Agenda Item: 10 **Iu signalling (RANAP) (25.413)**
Source: **NEC**
Title: Relocation Detect Message in RANAP
Document for: Discussion and Decision

Reference
[1] R3-99340: SRNC Relocation Detect Message for SRNC Relocation Procedure (Nokia)
[2] R3-99339: Merging of SRNC Relocation and Handover RANAP Procedures (Nokia)

1. Abstract
   In the last RAN-WG3 meeting which was held in Kawasaki, Nokia proposed to have a new
   SRNC Relocation Detect message in Iu: RANAP[1]. (However this was later incorporated into
   Relocation Detect message after discussing merge SRNC Relocation and Hard Handover [2])
   This contribution is to clarify the use of the Relocation Detect message and propose to have this
   Relocation Detect message as an OPTIONAL message.

2. Discussion
   There are several cases that the Iu Relocation procedure can be initiated in 3GPP
   standardization. (1) Initiated by RRC:Cell/URA Update, (2) Initiated by SRNC autonomously, (3)
   Hard handover (Change Frequency).
   When the communication between UE and Network is a real time service (e.g. speech/video), the
   data transferring in the RNC should be handled strictly. In the Relocation procedure, there may
   have some situations that the RNC should perform this. For instance, when Relocation
   procedure is initiated by SRNC or Hard handover (Change Frequency), the Target RNC should
   transfer the received data from UE to CN as soon as the Target RNC starts to act as a Serving
   RNC. This has been explained in [1]. Our understanding procedure is shown in figure 1.

   However, it is thought that not all the Relocation procedures are related to the real time service,
   e.g. the Relocation procedure can be initiated by the Cell update, and the Cell update can be
   related to a non-real time service e.g. best effort service.
    Moreover, having a look at the procedure related to the Cell Update (figure 2), it is also thought
   that there is no difference whether to send Relocation Detect message or Relocation Complete
   message. Rather, it may increase the amount of messages if the Relocation Detect message is
   used in this case. Therefore it is thought that there is no necessity to send the Relocation Detect
   to the CN while the Relocation Procedure is initiated by cell update. (and also URA Update)

3. Proposal
   It is proposed that the Relocation Detect message can be specified as an OPTIONAL message in
   RANAP.

   Note: The figures shown here are only for discussion in the meeting.
       These figures are based on the 25.931 and the agreement at the last meeting.
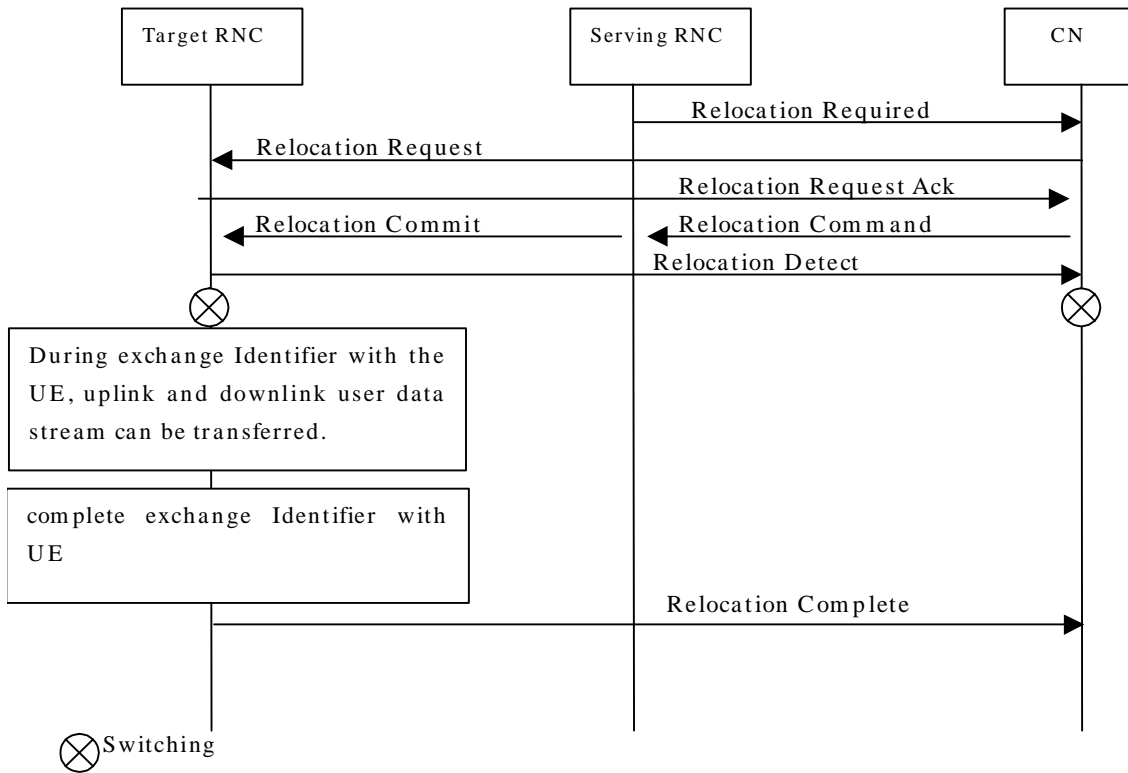
Target RNC   Serving RNC   CN

