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TSG-RAN Working Group 2 (Radio layer 2 and Radio layer 3)
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Source: RAN WG2

To: RAN WG3

Title: LS to RAN WG3 on inclusion of TFI transmission without data

Document for: Decision

As a response to an earlier liaison from RAN3 (Tdoc RAN2 537/99), RAN2 would like to inform that we have adopted two models for DSCH transmission: One model where two TFCI codewords are utilised as indicated before and one model where only one TFCI-word on the physical layer is utilised. Regarding the latter model, this ability is in release -99 limited to the case where SRNC = CRNC, which was indicated by RAN3 not to be a problem for the UTRAN interfaces. To support this case, the ability to send a TFI without associated data is needed. Thus RAN2 would like to request RAN3 to include this support to the Iur and Iub interfaces.

The new proposed description for this case in 25.303 is attached.

1. ACKNOWLEDGED-MODE DATA TRANSMISSION IN DCH / DCH + DSCH WITH ONE TFCI

[Note: For release-99 this example is only valid in the case where SRNC = CRNC.]

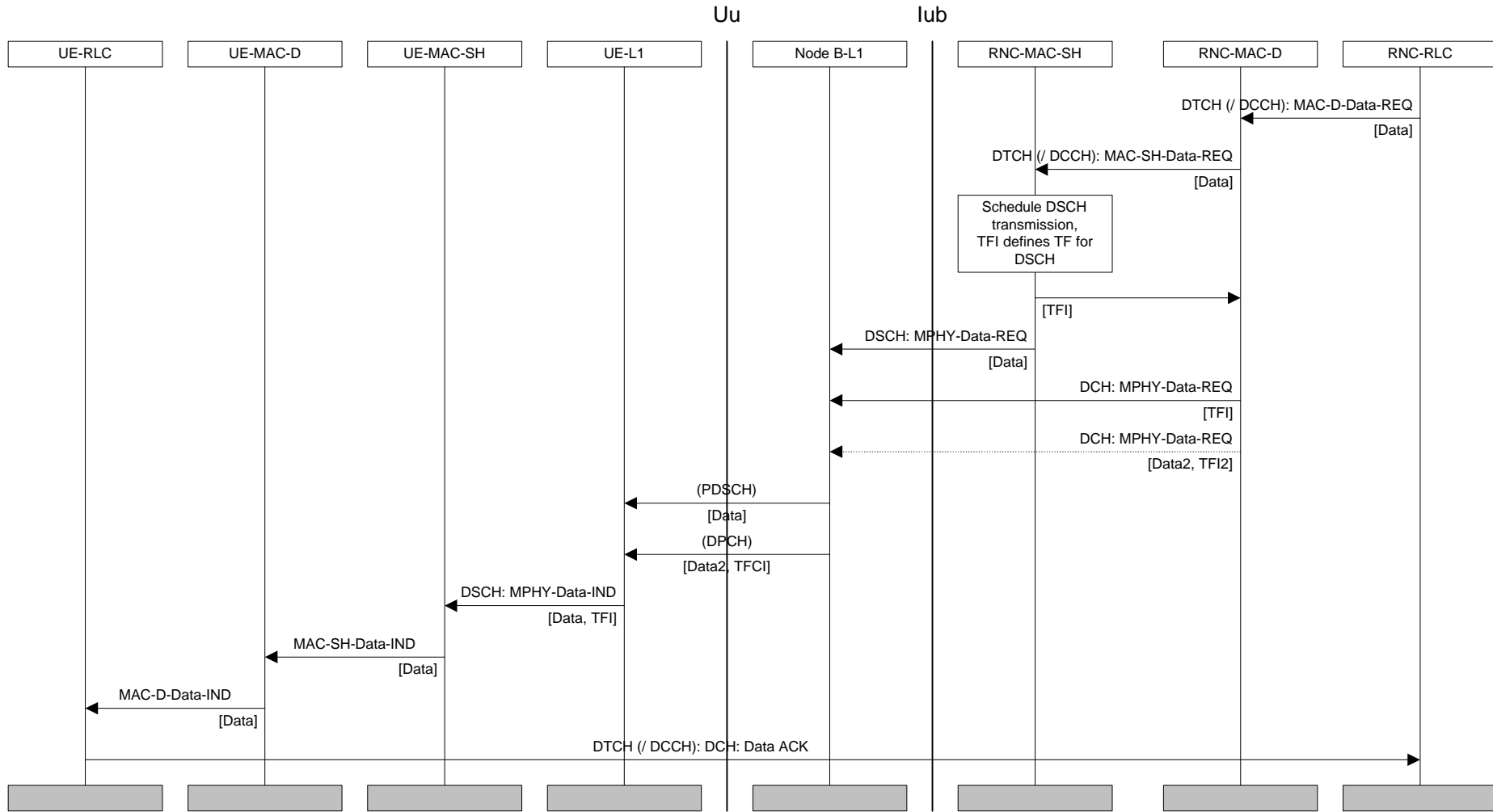


Figure 1: Example of acknowledged-mode data transmission on DSCH

Figure 1 shows an example of acknowledged-mode data transmission on DSCH in the DCH / DCH + DSCH substate. First RLC in SRNC requests data transmission from MAC-d. MAC-d passes the data on to MAC-sh, which schedules the DSCH transmission and determines the TFI for the data. The TFI and CFN (connection frame number) for transmission are given back to MAC-d.

MAC-sh selects the TFI and transmits the data for DSCH while MAC-d transmits the TFI synchronised with the transmission of any DCH data and TFI:s intended for transmission in the same frame. TFI for the DSCH and TFI2 for the DCH are combined into the same TFCI on the physical layer and transmitted on the DPCCH (dedicated physical control channel) of the associated DPCH (dedicated physical channel). The DSCH data is transmitted separately on the PDSCH (physical downlink shared channel). TFI is used to decode DSCH data, which is then forwarded through MAC-sh and MAC-d to the receiving RLC. An acknowledgement is eventually sent by the UE-RLC mapped to a DCH, unless the DCH is released before the acknowledgement.