

Source: TSG-SA WG4

Title: CR to TS 28.062 - Removal of Pre-Handover Notification for UMTS
(Release 5)

Document for: Approval

Agenda Item: 7.4.3

The following CR, agreed at the TSG-SA WG4 meeting #27, is presented to TSG SA #21 for approval.

Spec	CR	Rev	Phase	Subject	Cat	Vers	WG	Meeting	S4 doc
28.062	040		Rel-5	Removal of Pre-Handover Notification for UMTS	F	5.3.0	S4	TSG-SA WG4#27	S4-030481

CHANGE REQUEST

TS 28.062 CR 040 # rev - # Current version: **5.3.0**

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

Title:	# Removal of Pre-Handover Notification for UMTS		
Source:	# TSG SA WG4		
Work item code:	# TEI 5	Date:	# 22/09/2003
Category:	# F	Release:	# Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	# Annex D of the TFO specification specifies an optional Pre-Handover Notification procedure that can be used to aide local handovers in order to reduce impact of handover on TFO operation. If informed by the MSC Server with Pre-Handover Notification, the transcoder is responsible for a safe handover in TFO by steering the uplink and downlink rates down into the Handover Mode. In the open Mc interface of the split architecture (MGC – MGW) there is no mechanism for the Call Server, which is responsible for the handover, to inform the TRAU of the pending handover. For the case of UTRAN access, there is no need to steer the uplink and downlink rates into handover mode as the UE will accept any change within the ACS and codec mode changes during handover are unlikely.
Summary of change:	# Essential correction to remove Pre-Handover Notification option completely from 28.062 Annex D (TFO in 3G)
Consequences if not approved:	# A procedure specified in Normative TFO specification cannot be implemented.

Clauses affected:	# D 2.1, D 2.2				
Other specs affected:	<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 # <input type="checkbox"/>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	<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> O&M Specifications # <input type="checkbox"/>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Y	N				
<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Other comments:	#				

How to create CRs using this form:

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

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

D.2.1 TFO_TC

Tandem Free Operation is essentially managed by the TC. In the simplest implementation version (Optimisation Mode set to "No Change") the TC can establish and maintain TFO fully on its own (within certain limits) as described below.

For all Codec Types the TC is responsible for the inband TFO Protocol, i.e. the TFO negotiation, TFO setup and the fast fall back to normal operation, if necessary. The TC has to monitor the ongoing call permanently for fast reaction, if required.

In all cases the TC has to perform the TFO Decision algorithm (see clauses 11 and 12). This TFO decision algorithm takes all known local and distant configuration parameters into account and identifies whether TFO is possible and what are the optimal call configuration parameters (Optimal Codec Type and Codec Configuration) in the given situation. If the Optimisation Mode is set to "Change" then the TC has the responsibility to inform the MSC Server about any change in the distant call configuration, especially the distant alternative Codec List. It is then mandatory for the MSC Server to evaluate this information.

If the Optimisation Mode has been set by the MSC Server to "Change", then the TC shall provide to the MSC Server the optimal call configuration parameters resulting from the TFO Decision algorithm. It is then mandatory for the MSC Server to evaluate these parameters and to perform the necessary Codec Modification.

In case of the AMR Codec Types the TC is responsible for the TFO relevant Rate Control. It shall limit the maximally allowed Rate (Codec Mode) in a way that it is always within the Common Active Codec Set of both sides. During TFO Konnect the TC is responsible to steer the uplink rate down to the TFO Setup Mode and release it as soon as TFO is in Operation.

~~If informed by the MSC Server with Pre-Handover Notification (optional), the TC is responsible for a safe handover in TFO by steering the uplink and downlink rates down into the Handover Mode, to fit after handover.~~

D.2.2 TFO_MSC

The Call Control Layer has the overall responsibility, especially for all resources, on the Radio Access Network (RAN) and the Core Network (CN). For all Codec Types it is responsible for Call Setup, Handover and Supplementary Services. The Call Control Layer should take care that the call configuration is not modified during handover unless absolutely necessary, because in TFO (TrFO) every local change has direct influence on the distant side. The Call Control Layer is responsible that TFO is properly terminated before handover, if the call configuration after handover is not longer TFO compatible. ~~This responsibility may be delegated to the TRAU, but this can only perform optimal, if supported by Pre-Handover Notification (optional).~~

The MSC Server is responsible for the interaction between Call Control Layer and the inband TFO signalling. It shall support of the TC with the necessary configuration parameters (Codec Type, Codec Configuration, Optimisation Mode, optional the alternative Codec List, etc). The MSC Server is responsible to enable or disable TFO.

The MSC Server is responsible for the change of the Codec Type and/or Codec Configuration, e.g. for Mismatch Resolution and Optimisation for TFO, if this is required or better for Tandem Free Operation and requested by the TC. This feature is optional for the MSC Server unless the Optimisation Mode is set to "Change".