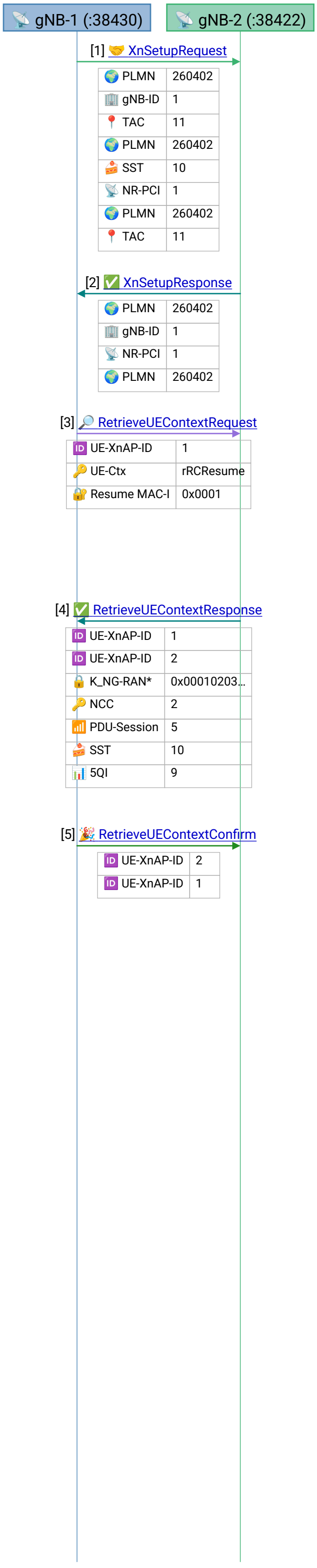

[Frame 1] Phase 1 — Xn interface bring-up (non-UE-associated). gNB-1 opens the Xn association with an **Xn Setup Request,** advertising its served-cell configuration so the peer knows what it is talking to before any UE signalling:

Attribute	Value
PLMN	260402
gNB ID	1
NR-PCI	1
TAC	11
Slice (S-NSSAI)	SST 10 / SD 0x203040

Note this is a loopback lab capture (both peers on `127.0.0.1`), so the two nodes advertise an **identical** served-cell config — see the response next.

[Frame 2] gNB-2 accepts and returns its own served-cell info in the **Xn Setup Response** (successfulOutcome). Its advertised gNB ID (1), NR-PCI (1) and PLMN (260402) mirror gNB-1's exactly — expected for this symmetric loopback pairing, not a real deployment where the cells would be distinct. **The Xn interface is now up;** everything from frame 3 on is UE-associated signalling over it.

[Frame 3] Phase 2 — UE Context Retrieval (RRC Resume). A UE has sent an *RRCResumeRequest* to **gNB-1** (the new / target node). Using the I-RNTI in that request, gNB-1 locates the anchor node (gNB-2, which still holds the suspended context) and sends a **Retrieve UE Context Request** to fetch it. Key contents verified in this frame:

- **UEContextID = rRCResume,** carrying **I-RNTI (short) = 0x000000** — the handle that identifies the stored context at the anchor.
- **shortResumeMAC-I = 0x0001** — the authentication token the UE computed; gNB-2 recomputes and checks it to prove the resume request is genuine before releasing the context.
- **Allocated C-RNTI = 0x0001** for the UE at the new cell.
- gNB-1 assigns the **New NG-RAN node UE XnAP ID = 1** (remember this — it is echoed back in frame 4 and re-confirmed in frame 5).

[Frame 4] gNB-2 authenticates the request and returns the **full UE context** in the **Retrieve UE Context Response.** It **echoes the new node's UE XnAP ID (1)** and **allocates its own Old NG-RAN node UE XnAP ID = 2,** so the two ends are now cross-referenced.

The **security context** is the load-bearing payload here (carried in the message but not on the arrow): **NCC = 2** plus the 32-byte `K_NG-RAN*` next-hop key. With these the target derives fresh AS keys (`K_gNB*`) for the resumed connection — vertical key derivation, giving forward security so the new cell cannot read prior traffic.

Also handed over: **UE-AMBR 256 Mbps** (DL and UL) and one PDU-session resource to set up:

PDU Session	Type	Slice	QoS flow	5QI
5	IPv4	SST 10 / SD 0x203040	QFI 1	9

5QI 9 is a standardized **non-GBR** flow (default best-effort bearer, e.g. TCP-based or buffered-video traffic).

[Frame 5] gNB-1 closes the loop with a **Retrieve UE Context Confirm,** quoting both identifiers — **Old UE XnAP ID = 2** and **New UE XnAP ID = 1.** The context has been taken over, both XnAP IDs are bound to the UE-associated Xn connection, and the RRC Resume preparation on the Xn interface is **complete.** From here gNB-1 sends the *RRCResume* to the UE over the air and, if needed, path-switches the PDU session toward the core.