

CLAIMS

1. A method for radio link control, RLC, transmission, comprising:
 - receiving a first RLC protocol data unit, PDU, set from a sending-side RLC entity, wherein the first RLC PDU set is generated by the sending-side RLC entity according to a raw data segment;
 - responsive to detecting that multiple RLC PDUs in the first RLC PDU set are not successfully received, sending a status report containing an indication domain for sequence numbers, SNs, of the multiple RLC PDUs;
 - receiving a second RLC PDU set from the sending-side RLC entity; and
 - acquiring the raw data segment according to the first RLC PDU set and the second RLC PDU set;
 - wherein the multiple RLC PDUs comprise at least one discontinuous RLC PDU; the indication domain for the SNs of the multiple RLC PDUs is a bitmap domain; the status report further comprises one control PDU type, CPT, domain and one NACK_SN domain; and
 - the CPT domain is used to indicate that the status report comprises the bitmap domains, the NACK_SN domain is used to indicate a maximum or minimum SN in the multiple RLC PDUs, the bitmap domains comprise M bits, the M bits correspond to M continuous RLC PDUs, the M RLC PDUs and the RLC PDU indicated by the NACK_SN domain at least comprise the multiple RLC PDUs, each bit is used to indicate whether a corresponding RLC PDU is successfully received, and the RLC PDU indicated by the NACK_SN domain is adjacent to the M RLC PDUs, M is a positive integer.
2. The method of claim 1, wherein the status report further comprises a data/control, D/C, domain, an extended 1, E1, domain, an E2 domain and an E3 domain, the E1 domain is used to indicate whether there is any NACK_SN domain, ACK_SN_RANGE domain, E1 domain, E2 domain and E3 domain following the E1 domain , the E2 domain is used to indicate whether there is any NACK_SN_RANGE domain following the E2 domain , and the E3 domain is used to indicate whether there is any SOstart domain and SOend domain following the E3 domain .

3. The method of claim 2, wherein the status report further comprises an ACK_SN domain, an SStart domain, and an SEnd domain.

4. A method for radio link control, RLC, transmission, comprising:

sending a first RLC protocol data unit, PDU, set to a receiving-side RLC entity, wherein the first RLC PDU set is generated according to a raw data segment;

receiving a status report containing an indication domain for sequence numbers, SNs, of multiple RLC PDUs from the receiving-side RLC entity, wherein the status report is sent by the receiving-side RLC entity responsive to detecting that the multiple RLC PDUs in the first RLC PDU set are not successfully received; and

sending a second RLC PDU set to the receiving-side RLC entity, wherein the first RLC PDU set and the second RLC PDU set are used to acquire the raw data segment;

wherein the multiple RLC PDUs comprise at least one discontinuous RLC PDU; the indication domain for the SNs of the multiple RLC PDUs is a bitmap domain; the status report further comprises one control PDU type, CPT, domain and one NACK_SN domain; and

the CPT domain is used to indicate that the status report comprises the bitmap domains, the NACK_SN domain is used to indicate a maximum or minimum SN in the multiple RLC PDUs, the bitmap domains comprise M bits, the M bits correspond to M continuous RLC PDUs, the M RLC PDUs and the RLC PDU indicated by the NACK_SN domain at least comprise the multiple RLC PDUs, each bit is used to indicate whether a corresponding RLC PDU is successfully received, and the RLC PDU indicated by the NACK_SN domain is adjacent to the M RLC PDUs, M is a positive integer.

5. The method of claim 4, wherein the status report further comprises a data/control, D/C, domain, an extended 1, E1, domain, an E2 domain and an E3 domain, the E1 domain is used to indicate whether there is any NACK_SN domain, ACK_SN_RANGE domain, E1 domain, E2 domain and E3 domain following the E1 domain, the E2 domain is used to indicate whether there is any NACK_SN_RANGE domain following the E2 domain, and the E3 domain is used to indicate whether there is any SStart domain and SEnd domain following the E3 domain.

