TSG-RAN Working Group 3 meeting 7
France, Sofia Antipolis, 20th-24th September

TSGW3#7(99)B62

Agenda Item: **16.4**

Source: **Ericsson**

Title: **Multiplexing Communication Control Ports**

Document for: **Decision**

---

1. INTRODUCTION

During WG3 meeting #5 in Helsinki, it was clarified that although [1] indicates that a node_B control port and a communication control port both correspond to one signalling bearer, this is currently not intended to be a 1-to-1 relation. This means that in the current solution multiple communication control ports and one Node-B control may be present on one signalling bearer over Iub.

The flows related to communication control ports and Node-B control port can be distinguished based on the <<Message Discriminator>> IE. However there is currently no means to distinguish the flows related to multiple communication control ports mapped to one signalling bearer.

This contribution discusses two alternative solutions to this problem and proposes one solution.

2. ALTERNATIVES

2.1. Insert Communication Control port on one signalling bearer

If multiple flows related to different communication control ports have to be supported on one Iub signalling bearer, a new IE should be inserted to discriminate the different flows. This could be done with a <<Communication Control Port ID>> inserted in every dedicated NBAP message.

Based on the received <<Communication Control Port ID>>, e.g. a receiver could route the message to the correct traffic termination point.

2.2. Only one Communication Control port on one signalling bearer

A possible second alternative is to restrict the number of different communication control ports on one signalling bearer to 1. Given the possibility to always define additional signalling bearers for additional communication ports, this does not seem a severe restriction.

This proposal has two additional benefits:

1) One IE less compared to alternative 1;

2) In general it is beneficial to keep the number of differences between the RNSAP and NBAP message layout as small as possible in order to avoid to much reshuffling when messages are mapped from/to Iub/Iur.

3. PROPOSAL

We recognise that there may be benefits for allowing the flows of a node-B control port and a communication control port to be transported over one signalling bearer. This will ease the support for small node-B implementations with limited signalling needs and only 1 physical link.

However we see little need for supporting the possibility to have multiple control ports mapped to one signalling bearer. Node-B's which want to use different communication control ports will be larger Node-B's which should have no problem in supporting more than 1 signalling bearer.

Therefore it is proposed not to make any additions to the NBAP message layout in [2] and add the next sentence in 6.2.2.2. in [1]:

6.2.2.2 Communication Control Port

A Communication Control Port corresponds to one signalling bearer between the RNC and Node B for the control of Node B Communication Contexts. One signalling bearer between RNC and Node B can at most correspond to one Communication Control Port. Node B may have multiple Communication Control Ports (one per Traffic Termination Point). The Communication Control Port is selected at creation of the Node B Communication Context.

4. REFERENCES

[1] TS 25.430 v0.1.5. "Iub Interface: General aspects and Principles"

[2] TS 25.433 "NBAP specification"