TSG-RAN Working Group 3 meeting #2
Nynäshamn, Sweden, 15th – 19th March 1999

TSGW3#2(99)172

Agenda Item:

Source: **Nokia**

Title: **Updated proposed new presentation for Iu RANAP procedure "Serving RNS relocation"**

Document for:

Source: Nokia

Updated proposed new structure for Iu RANAP procedure "Serving RNS relocation"

1 Introduction

It has been agreed that in RANAP Specification /1/, the procedure 'Serving RNS relocation' should be restructured to show the elementary procedures and should also be harmonized with the corresponding procedure in Signalling examples document 3GPP I3.01;~~/2/~~. This contribution proposes a new structure for the referred procedure. This is an updated version of Tdoc 99030, which was contributed to RAN WG3 meeting #1, but not discussed due to the lack of time. However, the "Serving RNS relocation" procedure was updated in the merging process. This contribution refers to the updated procedure.

2 Proposed new presentation for Section 8.1 in S3.13 3GPP S3.13; RANAP Specification~~/1/~~

The proposed modified text for section 8.1 Serving RNS relocation is as follows:

8.1 Serving RNS relocation

Serving RNS relocation is a procedure in which the serving RNS functionality of a specific RRC connection is relocated from one RNS to another without changing the radio resources or even without interrupting the user data flow.

8.1.1 Serving RNS relocation required indication

When the serving RNS makes an algorithmic decision to relocate the serving RNS functionality to an other RNS a RANAP message to indicate that a Relocation is required is sent to the Core Network which is having an active RANAP connection related to the UE in question. This RELOCATION REQUIRED message includes essentially the target ~~RNS~~RNC identifier and an UTRAN information field (transparent to the core network).

The signalling flow for serving RNS relocation required indication is shown in Fig. 2.

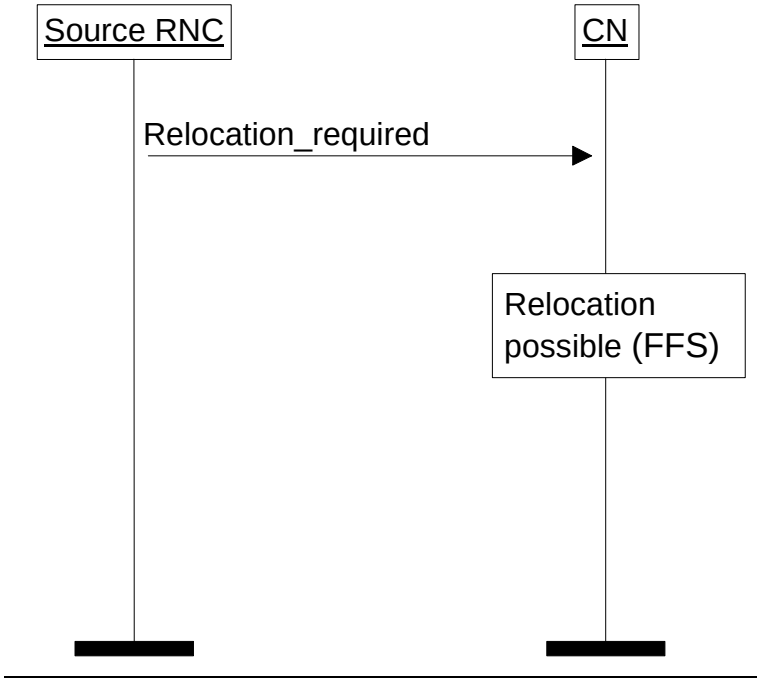


Figure 2. Serving RNS relocation required indication.

8.1.2 Serving RNS relocation resource allocation

Upon reception of the RELOCATION REQUIRED message the core network element should check whether the relocation is possible to be performed (This check is FFS). In successful case it sends a RELOCATION REQUEST message to the target ~~RNS~~RNC. The RELOCATION REQUEST contains essentially the received UTRAN information field and bearer identifier together with binding identifiers of each bearer to be established to the new Iu interface.

When the target ~~RNS~~RNC has received RELOCATION REQUEST message and all active bearers are identified, RNC should initiate the setup of necessary new Iu links. RNC~~it~~ should send a RELOCATION PROCEEDING1, message to the CN. This message contains essentially the Binding ID for each Iu leg that were already setup before the RELOCATION REQUEST was received (in the case when RNC has selected to use such Iu connection).~~to be established between UTRAN and CN~~ (FFS, study item 3).

~~Upon reception of RELOCATION PROCEEDING1 (FFS) the CN should setup Iu legs (and indicate corresponding binding ID to UTRAN). After completion of this, the CN should send a RELOCATION PROCCEDING2 message to the target RNS (FFS, study item 3).~~

Fig. 3 shows the signalling flow for SRNS relocation resource allocation.

