3GPP TSG RAN WG2 **Tdoc RAN WG2 092/99**
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Stockholm, Sweden

Source : **Nortel Networks**

Object : **Procedures in connected mode**

1 introduction

Document S2.03 proposes some modes where a RRC connection is established between the UE and the Network, and no logical DCCH is available. This is applicable to the following states:

- PCH substate
- URA connected state

This document intends to clarify which services and procedures are applicable to these 2 states, and proposes some changes to the document S2.03.

2 Description

Aside from the fact that a RRC connection has been setup when in RRC connected mode, the PCH substate or URA connected state on one hand, and the Idle mode on the other hand are very similar:

- the UE is monitoring the same physical channels (SCH, BCH and PCH)
- no uplink logical channel is available for transfer of user data

Therefore, it is proposed that some procedures presented in S2.04 for the Idle mode are also applicable to the 2 states mentioned above.

2.1 processing of notifications

As explained in document S2.01, the procedure of sending notification is controlled by the RRC layer. Notifications are used to broadcast information to UEs located in a certain geographical area. The notifications are sent on the PCH physical channel.

Since a UE in PCH substate of URA connected state is decoding PCH information as in Idle mode, it is proposed that the UE should also notifications also carried by the PCH physical channel.

2.2 monitoring of BCCH system information

The procedure for monitoring System information is usually performed in Idle mode.

3 Proposed changes to S2.03

It is proposed to update the following chapters of the S2.03.

3.1.1.1 PCH substate

The position of the UE is known by UTRAN on cell level. In this substate the UE performs the following actions:

- listens to the PCH transport channel for the decoding of paging and notifications messages sent by the network.
- listens to the BCH transport channel of the serving cell for the decoding of system information messages
- initiates a cell update procedure on cell change

The DCCH logical channel cannot be used in this substate. If the network wants to initiate any activity, it needs to make a paging request on the PCCH logical channel in the known cell to initiate any downlink activity~~. The UE initiates a cell update procedure when it selects a new cell.~~

3.1.2 URA Connected State

In URA Connected State (**Error! Unknown switch argument.**) the location of a UE is known on UTRAN Registration area level~~. The URA contains a set of cells. The mobility in this state is handled by URA updating procedures.~~

In this substate the UE performs the following actions:

- listens to the PCH transport channel for the decoding of paging and notifications messages sent by the network.
- listens to the BCH transport channel of the serving cell for the decoding of system information messages
- initiates a URA updating procedure on URA change

The DCCH logical channel cannot be used in this substate. If the network wants to initiate any activity, it needs to make a paging request on the PCCH logical channel within the URA where the location of the UE is known. If the UE needs to transmit anything to the network, it goes to the RACH/FACH substate of the Cell Connected State. In addition, the UE can also use the FAUSCH for allocating a DCH in the whole URA, if the UE has been allocated - on entering the connected mode or via explicit signalling later on - a FAUSCH channel for the cell, which the UE is currently camping on.

The transition to URA Connected State can be controlled with an inactivity timer, and optionally, with a counter which counts the number of cell updates. When the number of cell updates has exceeded certain limits (a network parameter), then the UE changes to the URA Connected State.

URA updating is initiated by the UE which, upon the detection of the Registration area, sends the network the Registration area update information on the RACH of the new cell.

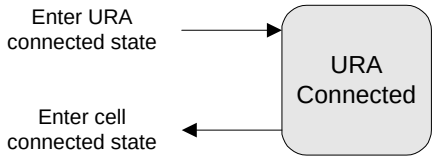

*Figure **Error! Unknown switch argument.**: URA Connected State*