

Source : Nokia
Title : Draft Liaison Statement on PCPCH Propagation delay measurement
To : RAN WG2, RAN WG4
Cc : RAN WG3
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During its 12th meeting, RAN WG1 modified the Propagation delay measurement in such way that it is now defined for both PRACH and PCPCH. Earlier it was defined only for PRACH. The modification was done to align WG1 specification with WG3 specifications, since WG1 was aware that WG3 had included Propagation delay measurement for PCPCH in their previous meeting.

WG1 would like to inform RAN WG2 , WG3 and WG4 about the current definition of the Propagation delay measurement for PCPCH. The approved CR is attached to this LS.

The reason why the Propagation delay measurement is defined also for PCPCH is that the bearer at first transmitted on PCPCH can be at later phase transferred to uplink DPCH, e.g. in case the amount of data exceeds some threshold, based on e.g. traffic volume measurements. In this case it is beneficial that the information on the Propagation delay measured from PCPCH access is available at the NodeB, so that searcher procedure during DPCH set-up (uplink synchronisation) can be optimised with the help of smaller search window. Thus the NodeB measures the Propagation delay, signals this to RNC, and finally RNC signals it back to NodeB, when it setups the DPCH in uplink.

The measurement for PCPCH is now defined so that it is not restricted to only one possible measurement reference point, like it is defined for PRACH (For RACH it is the beginning of the message). For PCPCH several measurements should be possible, since the maximum length of the PCPCH message is 640 ms, so if the measurement would be possible only at the beginning of the message, this value will be old information after 640 ms, since the Propagation delay may change within that time. On the other hand , it is not known beforehand at NodeB, what is the length of the PCPCH message. Thus the measurement is defined in a flexible way, to allow several measurements during the PCPCH message, if desired.

The Propagation delay will be transmitted to RNC along with the Transport block set in the FP frame every TTI, so that is the maximum update rate for the Propagation delay measurement value. On the other hand, it is up to the Node B, whether it makes only one Propagation delay measurement, and sends the same value every TTI to RNC, or whether it makes several Propagation delay measurements and always sends the newest value every TTI to RNC. This is up to the Node B, since it depends on the Node B searcher implementation, what kind of error in the Propagation delay it will tolerate. RNC will anyway signal the same value back to NodeB for uplink DPCH setup (to the same NodeB that made the measurement).

RAN WG1 kindly asks RAN WG2 and WG4 to update their relevant specifications according to this change.