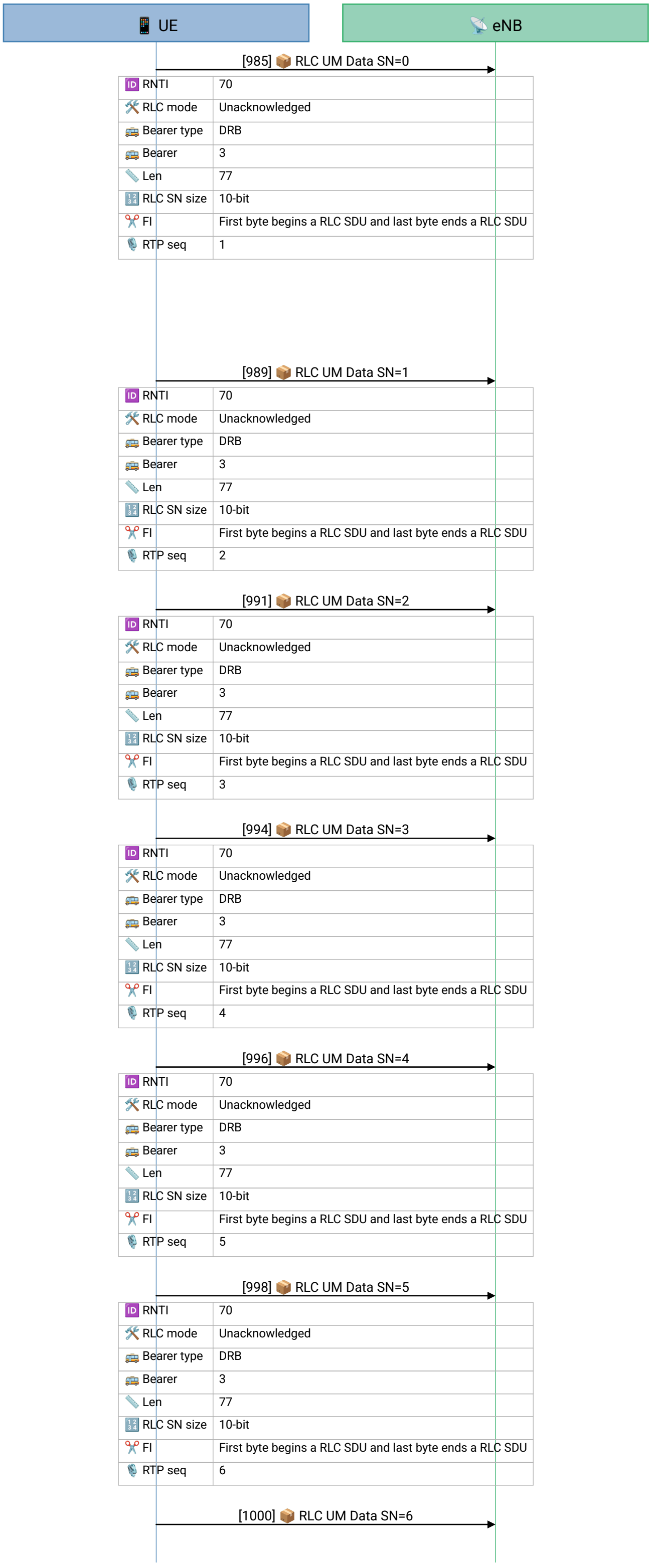
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[Frame 985] The voice bearer's first PDU. DRB 3 was added in frame 846 (EPS bearer 7, QCI 1, LCID 5), with an RLC configuration much shorter than DRB 2's:

- `rlc-Config: um-Bi-Directional`, `sn-FieldLength` size10 in both directions
- UE receiver: `t-Reordering` 50 ms
- PDCP: 12-bit SN, `discardTimer` 100 ms, no header compression

No poll timer, no poll counters, no status timer: UM has no use for them. This is uplink `SN=0`, 77 bytes: a 2-byte UM header, a 2-byte PDCP header, and a 73-byte IP packet holding RTP sequence 1 from UE 70 (192.168.101.2) to the media relay (172.22.0.16). The UM header with a 10-bit SN has three reserved bits, two `FI` bits, one E bit and the SN. There is no D/C bit (UM has no control PDUs) and no poll bit. The RTP marker bit is set: the start of a talk spurt. AMR-WB frame type 2 (12.65 kbit/s).

[Frame 989] Uplink `SN=1`, RTP 2, 20 ms later: one 20 ms speech frame per packet, as the SDP's `ptime:20` promised. Nothing comes back for SN 0. Nothing ever will: UM never acknowledges.

