

Agenda Item: 15.3
Source: Nokia
Title: **Hard Handover at the Iub**
Document for: Approval

1 Introduction

Intra-Node B inter-frequency hard handover procedure is not currently defined in the NBAP specification [1]. This contribution gives two solutions for the hard handover at the Iub, both having support for the logical model of the Node B defined in [2].

2 Discussion

Traffic termination point concept has been defined in the logical model of the Node B to allow user plane and control plane processing in several physically separate units in the Node B. Because it has been agreed that traffic termination point selection is BS responsibility, the utilization of traffic termination points in the implementation is not restricted by the logical model. Even if traffic termination point concept can be used in various ways, some approaches in the user plane grouping are very natural, one of them being based on the used frequency.

During Radio Link Setup procedure BS can select the traffic termination point which seems to be the most appropriate for the requested radio link(s). However, if radio link parameters are modified dramatically, it is possible that it would be beneficial or even essential that BS is able to change allocated traffic termination point and associated signaling link. Intra-Node B inter-frequency hard handover from one frequency to another is the most obvious case in which BS should be allowed to change traffic termination point.

Two alternative solutions can be identified for the hard handover:

- 1) A new Node B communication context is created for the second frequency and traffic termination point is selected in the Radio Link Setup procedure. If this approach is used the Node B does not have any information about two Node B communication contexts belonging to the same UE. NBAP specification does not require any new parameters.
- 2) Radio links to the new frequency are added using the Radio Link Addition procedure. When the last radio link in the old frequency is released, the Node B is allowed to select new signaling link identifier which should be used in the future for that Node B communication context.

3 Proposals

Proposal is to select the second one of the described solutions, i.e. use radio link addition also for the hard handover but allow BS initiated traffic termination point change. This solution is in accordance with the assumed Iur approach and it does not load the Common NBAP signaling link unnecessarily.

The following sentence is added to 8.2.4 of [1]: "In the radio link release acknowledgement the Node B may indicate new signaling link to be used in the future for that Node B communication context".

Also "FFS" marked for the Radio Link Deletion Response message contents is replaced with

- Radio link identifier(s)
- Traffic Termination Point identifier

It has been agreed that Traffic Termination Point identifier is selected by the BS during radio link setup procedure and thus editorial proposal is to include Traffic Termination Point identifier in the Radio Link Setup Response message contents.

4 References

- [1] 25.433: NBAP specification v.1.2.1
- [2] 25.430: Iub General Aspects and Principles v.0.1.5