

Optimized Handover Preparation Signaling-Other Scenarios

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LTE to UMTS/2G Inter-RAT HO with Target
SGW and Direct Tunnel

MESSAGE MAPPING

1. Handover Initiation

2. Handover Required

3. Forward Relocation Request

4. Create Session Request

4a. Create Session Response

5. Relocation Request

5a. Relocation Request Acknowledge

6. Indirect Data Forwarding Tunnel Request: T-SGW

6a. Indirect Data Forwarding Tunnel Response: T-SGW

7. Forward Relocation Response

8. Indirect Data forwarding Tunnel Request: S-SGW

8a. Indirect Data forwarding Tunnel Response: S-SGW

9. Handover Command

10. HO from E-UTRAN Command

P1. Handover Initiation

P2. Handover Required

P3a. Resource Allocation Request + Tunnel Setup

P3b. S-SGW Tunnel Setup

P4. Relocation Request

P4a. Relocation Request Response

P5. Forward Reloc. Response

P6a. T-SGW Relocation and Tunnel Setup

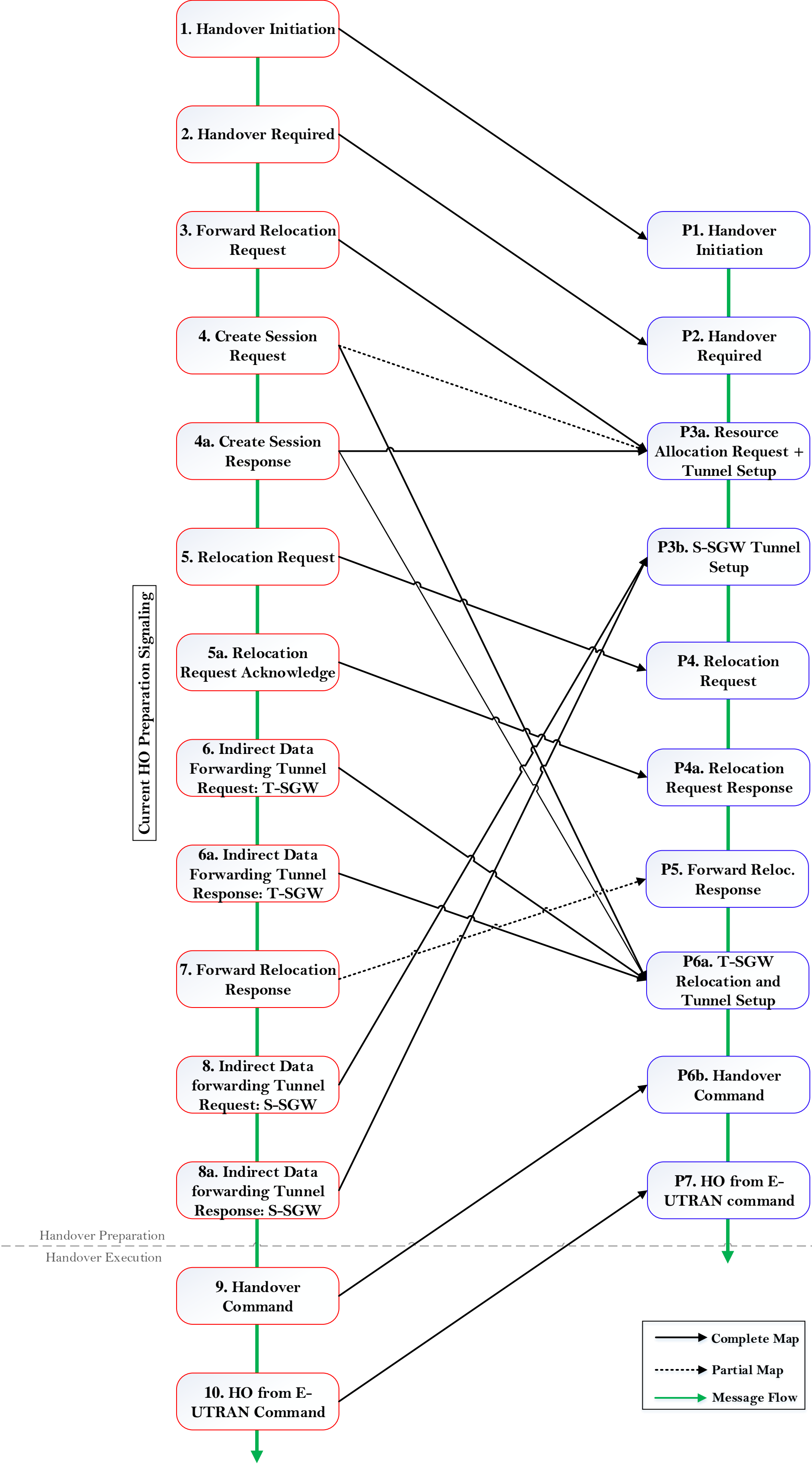
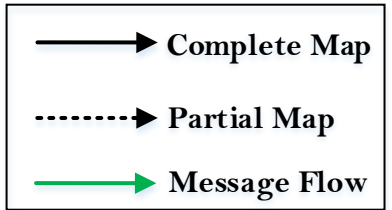
P6b. Handover Command