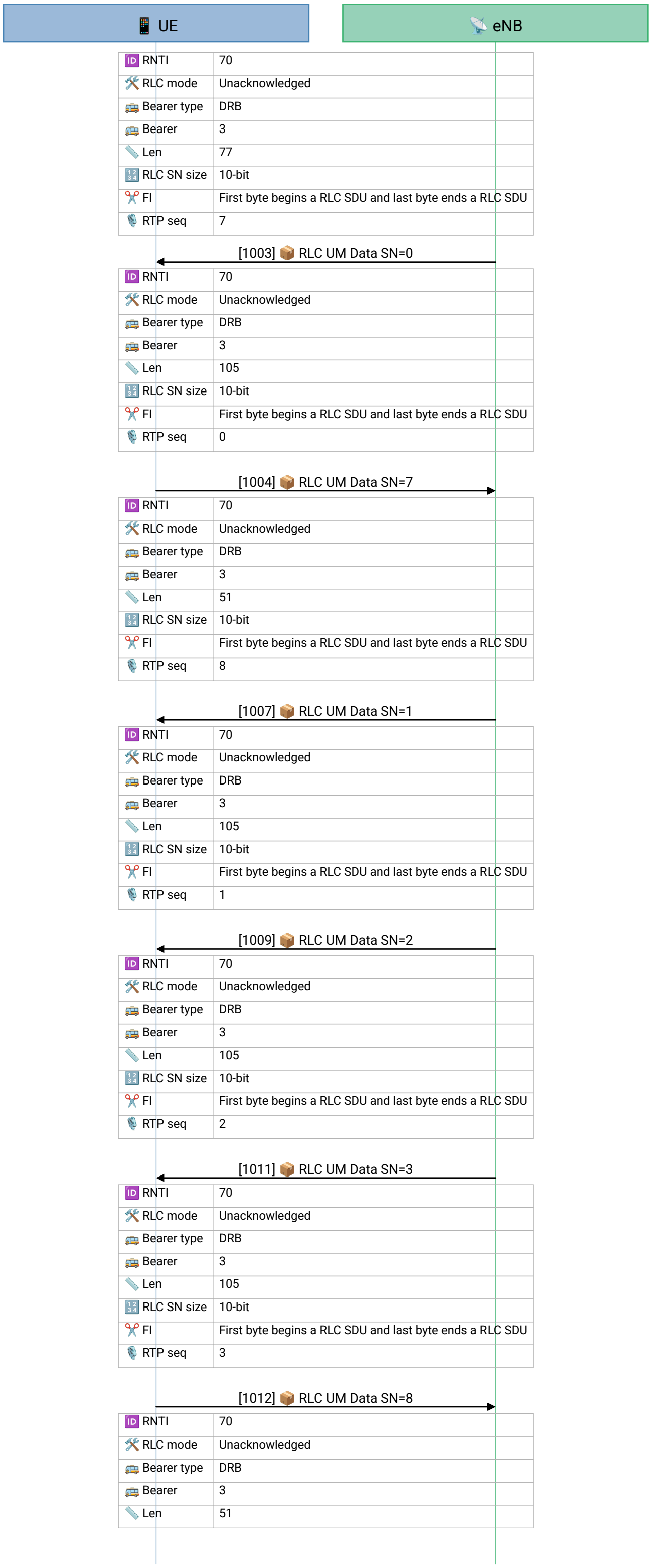
[Frame 991] Uplink `SN=2`, RTP 3. The same transport block also carries a Status PDU for DRB 2, the AM bearer. Two RLC entities share one MAC PDU and keep completely separate rules.

[Frame 994] Uplink `SN=3`, RTP 4. Every speech PDU is 77 bytes, with `FI` = 00: one whole SDU, never split. A 73-byte packet fits easily in a voice grant, so this bearer never needs segmentation.

[Frame 996] Uplink `SN=4`, RTP 5.

[Frame 998] Uplink `SN=5`, RTP 6.

[Frame 1000] Uplink `SN=6`, RTP 7: the seventh and last speech packet of this talk spurt.



[Frame 1003] The downlink entity starts its own count. Downlink `SN=0`, 105 bytes: RTP sequence 0 from the relay, UE 71's voice. This SN 0 is unrelated to the uplink's SN 0. UE 71 encodes at AMR-WB frame type 8 (23.85 kbit/s), so its speech packets are bigger: 81 bytes of UDP against UE 70's 53.

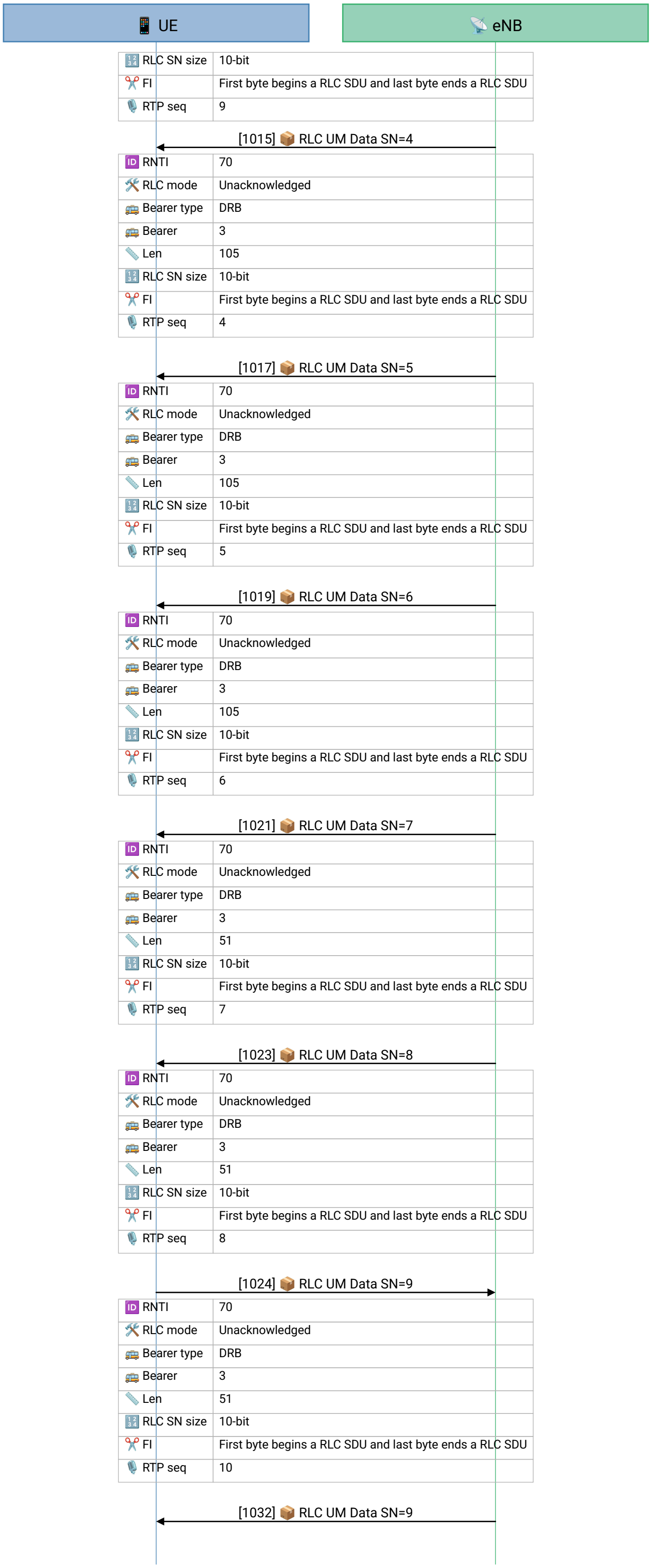
[Frame 1004] Silence suppression begins. Uplink `SN=7`, 51 bytes, RTP 8: AMR-WB frame type 9, a `SID` (silence descriptor) frame with STI = 0, which makes it `SID_FIRST`. UE 70 has stopped talking. Its packets drop to 27 bytes of UDP, and the rhythm changes.