6. A receiving-side radio link control, RLC, entity, comprising a processing unit and a communication unit, wherein

the processing unit is configured to:

receive, through the communication unit, a first RLC protocol data unit, PDU, set from a sending-side RLC entity, wherein the first RLC PDU set is generated by the sending-side RLC entity according to a raw data segment,

responsive to detecting that multiple RLC PDUs in the first RLC PDU set are not successfully received, send, through the communication unit, a status report containing an indication domain for sequence numbers, SNs, of the multiple RLC PDUs,

receive, through the communication unit, a second RLC PDU set from the sending-side RLC entity, and

acquire the raw data segment according to the first RLC PDU set and the second RLC PDU set;

wherein the multiple RLC PDUs comprise at least one discontinuous RLC PDU; the indication domain for the SNs of the multiple RLC PDUs is a bitmap domain; the status report further comprises one control PDU type, CPT, domain and one NACK_SN domain; and

the CPT domain is used to indicate that the status report comprises the bitmap domains, the NACK_SN domain is used to indicate a maximum or minimum SN in the multiple RLC PDUs, the bitmap domains comprise M bits, the M bits correspond to M continuous RLC PDUs, the M RLC PDUs and the RLC PDU indicated by the NACK_SN domain at least comprise the multiple RLC PDUs, each bit is used to indicate whether a corresponding RLC PDU is successfully received, and the RLC PDU indicated by the NACK_SN domain is adjacent to the M RLC PDUs, M is a positive integer.

7. The receiving-side RLC entity of claim 6, wherein the status report further comprises a data/control, D/C, domain, an extended 1, E1, domain, an E2 domain and an E3 domain, the E1 domain is used to indicate whether there is any NACK_SN domain, Acknowledgement, ACK,_SN_RANGE domain, E1 domain, E2 domain and E3 domain following the E1 domain, the E2 domain is used to indicate whether there is any NACK_SN_RANGE domain following the E2 domain, and the E3 domain is used

to indicate whether there is any SOstart domain and SOend domain following the E3 domain.

8. The receiving-side RLC entity of claim 7, wherein the status report further comprises an ACK_SN domain, an SOstart domain, and an SOend domain.

9. A sending-side radio link control, RLC, entity, comprising a processing unit and a communication unit, wherein

the processing unit is configured to:

send, through the communication unit, a first RLC protocol data unit, PDU, set to a receiving-side RLC entity, wherein the first RLC PDU set is generated according to a raw data segment,

receive, through the communication unit, a status report containing an indication domain for sequence numbers, SNs, of multiple RLC PDUs from the receiving-side RLC entity, wherein the status report is sent by the receiving-side RLC entity responsive to detecting that the multiple RLC PDUs in the first RLC PDU set are not successfully received, and

send, through the communication unit, a second RLC PDU set to the receiving-side RLC entity, wherein the first RLC PDU set and the second RLC PDU set are used to acquire the raw data segment;

wherein the multiple RLC PDUs comprise at least one discontinuous RLC PDU; the indication domain for the SNs of the multiple RLC PDUs is to a bitmap domain; the status report further comprises one control PDU type, CPT, domain and one NACK_SN domain; and

the CPT domain is used to indicate that the status report comprises the bitmap domain, the NACK_SN domain is used to indicate a maximum or minimum SN in the multiple RLC PDUs, the bitmap domain comprises M bits, the M bits correspond to M continuous RLC PDUs one to one, the M RLC PDUs and the RLC PDU indicated by the NACK_SN domain at least comprise the multiple RLC PDUs, each bit is used to indicate whether a corresponding RLC PDU is successfully received, and the RLC PDU indicated by the NACK_SN domain is adjacent to the M RLC PDUs, where M is a positive integer.

10. The sending-side RLC entity of claim 9, wherein the status report further comprises a data/control, D/C, domain, an extended 1, E1, domain, an E2 domain and an E3 domain, the E1 domain is used to indicate whether there is any NACK_SN domain, ACK_SN_RANGE domain, E1 domain, E2 domain and E3 domain following the E1 domain, the E2 domain is used to indicate whether there is any NACK_SN_RANGE domain following the E2 domain, and the E3 domain is used to indicate whether there is any SOstart domain and SOend domain following the E3 domain.

11. The sending-side RLC entity of claim 10, wherein the status report further comprises an ACK_SN domain, an SOstart domain and an SOend domain.