P7. HO from E-UTRAN command

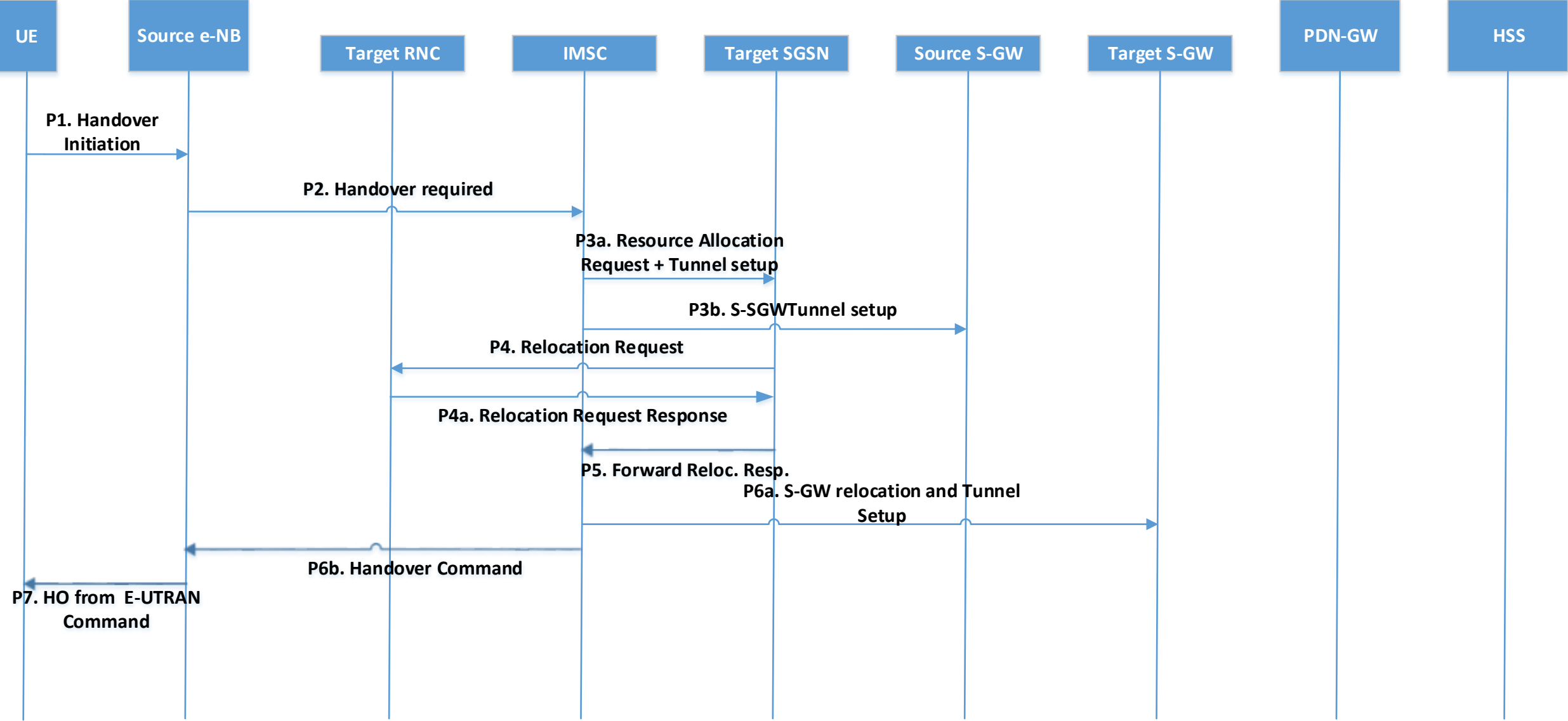
Current HO Preparation Signaling