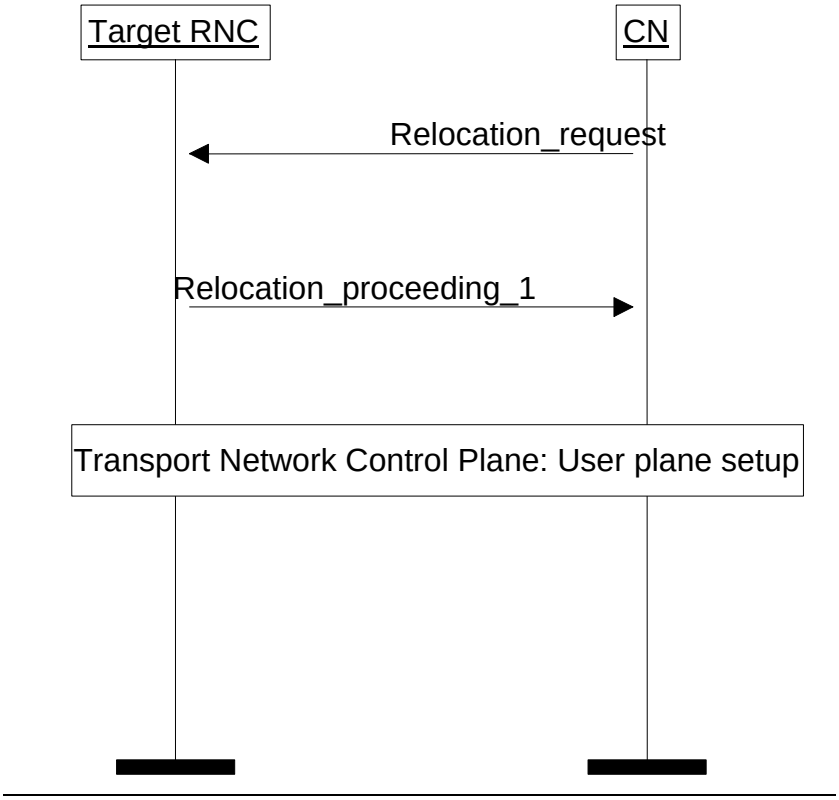


Figure 3. Resource allocation for SRNS relocation.

8.1.3 Serving RNS relocation execution

At source RNC: Upon reception of RELOCATION PROCEEDING 1 the CN shall send a RELOCATION PROCEEDING 2 message to the source RNC. The source RNC will send a RNSAP RELOCATION COMMIT message to the target RNC via the Iur interface as described in [4].

The signalling flow between the source RNC and the CN is shown in Fig. 4.