[Frame 1007] Downlink `SN=1`, RTP 1, 20 ms after SN 0.

[Frame 1009] Downlink `SN=2`, RTP 2.

[Frame 1011] Downlink `SN=3`, RTP 3.

[Frame 1012] Uplink `SN=8`, RTP 9, 60 ms after `SID_FIRST`: a `SID_UPDATE` (STI = 1), carrying fresh comfort-noise parameters. The far end plays matching background noise instead of dead silence.



[Frame 1015] Downlink SN=4, RTP 4.

[Frame 1017] Downlink SN=5, RTP 5.

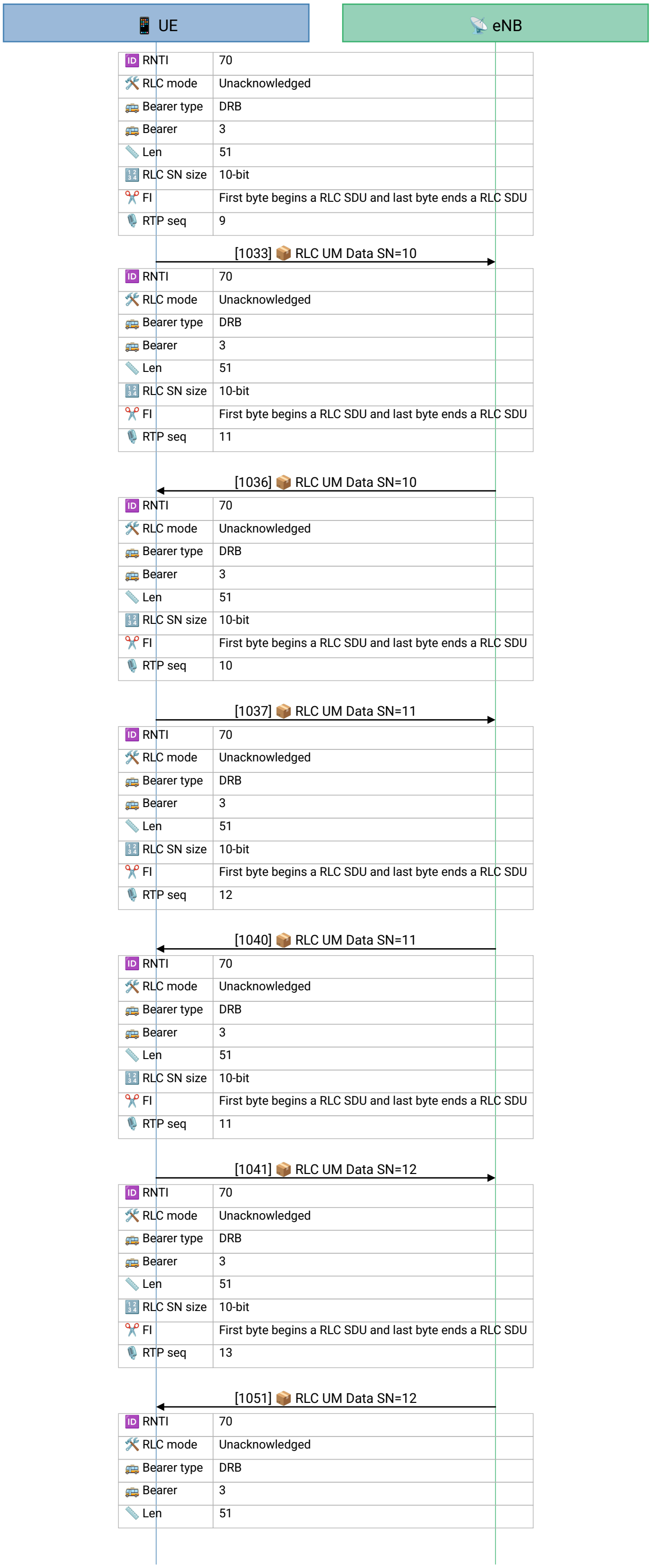
[Frame 1019] Downlink SN=6, RTP 6: UE 71's seventh speech packet.