Proposed HO Preparation Signaling

Handover Preparation
Handover Execution

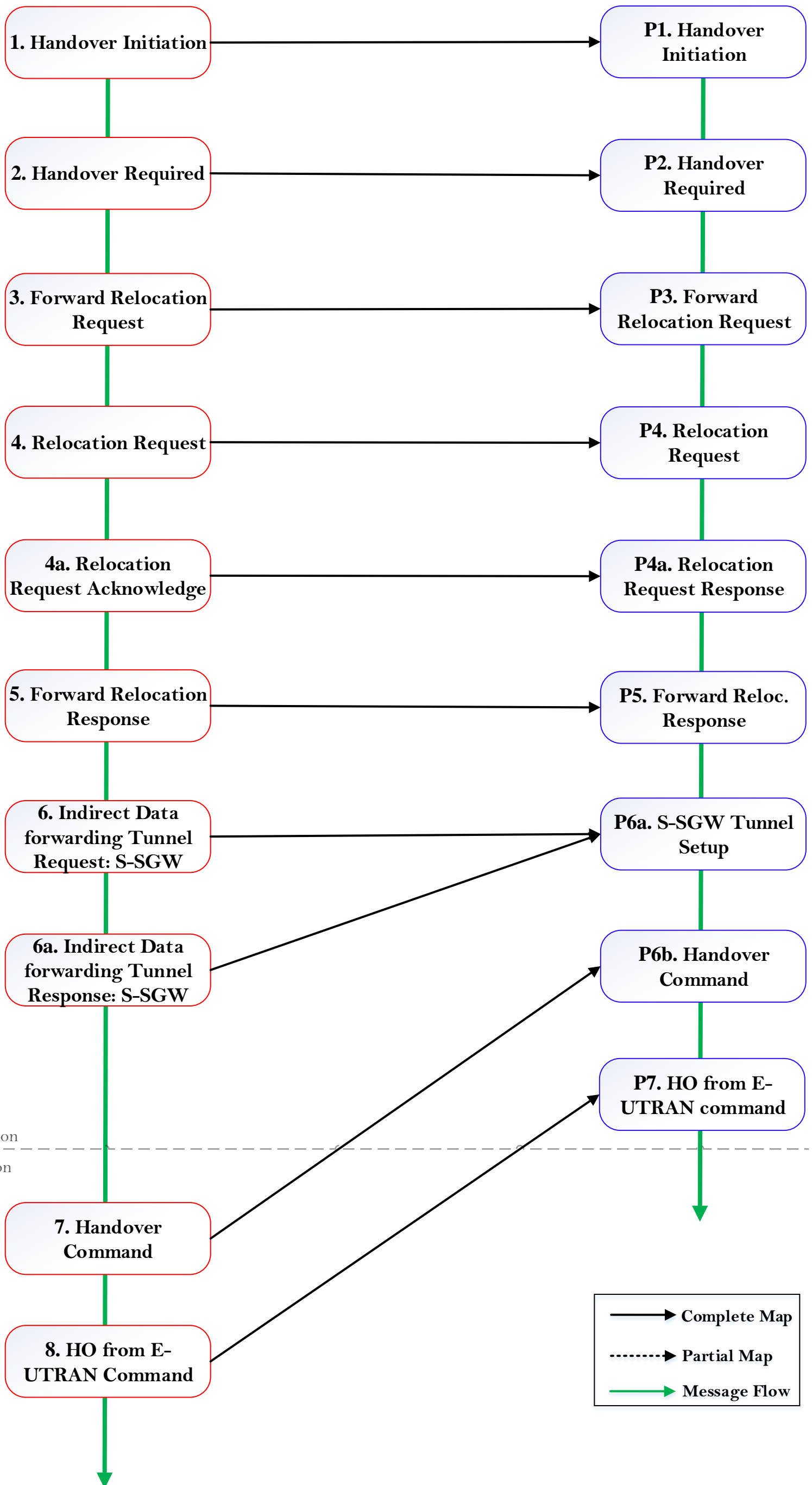


SIGNALING

