TSG-RAN Working Group 2 (Radio layer 2 and Radio layer 3)   ***TSGR2#4(99)383***
Berlin 25th to 28th May 1999

Agenda Item: 9.1

Source: NTT DoCoMo

Title: **RLC Control Primitives**

Document for: Decision

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1. Abstract
Currently several primitives for control of RLC (e.g. establish and release) are included in [1] and they are kept as FFS. In this paper, functionality of each primitive is shown and it is proposed to merge these control primitives.

2. Discussion
Currently four control primitives are included in [1]. They are as follows;
- CRLC-CONFIGURE (proposed by ETSI)
- CRLC-RELEASE (proposed by ARIB/TTC)
- RLC-ESTABLISH (proposed by ARIB/TTC)
- RLC-RELEASE (proposed by ARIB/TTC)

In case of ETSI proposal, "CRLC-CONFIGURE" is used for establishment and release of RLC connection and the establishment and release are distinguished by the parameter (but it has not been defined clearly). In case of ARIB/TTC proposal, "CRLC-RELESE" and "RLC-RELEASE" are used for release of RLC connection and "RLC-ESTABLISH" is used for establishment of RLC connection that is primitives are defined for every operation. Therefore the difference between ETSI proposal and ARIB/TTC proposal is only the means of requesting the operation (establish or release). So, we propose to merge "CRLC-RELESE", "RLC-RELESE", and "RLC-ESTABLISH" with "CRLC-CONFIGURE" and to add "E/R" parameter for "CRLC-CONFIGURE" in order to distinguish between establishment and release.

3. Conclusion
From the above discussion, it is proposed to modify the text in [1] as follows. At the same time, as the current text on MU is not appropriate, we also propose to modify it as follows.

8.1. Primitives between RLC and higher layers
The primitives between RLC and upper layers are shown in Table 8.1-1.

Table 3-1 : Primitives between RLC and upper layers

Generic Name	Parameter			
	Req.	ind.	Resp.	conf.
RLC-AM-DATA	MU	MU	Not Defined	Not Defined
RLC-UM-DATA	MU, QR (ffs)	MU	Not Defined	Not Defined
RLC-TR-DATA	MU	MU	Not Defined	Not Defined
CRLC-CONFIGURE	E/R			
CRLC RELEASE			Not Defined	Not Defined
RLC ESTABLISH				
RLC RELEASE				

Each Primitive is defined as follows:

a) RLC-AM-DATA req./ind.

It is used for acknowledged data transmission mode of point-to-point connection between the same level user entities.

[Editor's note: Confirmation for the RLC-AM-DATA procedure is FFS.]

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 transparent data transmission mode of point-to-point connection between the same level user entities.

d) CRLC-CONFIGURE

[FFS]It is used for establishment and release of point-to-point connection between the same level user entities.

e) CRLC RELEASE

[FFS]

f) RLC ESTABLISH

[FFS]

g) RLC RELEASE

[FFS]

The parameter Message Unit (MU) is transfers signaling messages or user data transparently. At the transmitting RLC entity, MU of RLC-AM-DATA req. or RLC-UM-DATA req. is segmented and each segment of MU is mapped on MU DATA field on RLC PDU. transparently in the case of RLC AM DATA req. or RLC UM DATA req. And at the receiving RLC entity, the MU DATA field of the RLC PDU received is reassembled and then the complete data is mapped on MU in the case of RLC-AM-DATA ind. or RLC-UM-DATA ind. transparently. Length of MU must be n octets (n is integer).

The Quick Repeat indicator (QR) indicates whether UMD PDU will be transmitted with Quick Repeat or not. It holds one of two values: "Yes" or "No". *(The need of this indicator is FFS)*

The parameter E/R indicates whether establishment or release of RLC connection should be performed.

4. Reference

[1] TS 25.322 V1.0.0 RLC protocol Specification