[Frame 1021] Downlink SN=7, 51 bytes, RTP 7: `SID_FIRST`. UE 71 falls silent too.

[Frame 1023] Downlink SN=8, RTP 8: `SID_UPDATE`, 59 ms after `SID_FIRST`. Both directions now follow the same pattern.

[Frame 1024] Uplink SN=9, RTP 10, 160 ms after the previous update: one comfort-noise update every eighth 20 ms frame (TS 26.193). From here until the end of the call, the uplink sends one 51-byte PDU every 160 ms.

[Frame 1032] Downlink SN=9, RTP 9, also 160 ms after the previous update.



[Frame 1033] Uplink `SN=10`, RTP 11. Notice what is missing between these PDUs: no poll bit, no Status PDU, no `ACK_SN`. In DRB 2's diagram almost every data PDU draws a 2-byte Status PDU back. Here all 71 PDUs are data.

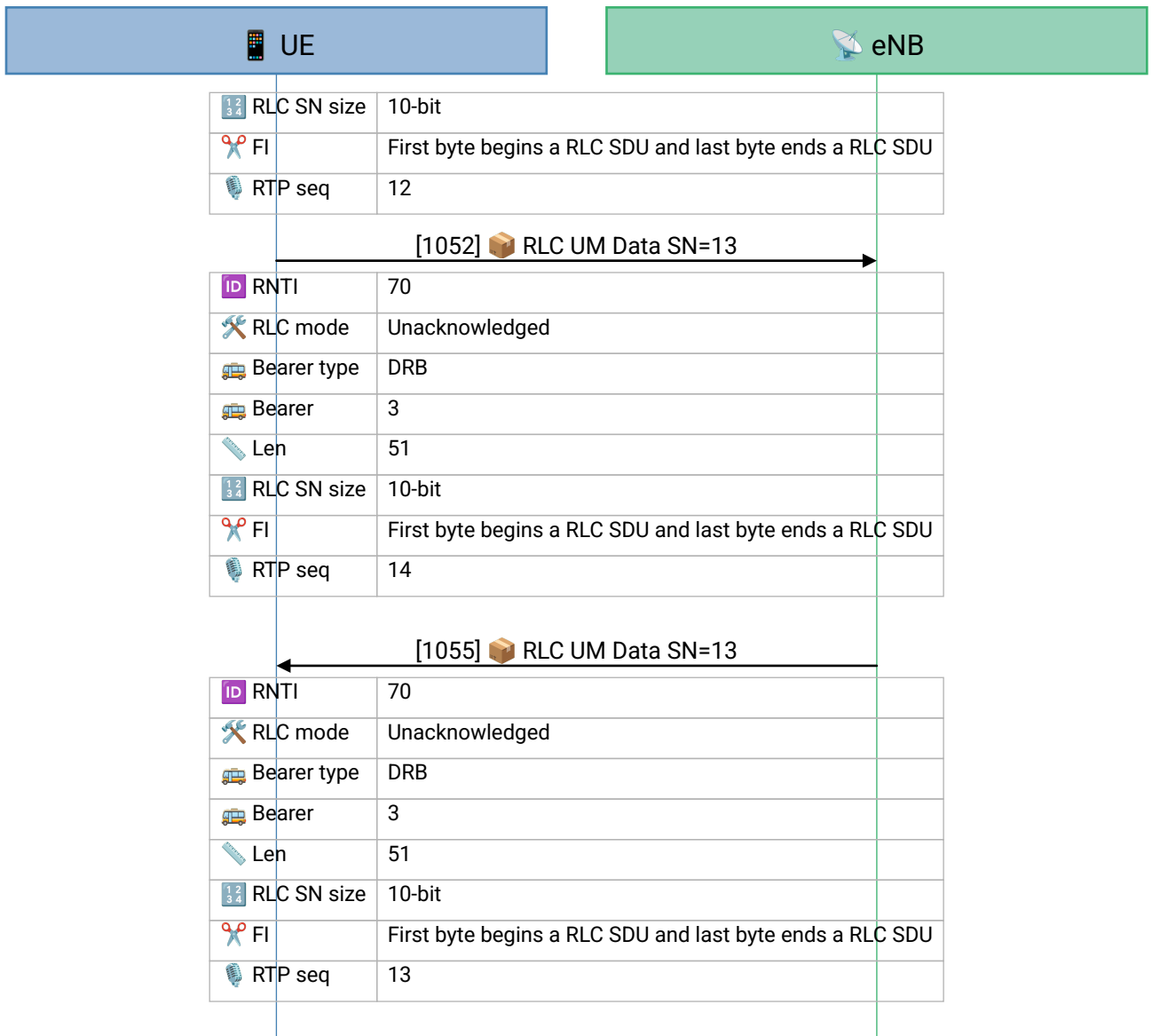
[Frame 1036] Downlink `SN=10`, RTP 10.

[Frame 1037] Uplink `SN=11`, RTP 12.

[Frame 1040] Downlink `SN=11`, RTP 11.

[Frame 1041] Uplink `SN=12`, RTP 13.

[Frame 1051] Downlink `SN=12`, RTP 12.



[Frame 1052] Uplink SN=13, RTP 14.

[Frame 1055] Downlink SN=13, RTP 13.

