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

TSGW3#2(99)224

Title: **Reply to Liaison Statement from WG2 concerning transmission delay over I$_{ur}$ and I$_{ub}$**

To: **TSG RAN WG2**

Source: **TSG RAN WG3**

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1   Questions asked by WG2

In Tdoc R2-99196 [1], WG2 asks for the opinion of WG3 on the order of transmission delay over Iub and Iur for RACH, FACH, DSCH and DCH.

The LS states that the delay figures are required for comparing three cases of acknowledgement (FACH-ACK from MAC-C in CRNC or NodeB, or RLC ack,from SRNC).

2   Answers on transmission delay

The analysis of transmission delays over UTRAN terrestrial interfaces has started in TSG RAN WG3; a first draft analysis [R3-99168] has already identified some causes of delay inside UTRAN. Some other causes of delay have been mentioned such as delay induced by waiting queues in UTRAN nodes. The goal is to derive requirements on transmission delays of UTRAN components and interfaces, to be included in the standard.

However, since the study is ongoing, a reliable answer to TSG RAN WG2 question about the order of transmission delay over I$_{ub}$ and I$_{ur}$ interfaces cannot be provided at this time. The delay figures should take into account the effect caused by e.g. ATM cross-connects and switches or different access network transmission arrangements involved in the I$_{ub}$ and I$_{ur}$ interfaces, and they should be differentiated depending on the Transport channel types (RACH/FACH, DSCH, DCH) and QoS requirements applied. Initial values for these delay figures should be available by WG3#3 meeting in April.

3   Relation to Acknowledgement messages

WG2 asked for the effect on FACH-ACK or RLC ack messages.

In this respect, it is unclear to WG3 what is meant with FACH-ACK: assuming that it is the acknowledgement to a RACH frame, our Working Assumption is that it is issued by Node B and it is located either in Layer 1 or in MAC.

In case the function resides in MAC, in TS S3.01 v0.0.3 [S3.01], chapter 11.3.1, it is reported that a MAC-Ic entity has been defined in Node B with the function of acknowledging in response to RACH frames. Besides, a note to the text states that name and function of this sub-layer is under TSG-RAN WG2 scope.

If the acknowledgement to RACH frames is issued by an instance in Node B, the transmission delay on I$_{ub}$ and I$_{ur}$ should not have an effect on the response time.

Our thought is that a misalignment exists between the information on FACH-ACK in the WG2 Liaison Statement and the content of TS S3.01.

As a conclusion, while we inform WG2 that an activity in this regard is proceeding, we ask for a clarification of the questions explained in the present document.

4   References

[1]   3GPP TSG RAN WG2: #2: R2-99196 (equal to 3GPP TSG RAN WG3: #2: R3-99217): LS to WG3 concerning transmission delay over Iur and Iub
[R3-99168]   3GPP TSG RAN WG3: #2: R3-99168: UTRAN Delay Estimation
[S3.01]   3GPP TS S3.01, v0.0.3, UTRAN Architecture Description (R3-99108), March 99.