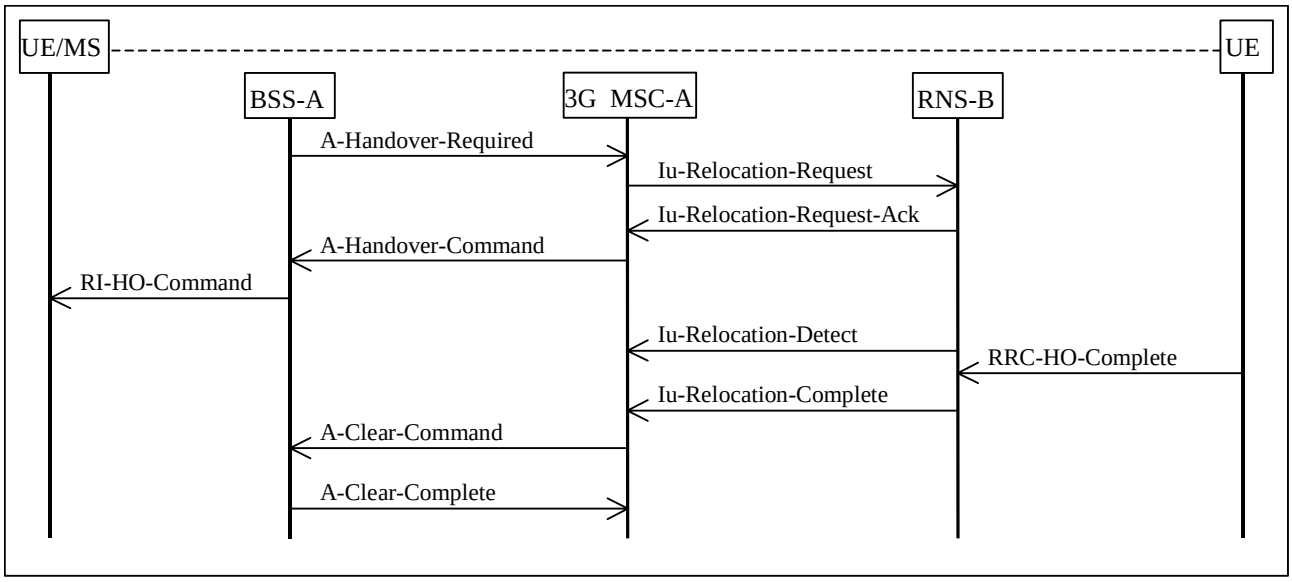

Figure 9: Basic External Intra-3G_MSC GSM to UMTS Handover Procedure

The successful operation of the procedure is as follows. When the BSS (BSS-A), currently supporting the UE, determines that the UE requires to be handed over to UMTS it will send an A-HANDOVER-REQUIRED message to the 3G_MSC (3G_MSC-A). The A-HANDOVER-REQUIRED message shall contain a single cell, to which the UE can be handed over. When the 3G_MSC-A receives the A-HANDOVER-REQUIRED message it shall begin the process of handing over the UE to a new RNS (RNS-B). The 3G_MSC-A shall generate an Iu-RELOCATION-REQUEST message to the selected RNS (RNS-B). When RNS-B receives the Iu-RELOCATION-REQUEST message it shall take the necessary action to allow the UE to access the radio resource of RNS-B, this is detailed in the TS 25.300 series and the TS 25.200 series of Technical Specifications. The switching of the radio resource through the necessary terrestrial resources is detailed in the TS 25.430 series and TS 25.413.

*** Last Modification ***

8.2 Handover GSM to UMTS

The following subclauses describe two options for the Basic and Subsequent GSM to UMTS Handover procedures. The first, as described in subclauses 8.2.1 and 8.2.3 respectively, provides for a circuit connection between (3G_)MSC-A and (3G_)MSC-B. The second, as described in subclauses 8.2.2 and 8.2.4 respectively, provides for a Basic and Subsequent Handover without the provision of a circuit connection between (3G_)MSC-A and (3G_)MSC-B. In all the above mentioned subclauses, the following principles apply:

- during the handover resource allocation, only the handover related messages that are part of the applicable BSSAP subset - as defined in GSM 09.08 [7] - shall be transferred on the E-interface;

- the trace related messages that are part of the applicable BSSAP subset - as defined in GSM 09.08 [7] - can be sent by the MSC-A on the E-interface after successful handover resource allocation. In the subclauses 8.2.1 and 8.2.2, it is however allowed at basic handover initiation on the E-Interface to transfer one trace related message that is part of the applicable BSSAP subset - as defined in GSM 09.08 [7] - together with the applicable handover related message. The applicable handover related message shall always appear as the first message;

- If 3G_MSC-B or 3G-MSC-B' supports Location Reporting Control, 3G_MSC-B or 3G_MSC-B' shall always initiate the Location Reporting Control procedure towards the target RNS since no request for Location Reporting is received from MSC-A. If 3G-MSC-B or 3G-MSC-B' supports the Location Reporting Control, t~~T~~he Location Reporting Control procedure shall be initiated after the Relocation Resource Allocation procedure has been executed successfully.

- during the handover execution, i.e. while the UE/MS is not in communication with the network, the MSC-A shall queue all outgoing BSSAP messages until the communication with the UE/MS is resumed;

- finally, during supervision, i.e. while the UE/MS is not in the area of MSC-A after a successful Inter-3G_MSC GSM to UMTS handover, the subset of BSSAP procedures and their related messages - as defined in GSM 09.08 [7] - shall apply on the E-Interface;

- during the intra-3G_MSC-B GSM to UMTS handover execution, if any, the 3G_MSC-B shall queue all outgoing Direct Transfer messages until the communication with the UE/MS is resumed.