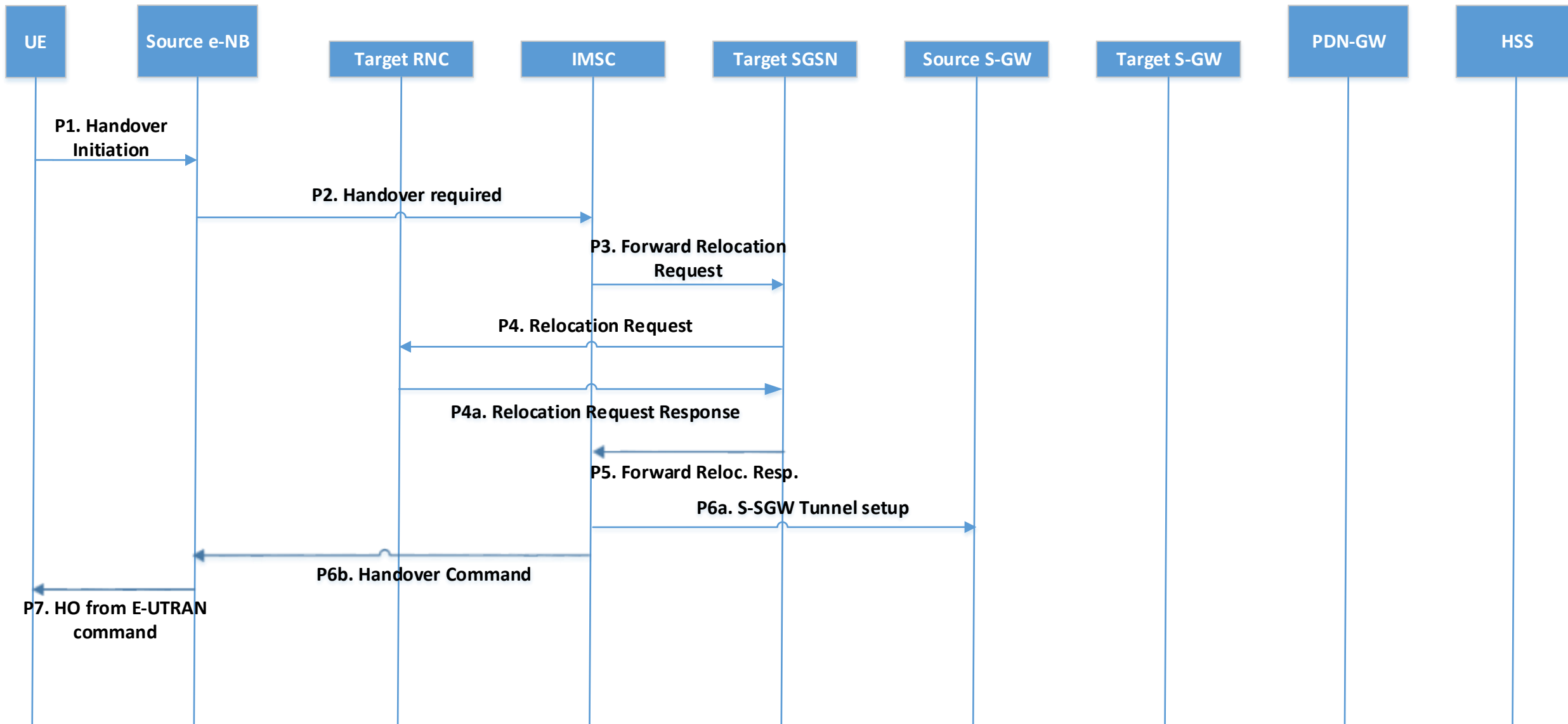


LTE to UMTS/2G Inter-RAT HO without
Target SGW and Direct Tunnel

MESSAGE MAPPING

