TSG-RAN Working Group 2 (Radio layer 2 and Radio layer 3)　　　***TSGR2#6(99)852***
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1. Introduction

A detailed concept for the handling of Timing Advance has been presented in [1]. Some changes to the RLC specification, TS25.322, are necessary to support timing advance. This paper presents these changes and contains a text proposal for TS25.322.

2. Summary

The measured RX Timing Deviation of RACH bursts has to be reported to RRC for CCCH data, e.g. for RRC Connection Requests. Because only the RRC can associate the CCCH data with a specific user, the data and the RX deviation measurement have to be passed to the RRC together through MAC and RLC.
In this text proposal, the parameter RX Timing Deviation is added as an optional parameter to the RLC-TR-DATA-Ind.

3. Text Proposal

8 Elements for layer-to-layer communication

8.1 Primitives between RLC and higher layers

The primitives between RLC and upper layers are shown in Table 8-1.

Table 8-1 : Primitives between RLC and upper layers

Generic Name	Parameter			
	Req.	Ind.	Resp.	Conf.
RLC-AM-DATA	Data, CFN, MUI	Data	Not Defined	MUI
RLC-UM-DATA	Data,	Data	Not Defined	Not Defined
RLC-TR-DATA	Data	Data, TD	Not Defined	Not Defined
CRLC-CONFIG	E/R			
CRLC-STATUS	Not Defined	EVC	Not Defined	Not Defined

Each Primitive is defined as follows:
   a)   RLC-AM-DATA-Req./Ind/Conf.
It is used for acknowledged data transmission mode of point-to-point connection between the same level user entities.

   b)   RLC-UM-DATA-Req./Ind.
It is used for unacknowledged data transmission mode of point-to-point connection between the same level user entities.

   c)   RLC-TR-DATA-Req./Ind
It is used for trasparent data transmission mode of point-to-point connection between the same level user entities.

   d)   CRLC-CONFIG-Req
It is used for establishment and release of point-to-point connection between the same level user entities.

   e)   CRLC-STATUS-Ind
It is used by the RLC to send status information to the upper layers.
The parameter Data is mapped onto the Data field in a RLC PDU transparently in case of RLC-AM-DATA-Req. or RLC-UM-DATA-Req. Conversely the Data field of an RLC PDU received is mapped onto Data in case of RLC-AM-DATA-Ind. or RLC-UM-DATA_nd. transparently. The length of Data must be n octets (n is integer).

The parameter Confirmation request (CNF) indicates whether RLC-AM-DATA conf. should be necessary or not.
The parameter Message Unit Identifier (MUI) makes a relationship between message unit and confirm primitive.
The parameter RX Timing Deviation (TD) contains the RX Timing Deviation measurement of the physical layer for the resources carrying the Data. It is an optional parameter for RLC-TR-DATA-Ind.
The parameter E/R indicates whether establishment or release of RLC connection should be performed.
The parameter Event Code (EVC) indicates reason for the message (i.e unrecoverable errors such as data link layer loss or recoverable status events such as reset, etc.)