Agenda Item: 13

Source: NTT DoCoMo

Title: **Clarification on application of POLL_PROHIBIT to poll triggers**

Document for: Decision

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1. Introduction

defined in [1], but as some of them are spoiled their original function by applying Poll_prohibit, it should not be applied to all of them. This paper shows that which poll-trigger needs to apply Poll_prohibit.

2. Discussion

Last PU in buffer/ Last PU in retransmission buffer

If these poll-triggers are prohibited by Poll_prohibit, the transmitting side can not confirm whether the last PU is received at the receiving side or not. And even if the last PU is not received, it will not be retransmitted. Therefore Poll_prohibit must not prohibit these poll-triggers.

Poll timer

Since this is a trigger for retransmitting a poll, this trigger must not be prohibited by Poll_prohibit.

Poll_Window% of transmission window

If this trigger is prohibited by Poll_prohibit, the transmitting side can not know the latest window size of the receiving side and can not renew the upper limit of the transmit window. So, if no other poll-trigger is detected before sequence number reaches to the upper limit, the transmitting side will not be able to send PUs anymore. Therefore this trigger must not be prohibited by Poll_prohibit.

Every Poll_PU PU/ Timer based

Since these triggers are for performing polling at definite interval, it is not necessary that Poll_prohibit prohibits these triggers.

Every Poll_SDU SDU

Since polling is performed every n SDUs, if small SDUs are sent continuously, polling will be performed frequently at a transmitting side and many STATUS PDUs will be sent from a receiving side. And it will cause overhead. Therefore to prevent excessive polling, Poll_prohibit should be applied to this trigger.

3. Conclusion

From the above discussion, Poll_prohibit should be applied only to *"Every Poll_SDU SDU"*. Therefore it is proposed to modify the text on Poll_prohibit as follows.

9.5. Timers

a)   Timer_Poll_Prohibit

This timer is only used when the poll prohibit function is used. It is used to prohibit transmission of polls triggered by "Every Poll_SDU SDU" within a certain period. If polling is taken place during this timer is active, it will be once stopped and set again. This timer will not be stopped by a STATUS PDU. When this timer expires no action is performed. The value of the timer is signalled by RRC.

11.6.1. Triggers of the poll procedure

- **Poll prohibit**

This is not a trigger, but rather a function that controls how often the transmitting side is allowed to poll the peer entity. This is applied to only the poll trigger "Every Poll SDU SDU". The timer Timer_Poll_Prohibit is started when a poll is transmitted to the peer entity. As long as the timer is running the transmitting side is not allowed to poll the peer entity. The value of Timer_Poll_Prohibit is signalled by RRC.

4. References

[1] TS 25.322 (v1.1.1) "RLC Protocol Specification"