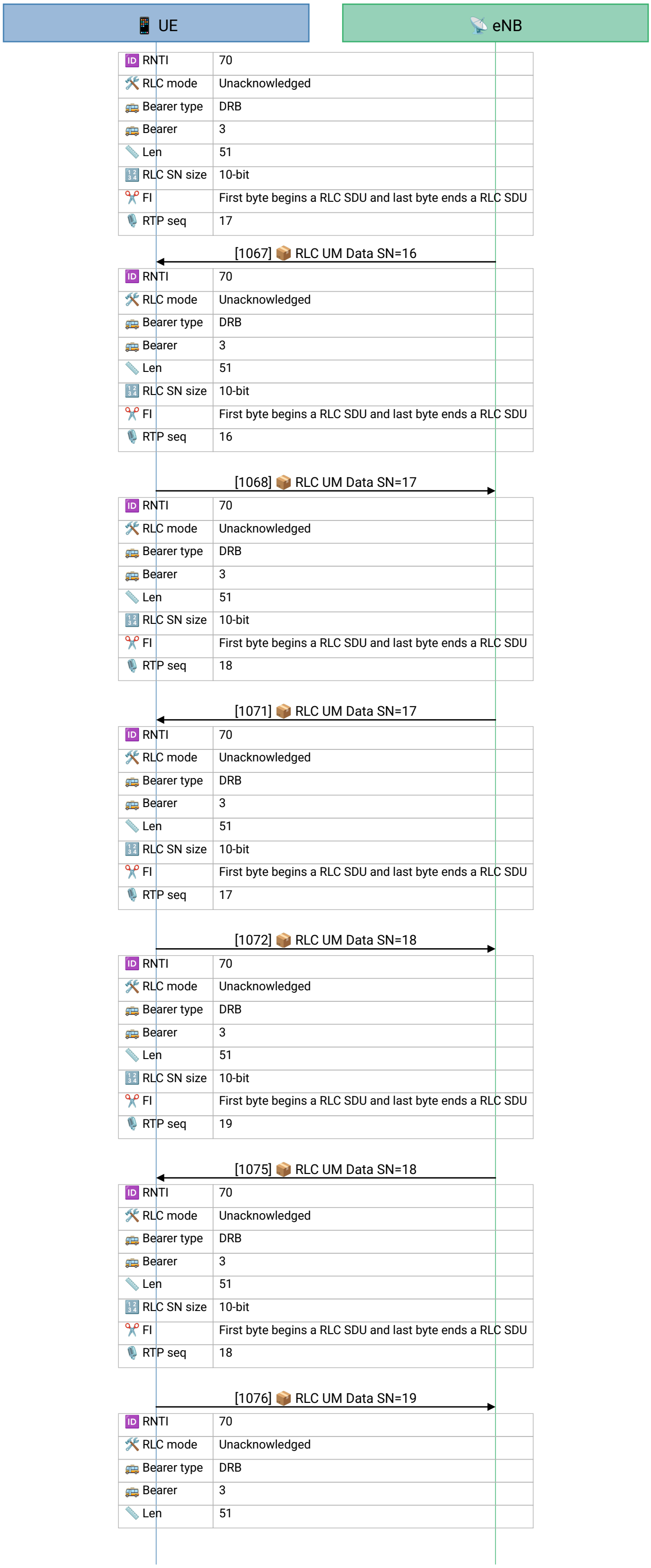
[Frame 1056] Uplink SN=14, RTP 15.

[Frame 1059] Downlink SN=14, RTP 14.

[Frame 1060] What the UE's receiver does with these SNs. Uplink SN=15, RTP 16. The SN is still useful in UM. The receiving entity uses it to put PDUs back in order, to drop duplicates, and to spot gaps. If a PDU goes missing, the UE's downlink receiver waits up to `t-Reordering` (50 ms) for it, then gives up and passes on what it has. It never asks for the missing PDU. In this call no SN is ever skipped in either direction, so the timer never has to run out.

[Frame 1063] Downlink SN=15, RTP 15.

[Frame 1064] Uplink SN=16, RTP 17.



[Frame 1067] Downlink SN=16, RTP 16.