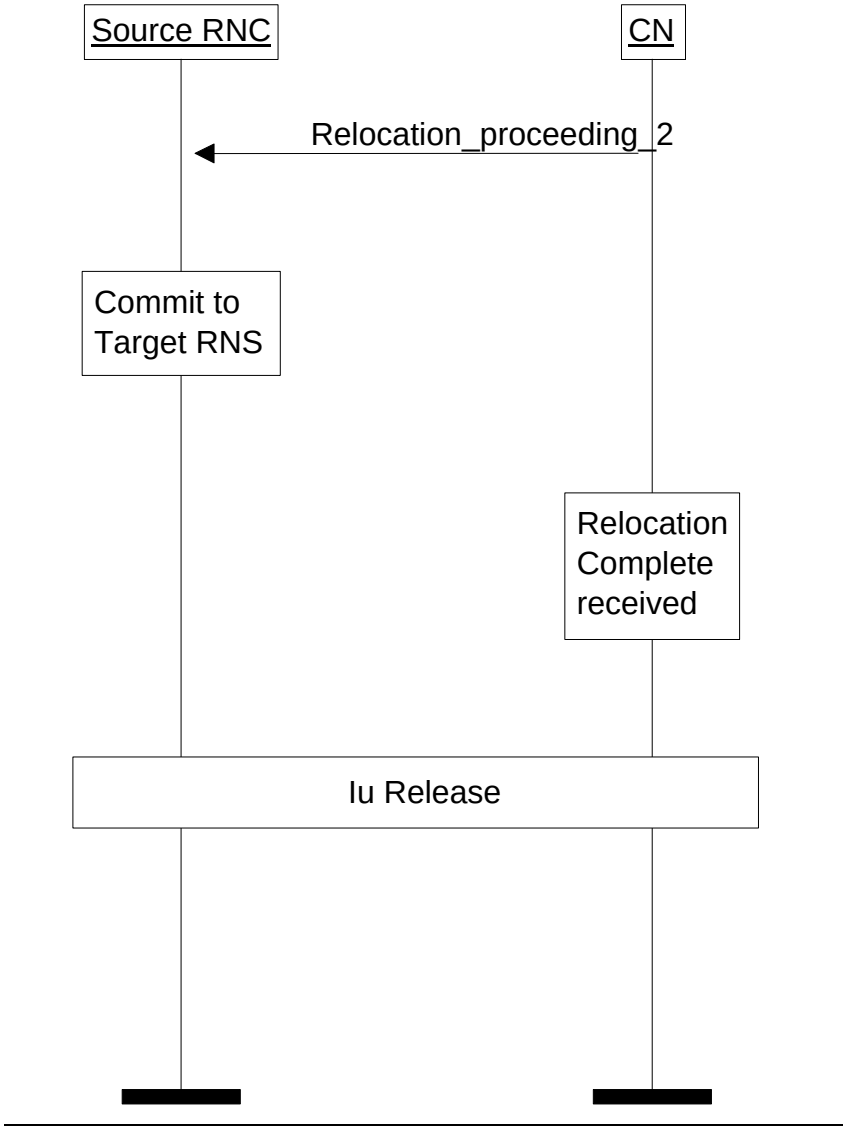


Figure 4. SRNS relocation execution between source RNC and CN.

At target RNC: Target ~~RNS~~RNC can, after having received SRNC RELOCATION COMMIT~~PROCEEDING2 (FFS)~~ message from the source RNC~~CN element~~, start to act as the serving ~~RNS~~RNC for the RRC connection in question. After completing this, the target ~~RNS~~RNC (i.e. the new Serving ~~RNS~~RNC) sends RELOCATION COMPLETE to CN elements.

The signalling flow between the target RNC and the CN is illustrated in Fig. 5.

