

TSG-RAN Working Group 2 (Radio layer 2 and Radio layer 3) *TSGR2#6(99)803*
Sophia Antipolis, France, August 16th to 20th 1999

Agenda Item: 4.3

Source: Nokia

Title: CR to TS25.301 on Modification of C-RNTI definition

Document for: Decision

3G CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

TS 25.301 CR 004

Current Version: **3.1.0**

3G specification number ↑

↑ CR number as allocated by 3G support team

For submission to TSG **RAN#5** for approval (only one box should
list TSG meeting no. here ↑ for information be marked with an X)

Form: 3G CR cover sheet, version 1.0 The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf

Proposed change affects: USIM ME UTRAN Core Network
(at least one should be marked with an X)

Source: TSG-RAN WG2 **Date:** 09/07/99

Subject: Modification of C-RNTI definition

3G Work item:

Category: F Correction
A Corresponds to a correction in a 2G specification
(only one category shall be marked with an X) B Addition of feature
C Functional modification of feature
D Editorial modification

Reason for change: The C-RNTI identifier is currently Controlling RNC specific. It is proposed that it would be cell specific. Accordingly, the name of the identifier is proposed to be changed from CRNC-RNTI to Cell-RNTI.

Clauses affected: 6.1

Other specs affected: Other 3G core specifications → List of CRs:
Other 2G core specifications → List of CRs:
MS test specifications → List of CRs:
BSS test specifications → List of CRs:
O&M specifications → List of CRs:

Other comments:



help.doc

<----- double-click here for help and instructions on how to create a CR.

6.1. UE identification on the radio interface within UTRAN

A Radio Network Temporary Identity (RNTI) is used as an UE identifier on RACH/FACH or RACH+CPCH/FACH by the MAC protocol, or on PCH by the RRC, when a RRC connection exists.

Definition of UE identifiers

On the radio interface, two types of RNTIs exist. One is used within the Serving RNC and it is denoted by Serving RNC RNTI (s-RNTI), the other is used within a cell controlled by a C-RNC, when applicable, and it is denoted by Cell Controlling RNC RNTI (C-RNTI).

s-RNTI is allocated for all UEs having a RRC connection. It is allocated by the Serving RNC and it is unique within the Serving RNC. s-RNTI is reallocated always when the Serving RNC for the RRC connection is changed and deallocated when the RRC connection is released.

In addition for each UE having an RRC connection, there is an identifier of its current serving RNC, which is denoted as S-RNC identifier. The S-RNC identifier together with s-RNTI is a unique identifier of the RRC connection within PLMN.

~~e-RNTI for an UE is allocated by each controlling RNC through which UE is able to communicate on DCCH and it is unique within one cell controlled by the allocating CRNC. C-RNTI can be reallocated when UE accesses a cell with a CCCH message within the allocating C-RNC. e-RNTI is always allocated when a new UE context is created to a RNC. Serving RNC is always aware of all e-RNTIs allocated for the UE.~~

Usage of UE identifiers

s-RNTI together with the S-RNC identifier is used as a UE identifier in cell update, URA update, RRC connection reestablishment and (UTRAN originated) paging messages and associated responses on the radio interface. S-RNC identifier is used by Controlling RNC to route the received uplink messages towards the Serving RNC. For the initial access two different methods of identification, a random number and a unique core network identifier are under consideration.

C-RNTI is used as a UE identifier in all other DCCH/DTCH common channel messages on the radio interface.

[Note: Initial access, when no RRC connection exists, needs further study. The following two methods could be applied: (i) The initial access message carried on RACH/FACH transport channels and CCCH logical channel includes a unique UE identity (e.g. TMSI + LAI). (ii) The initial access message includes a random number as temporary identity. The unique UE identity is then exchanged in a second phase after establishment of DCH transport channels on DCCH. In TDD mode, the first approach may imply initial access message length too large to be carried on RACH. Therefore the above second approach is preferred for TDD. In FDD mode, the first approach would be preferable. It is thus currently not decided whether the same or different initial access methods will need to be applied in FDD and TDD modes. Further contributions on this issue are invited. Also, it is ffs. whether messages with s-RNTI and RNC-ID will use the CCCH or the DCCH logical channel and whether the protocol layer providing the address field (and C-RNC routing) is MAC or RRC.]

~~A specific s-RNTI or e-RNTI (ffs.) is valid in several cells, thus decreasing the RNTI reallocation signaling for moving inactive packet data UE's.~~