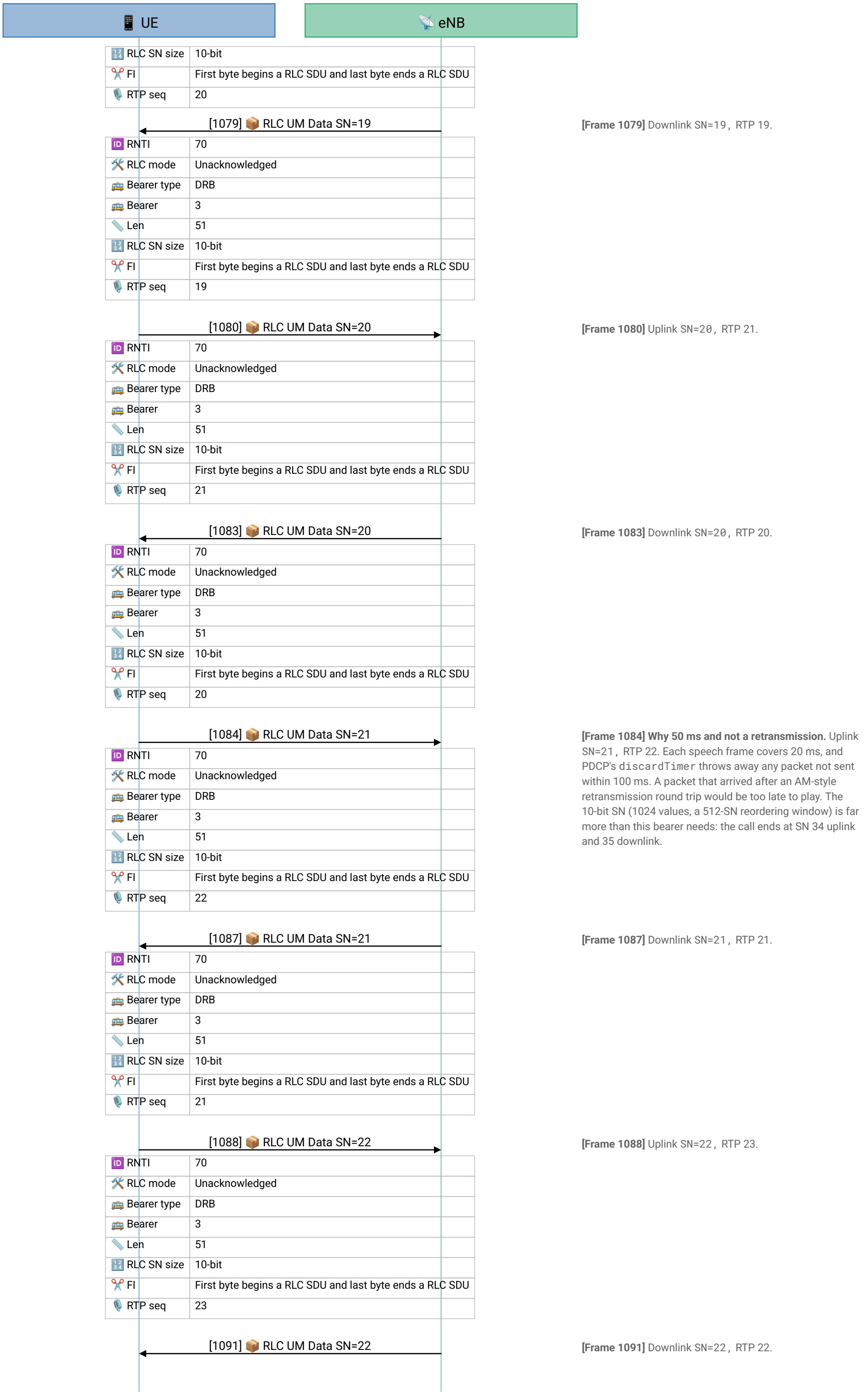
[Frame 1068] Uplink SN=17, RTP 18.

[Frame 1071] Downlink SN=17, RTP 17.

[Frame 1072] Uplink SN=18, RTP 19.

[Frame 1075] Downlink SN=18, RTP 18.

[Frame 1076] Uplink SN=19, RTP 20.



[Frame 1079] Downlink SN=19, RTP 19.

[Frame 1080] Uplink SN=20, RTP 21.

[Frame 1083] Downlink SN=20, RTP 20.

[Frame 1084] Why 50 ms and not a retransmission. Uplink SN=21, RTP 22. Each speech frame covers 20 ms, and PDCP's `discardTimer` throws away any packet not sent within 100 ms. A packet that arrived after an AM-style retransmission round trip would be too late to play. The 10-bit SN (1024 values, a 512-SN reordering window) is far more than this bearer needs: the call ends at SN 34 uplink and 35 downlink.

[Frame 1087] Downlink SN=21, RTP 21.

[Frame 1088] Uplink SN=22, RTP 23.

[Frame 1091] Downlink SN=22, RTP 22.



[Frame 1092] Uplink SN=23, RTP 24.

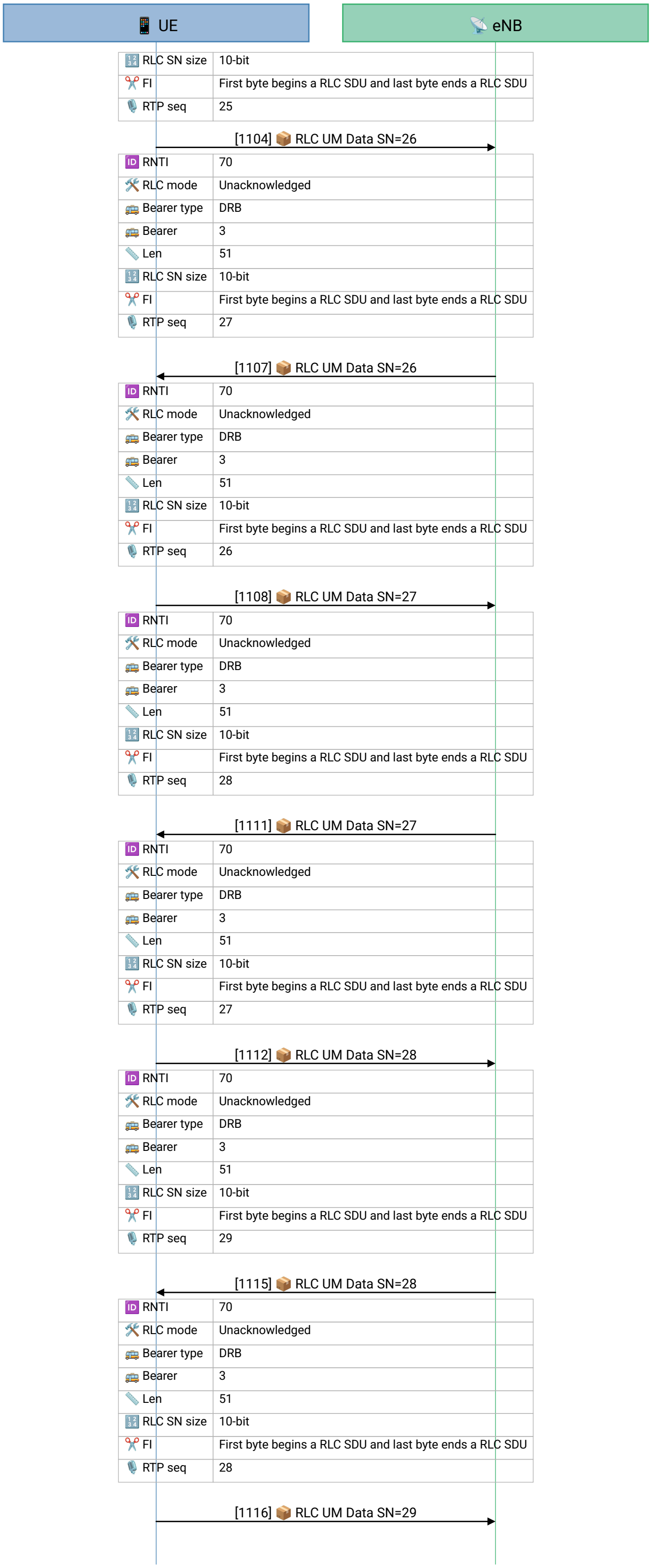
[Frame 1095] Downlink SN=23, RTP 23.

