

Nynäshamn, Sweden, 15th - 19th March 1999

Agenda Item: 7.6 General Aspects and Principles of Iur interface (S3.20)

Source: Siemens, Italtel

Title: **Iur for RNSAP signalling only (C-Plane Iur)**

1 INTRODUCTION

After the presentation of [2] during the last meeting, it was discussed that if it is not possible to transfer signalling information between two RNCs, i.e. when there is no Iur, a new CN HO type (forward handover) has to be introduced. It was stated that such a new CN HO type could be avoided, if a simple Iur which is used for signalling only is provided.

The possibility of refining the Iur specifications so that a "Iur for signalling only" (C-Plane Iur) becomes possible, was discussed. It was generally understood that this type of functionality should be supported by the Iur Interface, and it seemed generally agreeable that C-plane only type of Iur should be supported [3].

The possible configurations of the Iur interface according to this contribution and [3] can be best understood by introducing three "Iur types" which are described below.

2 DISCUSSION

Iur is an optional interface within UTRAN. The main purpose of the Iur is to support diversity branches for dedicated channels in FDD. Furthermore, it may provide the additional feature to hide cell level mobility from the CN. Depending on the mode of operation or the dimensioning or planning of the network nodes or the radio resources, it may be beneficial to deploy a simple UTRAN with no Iur at all. Supporting U-plane traffic on Iur requires accurate dimensioning and makes operation and management of the network more complex.

However, within the standardisation process, several mechanisms have been defined which rely on RNSAP signalling over Iur, e.g. the Cell Update Procedure. Thus, since a full Iur shall be optional, either new CN procedures have to be defined or a "light" Iur which is used only for RNSAP signalling has to be provided. In order to keep the CN procedures simple, we propose the latter solution.

This results in different "Iur types". To have different Iur types helps to deploy a UTRAN where the Iur can be adapted to the needs of the network operator. Furthermore, manufacturers may choose to implement only some Iur types, if they see no benefit for example to support common channels on Iur.

Three different Iur types seem to be an appropriate solution:

- "Light Iur": An Iur which supports RNSAP signalling only
- "Full Iur": An Iur which supports RNSAP signalling and Iub/Iur DCH data streams (see TTC/ARIB specifications)
- "Heavy Iur": An Iur which supports RNSAP signalling, DCH data streams, and Iur RACH/FACH/DSCH/USCH data streams

3 PROPOSAL

In [1], part of the text in chapter 4.4 "Iur interface capabilities" shall be changed as indicated by revision marks below:

1. Radio application related signalling

The I_{ur} interface provides capability to support radio interface mobility between RNSs, of UEs having a connection with UTRAN. This capability includes the support of handover and radio resource handling between RNSs.

2. Iub/Iur DCH data streams (*)

For a description of the Iub/Iur DCH data stream see the Description of Iub Interface [4].

3. Iur RACH data streams (*)

The contents of the RACH data streams is FFS.

4. Iur FACH data streams (*)

The contents of the FACH data streams is FFS.

5. Iur USCH/DSCH data streams (*)

The contents of the DSCH data streams is FFS.

The FAUSCH and USCH is FFS.

*) The support of U-plane data streams (DCH, USCH/DSCH, RACH/FACH) is an option. Thus, an Iur that supports Radio Application Related Signalling only is within the scope of this specification.

In addition, the following text should be added at the end of the chapter:

Three Iur types are possible realization alternatives:

Type 1: An Iur which supports RNSAP signalling only ("Light Iur")

Type 2: An Iur which supports RNSAP signalling and Iub/Iur DCH data streams ("Full Iur")

Type 3: An Iur which supports RNSAP signalling, DCH data streams, and Iur RACH/FACH/USCH/DSCH data streams ("Heavy Iur")

4 REFERENCES

- [1] [1] TS S3.20 V.0.0.2: Iur Interface: General Aspects and Principles
- [2] [2] Tdoc TSGWG3#1(99)045: Hard Handover for UE in RACH/FACH state, Source: Siemens/Italtel
- [3] [3] TSG-RAN Working Group 3: Draft Minutes of 3GPP TSG RAN WG3 meeting #1, Source: Interim Secretary
- [4] [4] Tdoc TSGWG3#1(99)165, Drawbacks of Common Channels on Iur, Source: Siemens/Italtel