TSG-RAN Working Group 3 meeting #1   *TSGW3#1(99)056*
Bonn 2nd - 5th February 1999

Agenda Item: 8.1

Source: Nokia

Title: **Definition and usage of RNTI**

Document for:

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1   Introduction

This contribution includes a definition of (Radio Network Temporary Identifier) RNTI and a RNTI usage proposal in UTRAN. It is proposed that the description in chapter 2 is included into the relevant 3GPP RAN WG3 specification. Corresponding document in ETSI SMG2 ARC group was "UMTS ZZ.01, UTRAN Architecture description" /1/. This proposal is in line with the previous draft description in /1/.

The applicability of the contribution to the adopted 3GPP documents has to be checked after the merging process between technical specifications from the partner organisations.

2   Proposal for the RNTI definition

2.1   *Radio Network Temporary Identity*

A Radio Network Temporary Identities (RNTI) are used as UE identifiers within UTRAN and in signalling messages between UE and UTRAN.

Two types of RNTI exist. One is used within the Serving RNC and it is denoted by Serving RNC RNTI (s-RNTI), the other is used within C-RNC, when applicable, and it is denoted by 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.

In addition, each RNC has a unique identifier within the PLMN, denoted by RNC identifier (RNC-ID).

c-RNTI for an UE is allocated by each controlling RNC through which UE is able to communicate on DCCH. c-RNTI is unique within the allocating C-RNC. c-RNTI is always allocated when a new UE context is created to a RNC. UE is aware of its c-RNTI only when in RACH/FACH state, while c-RNTI is used as a UE identifier within UTRAN in all UE states. Serving RNC is always aware of all c-RNTIs allocated for the UE.

2.1.1   *Usage of RNTI*

S-RNTI together with the RNC-ID is used as a UE identifier in all CCCH and (in UTRAN originated) PCCH messages on the air interface. RNC-ID is used by Controlling RNC to route the received uplink messages towards the Serving RNC.

C-RNTI is used as a UE identifier in all DCCH/DTCH common channel messages on air interface. c-RNTI is also used as a UE identifier in the connectionless RNSAP protocol messages on the Iur interface.

3   References

/1/ UMTS ZZ.01, *UTRAN Architecture Description* v. 0.1.0, from Editor (Nortel)