Relocation Required

Relocation Request

Relocation Request Ack

Relocation Commit   Relocation Command

Relocation Detect

⊗   ⊗

During exchange Identifier with the
UE, uplink and downlink user data
stream can be transferred.

complete exchange Identifier with
UE

Relocation Complete

⊗ Switching

Figure 1   Relocation Procedure Initiated by RNC autonomously

UE   Target RNC   Serving RNC   CN

Cell Update
or URA Update

Uplink Signalling Transfer

Relocation Required

Relocation Request

Relocation Request Ack

Relocation Commit   Relocation Command

Cell Update Confirm
or   URA   Update
Confirm

Relocation Detect

⊗   ⊗

Nothing   is
effective   for
having Relocation
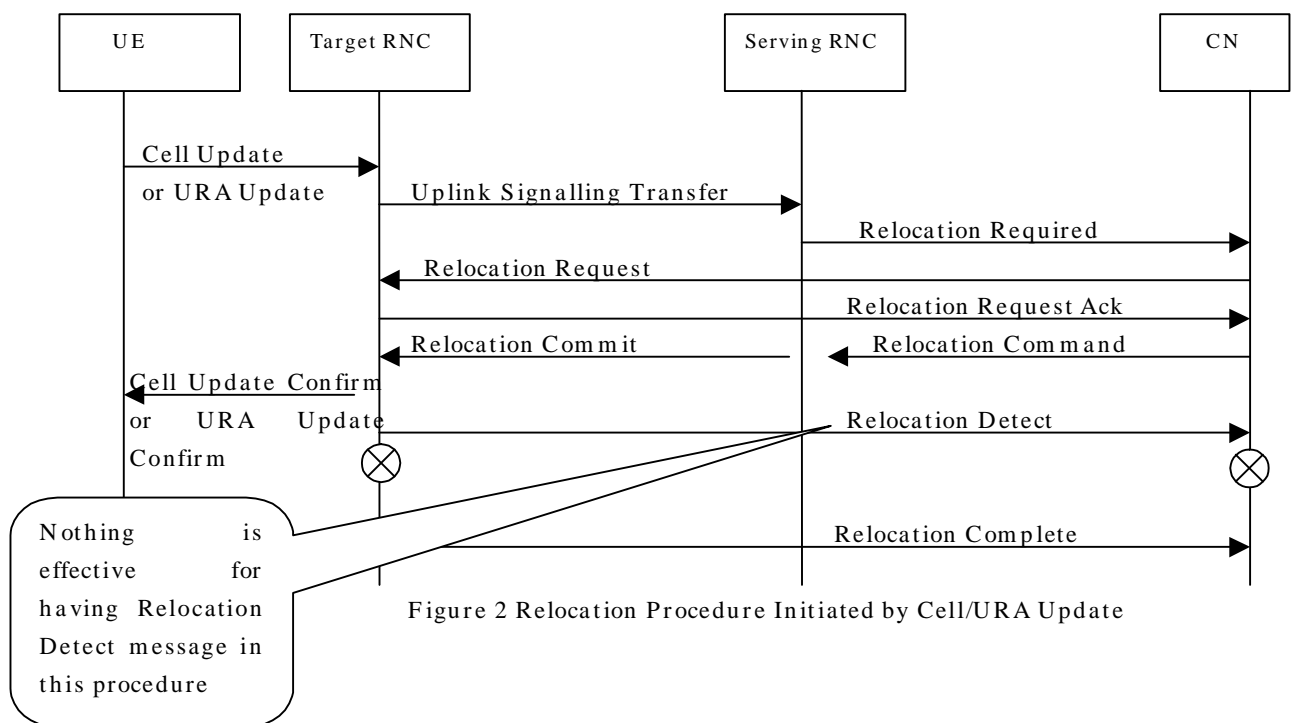Detect message in
this procedure

Relocation Complete

Figure 2 Relocation Procedure Initiated by Cell/URA Update