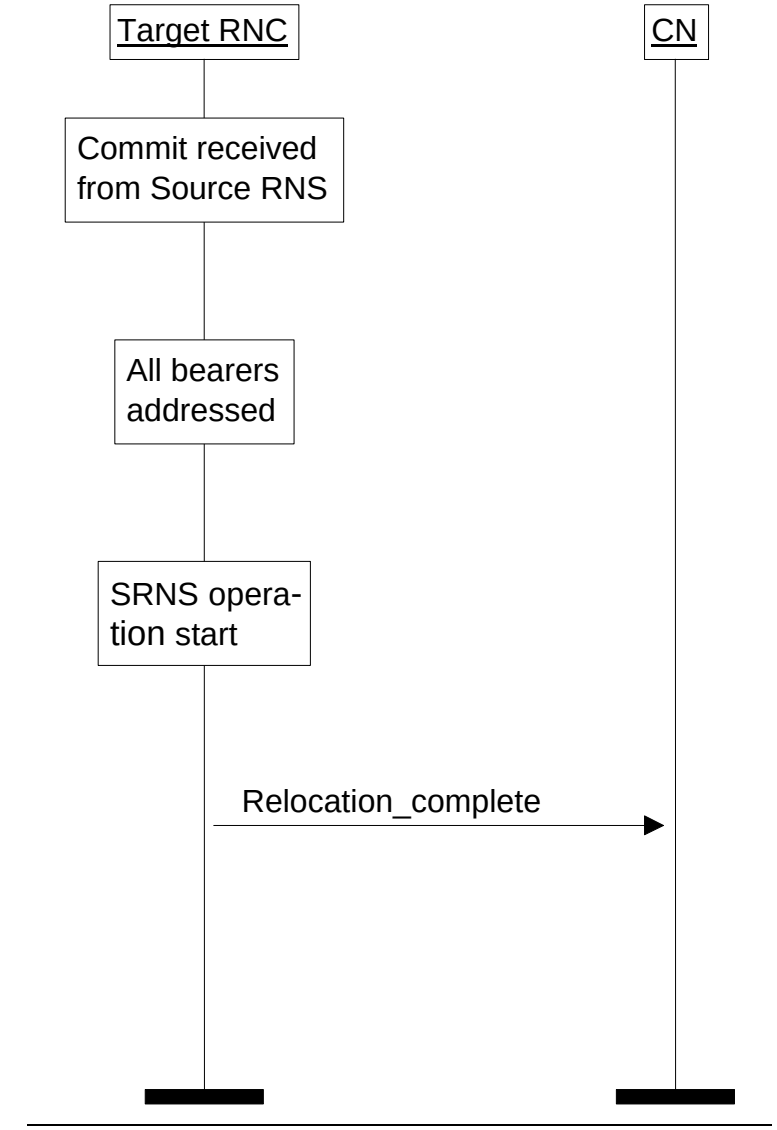
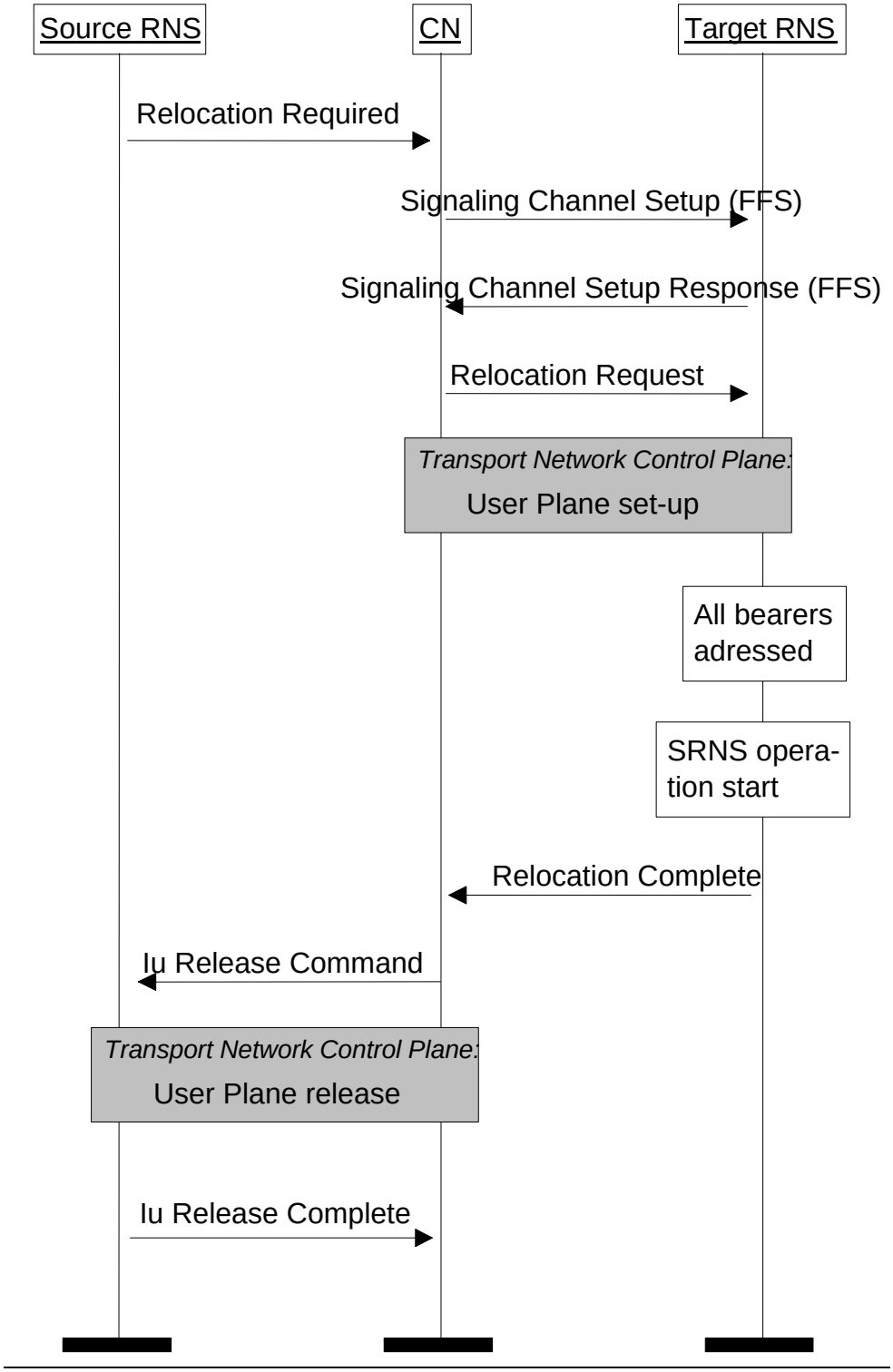


Figure 5. SRNS relocation execution between target RNC and CN.

CN elements will then release all bearers (Fig. 4) as described in section 8.4 towards the old source RNS.

~~An example of a corresponding message flow at Iu interface in a successful situation is presented in Figure 1.~~



~~Figure 1. An example RANAP protocol message flow at Iu interface related to relocation of the Serving RNS functionality. A successful case.~~

3 Proposal

It is proposed to replace the existing text in Ref 3GPP S3.13; RANAP Specification~~/1/~~, Section 8.1 with the text shown in section 2 of this contribution.

4 References

/1/ 3GPP S3.13; RANAP Specification, V 0.0.2

/2/ 3GPP I3.01; RAN Functions, Examples on Signalling Procedures, V 0.0.2