[Frame 1096] Uplink SN=24, RTP 25.

[Frame 1099] Downlink SN=24, RTP 24.

[Frame 1100] Uplink SN=25, RTP 26.

[Frame 1103] Downlink SN=25, RTP 25.



[Frame 1104] Uplink SN=26, RTP 27.

[Frame 1107] Downlink SN=26, RTP 26.

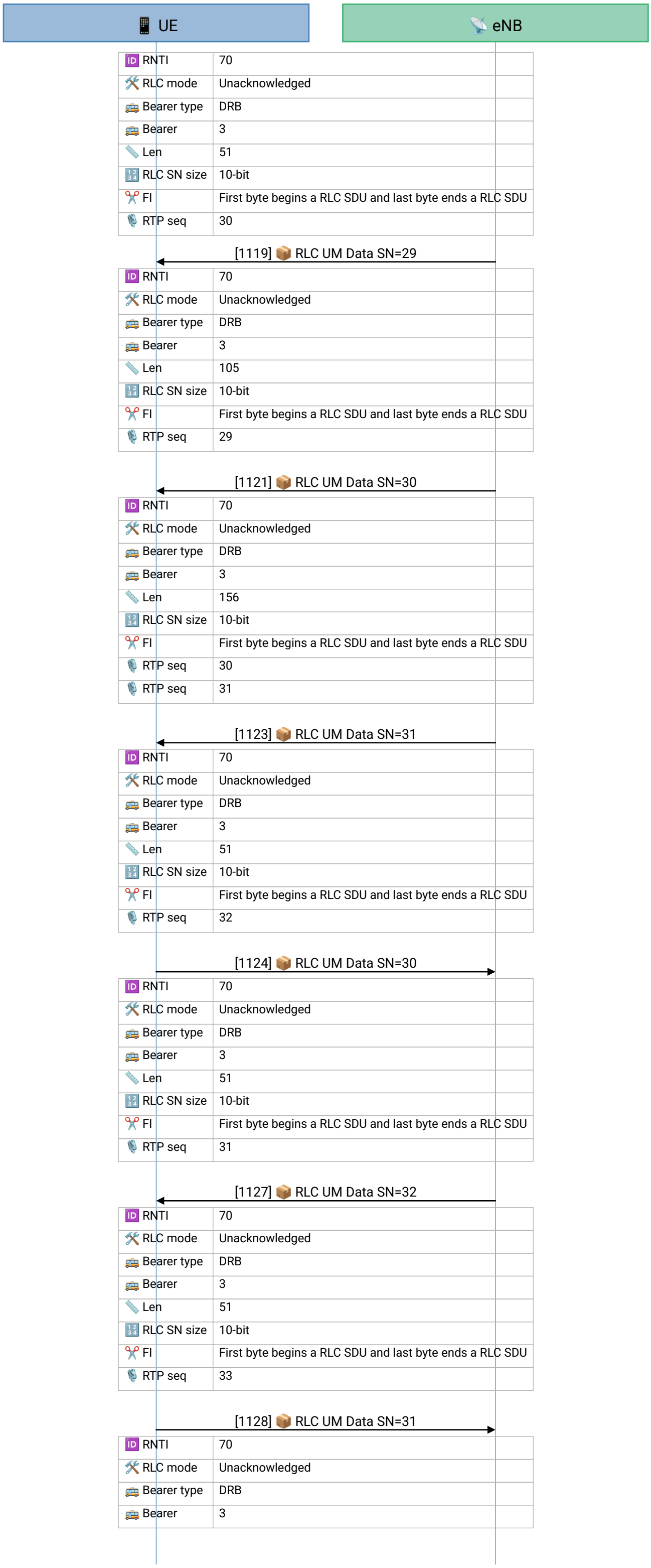
[Frame 1108] Uplink SN=27, RTP 28.

[Frame 1111] Downlink SN=27, RTP 27.

