TSG-RAN Working Group 1 meeting #7
Hannover, Germany
August 30 – September 3, 1999

TSGR1#7(99)d40

Source: Ad hoc #17

Title: Draft answer to LCS liaison

To: TSG RAN WG2

Cc: TSG SA WG2

RAN WG1 would like to thank RAN WG2 for the informative liaison on measurement requirements for LCS in TSG RAN WG2 [1].

Lately several methods to support downlink measurements suitable for positioning have been proposed in RAN WG1. In [2] the IPDL method is proposed in which pseudo-random idle periods are included in the downlink signal in order to overcome the hearability problems. In [3] it is suggested that by using long enough integration times it is possible in many cases to get a position without idle periods. In [4] it is proposed to time align the idle periods in IPDL. Instead the idling is pseudo-random. Similarities and differences between the three different proposals have been identified although no conclusion has been made so far.

Moreover, UTRAN assisted GPS positioning has been presented and discussed in [5].

RAN WG1 will continue the work on evaluating the various proposals, and will inform RAN WG2 of any progress.

The measurement requirements outlined in the liaison are generally in line with the RAN WG1 understanding. RAN WG1 only has some minor comments, found below. RAN WG1 will consider the requirements outlined in the liaison in its future work.

Comments on "Outline of Location technique"

Even though the synchronisation channel is a possible alternative for the UE to measure on, the CPICH common pilot is a more suitable choice since it has continuous transmission, high power and known pilot symbols. To minimise the positioning time it is also possible to utilise power in other physical channels, e.g. the primary CCPCH.

If the UE should measure on cells other than the chosen operator's, it means that the operators have to provide each other with site details such as position, power level, direction (of sector antenna) etc. It is currently unclear if operators are willing to do this.

References

[1] TSGR2#3(99)330, LS on Measurement Requirements for LCS, TSG RAN WG2

[2] TSGR1#4(99)346, Recapitulation of the IPDL positioning method, Ericsson

[3] TSGR1#7(99)c36, Pilot signal coverage for Location Services (LCS), Nortel

[4] TSGR1#7(99)b79, Time aligned IP-DL positioning technique, Motorola

[5] TSGR1#7(99)a84, Location services technologies for WCDMA, Lucent Technologies