

CLAIMS

1. A method for data transmission, comprising:
 - generating a target Radio Link Control (RLC) Protocol Data Unit (PDU);
 - wherein a data domain of the target RLC PDU comprises only a complete RLC Service Data Unit (SDU) or comprises only a segment of a complete RLC SDU;
 - when the data domain of the target RLC PDU comprises only the complete RLC SDU, the target RLC PDU comprises no Sequence Number (SN);
 - when the data domain of the target RLC PDU comprises only the segment of the complete RLC SDU, the target RLC PDU comprises an SN, and a value of the SN in the target RLC PDU is as same as a value of an SN in an RLC PDU comprising another segment of the complete RLC SDU; and
 - sending the target RLC PDU to a Media Access Control (MAC)-layer entity.
2. The method of claim 1, wherein a length of the SN in the target RLC PDU is independent of a transmission requirement for data carried in the segment of the complete RLC SDU.
3. The method of claim 1 or 2, further comprising:
 - determining a length of the SN in the target RLC PDU.
4. The method of claim 3, wherein determining the length of the SN in the target RLC PDU comprises:
 - receiving high-layer signaling, wherein the high-layer signaling comprises indication information used for indicating the length of the SN; and
 - determining the length of the SN in the target RLC PDU according to the indication information.
5. The method of claim 3, wherein determining the length of the SN in the target RLC PDU comprises:
 - determining the length of the SN in the target RLC PDU according to a number of RLC SDUs to be segmented among RLC SDUs to be transmitted, wherein a

maximum numerical value corresponding to the length of the SN in the target RLC PDU is greater than or equal to the number of the RLC SDUs to be segmented, and the RLC SDUs to be transmitted comprise the complete RLC SDU.

6. The method of any one of claims 1-5, wherein a header of the target RLC PDU comprises only a fixed portion, and a length of the fixed portion is an integral multiple of 8 bits.

7. A method for data transmission, comprising:

receiving a target Radio Link Control (RLC) Protocol Data Unit (PDU); and

responsive to determining that a data domain of the target RLC PDU comprises only a complete RLC Service Data Unit (SDU), re-assembling the RLC PDU, wherein the target RLC PDU comprises no Sequence Number (SN);

responsive to determining that the data domain of the target RLC PDU comprises only a segment of a complete RLC SDU, assembling the complete RLC SDU according to a value of an SN in the target RLC PDU, wherein the value of the SN in the target RLC PDU is as same as a value of an SN in an RLC PDU comprising another segment of the complete RLC SDU.

8. The method of claim 7, wherein a length of the SN in the target RLC PDU is independent of a transmission requirement for data carried in the segment of the target RLC PDU.

9. The method of claim 7 or 8, wherein a header of the target RLC PDU comprises only a fixed portion, and a length of the fixed portion is an integral multiple of 8 bits.

10. A device, comprising:

a processing module, configured to generate a target Radio Link Control (RLC) Protocol Data Unit (PDU);

wherein a data domain of the target RLC PDU comprises only a complete RLC Service Data Unit (SDU) or comprises only a segment of a complete RLC SDU; and

when the data domain of the target RLC PDU comprises only the complete RLC SDU, the target RLC PDU comprises no Sequence Number (SN);

when the data domain of the target RLC PDU comprises only the segment of the complete RLC SDU, the target RLC PDU comprises an SN, and a value of the SN in the target RLC PDU is as same as a value of an SN in an RLC PDU comprising another segment of the complete RLC SDU; and

a transceiver module, configured to send the target RLC PDU to a Media Access Control (MAC)-layer entity.

11. The device of claim 10, wherein a length of the SN in the target RLC PDU is independent of a transmission requirement for data carried in the segment of the complete RLC SDU.

12. The device of claim 10 or 11, wherein the processing module is further configured to:

determine a length of the SN in the target RLC PDU.

13. The device of claim 12, wherein the transceiver module is further configured to:

receive high-layer signaling, wherein the high-layer signaling comprises indication information used for indicating the length of the SN; and

the processing module is configured to determine the length of the SN in the target RLC PDU according to the indication information.

14. The device of claim 12, wherein the processing module is configured to:

determine the length of the SN in the target RLC PDU according to a number of RLC SDUs to be segmented among RLC SDUs to be transmitted, wherein a maximum numerical value corresponding to the length of the SN in the target RLC PDU is greater than or equal to the number of the RLC SDUs to be segmented, and the RLC SDUs to be transmitted comprise the complete RLC SDU.

15. The device of any one of claims 10-14, wherein a header of the target RLC PDU comprises only a fixed portion, and a length of the fixed portion is an integral multiple of 8 bits.

16. A device, comprising:

a transceiver module, configured to receive a target Radio Link Control (RLC) Protocol Data Unit (PDU); and

a processing module, configured to:

responsive to determining that a data domain of the target RLC PDU comprises only a complete RLC Service Data Unit (SDU), re-assemble the RLC PDU, wherein the target RLC PDU comprises no Sequence Number (SN);

responsive to determining that the data domain of the target RLC PDU comprises only a segment of a complete RLC SDU, assemble the complete RLC SDU according to a value of an SN in the target RLC PDU, wherein the value of the SN in the target RLC PDU is as same as a value of an SN in an RLC PDU comprising another segment of the complete RLC SDU.

17. The device of claim 16, wherein a length of the SN in the target RLC PDU is independent of a transmission requirement for data carried in the segment of the target RLC PDU.

18. The device of claim 16 or 17, wherein a header of the target RLC PDU comprises only a fixed portion, and a length of the fixed portion is an integral multiple of 8 bits.