[Frame 1112] Uplink SN=28, RTP 29.

[Frame 1115] Downlink SN=28, RTP 28.

[Frame 1116] Uplink SN=29, RTP 30.



[Frame 1119] A short talk spurt from UE 71. Downlink SN=29, 105 bytes, RTP 29: speech again (frame type 8), with the RTP marker bit set for the start of a talk spurt. It comes 80 ms after the previous update, not 160.

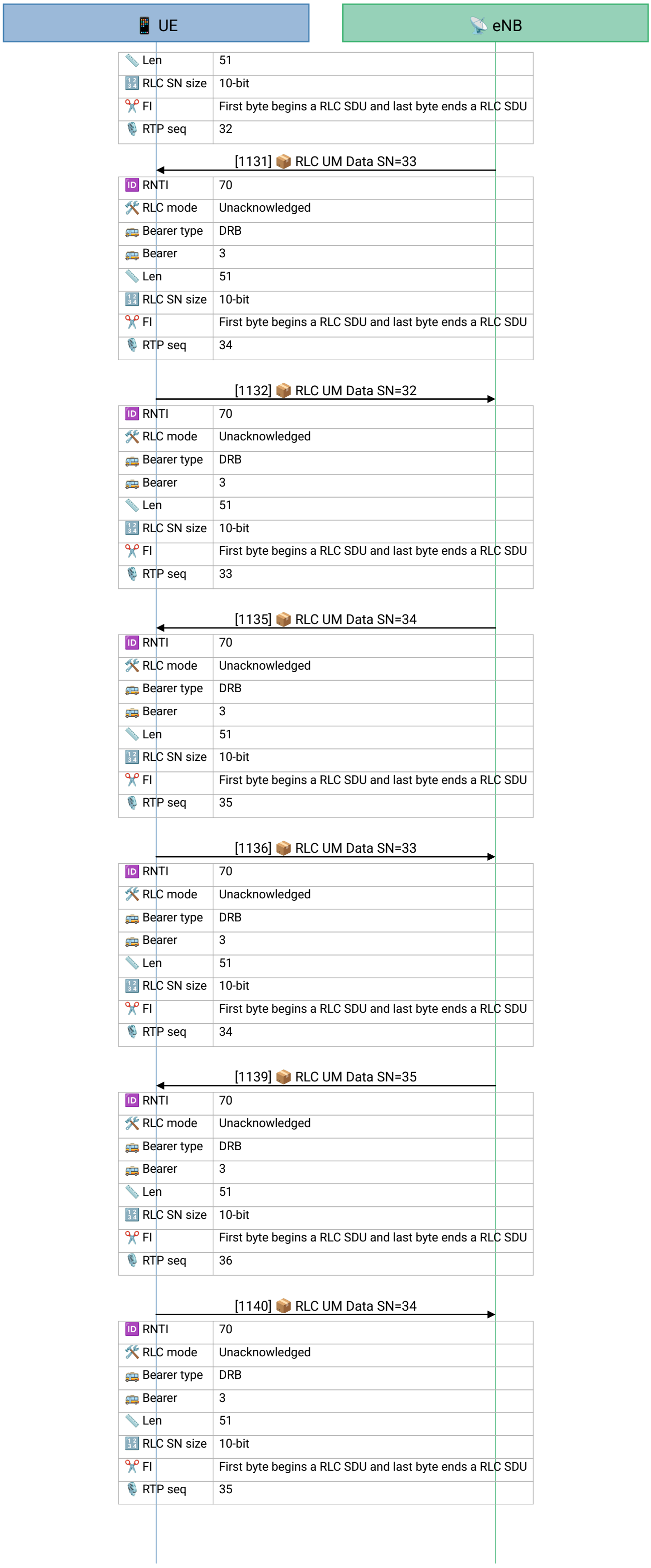
[Frame 1121] Two SDUs in one UM PDU. Downlink `SN=30`, 156 bytes, carries two PDCP packets: RTP 30 (speech, 103 bytes with its PDCP header) and RTP 31 (`SID_FIRST`, 49 bytes). A length indicator (`LI=103`) marks the boundary. RTP 31 was already waiting at the eNB when it built this PDU, so RLC packed both. From here the downlink RLC SN runs one behind the RTP and PDCP numbers: RLC numbers PDUs, not packets.

[Frame 1123] Downlink `SN=31` carries RTP 32 (PDCP SN 32), a `SID_UPDATE`. Silence again.

[Frame 1124] Uplink `SN=30`, RTP 31. UE 70 stays silent through all of this.

[Frame 1127] Downlink SN=32, RTP 33.

[Frame 1128] Uplink SN=31, RTP 32.



[Frame 1131] Downlink SN=33, RTP 34.

[Frame 1132] Uplink SN=32, RTP 33.

[Frame 1135] Downlink SN=34, RTP 35.

[Frame 1136] Uplink SN=33, RTP 34.

[Frame 1139] Downlink SN=35, RTP 36: the last downlink PDU on this bearer.

[Frame 1140] The last PDU. Uplink SN=34, RTP 35. In frame 1146 the eNB releases DRB 3, and the entity disappears with no closing exchange: UM has no state the peer needs to confirm. In 4.4 s the bearer carried 35 uplink and 36 downlink PDUs, 16 of them carrying speech and the rest comfort noise, and not one Status PDU. UE 70's next comfort-noise packet, RTP 36, has nowhere to go but the IMS default bearer: it turns up inside DRB 2's RLC AM PDU SN 34 in frame 1152.

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