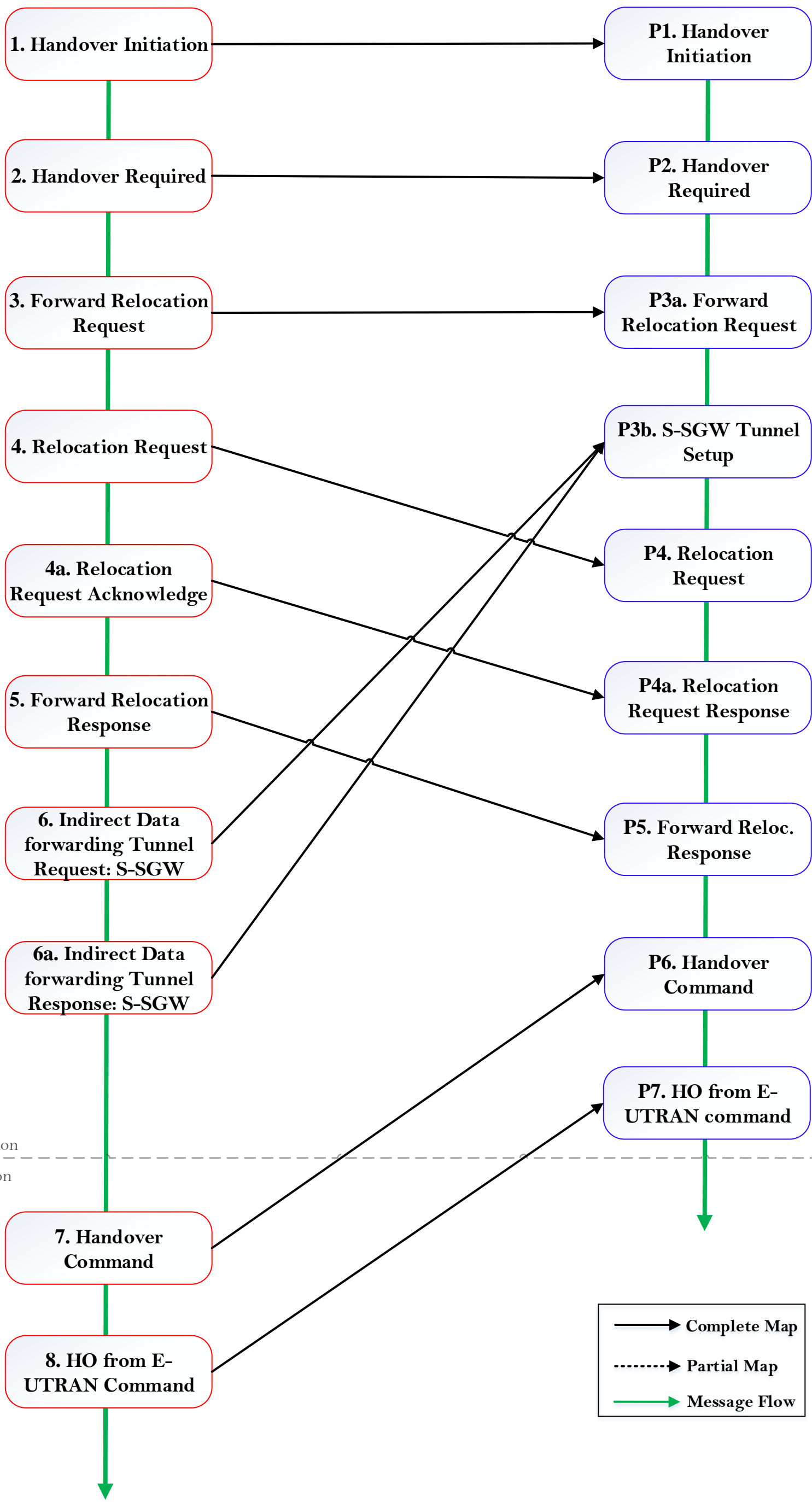


SIGNALING



LTE to UMTS/2G Inter-RAT HO without
Target SGW and Indirect Tunnel

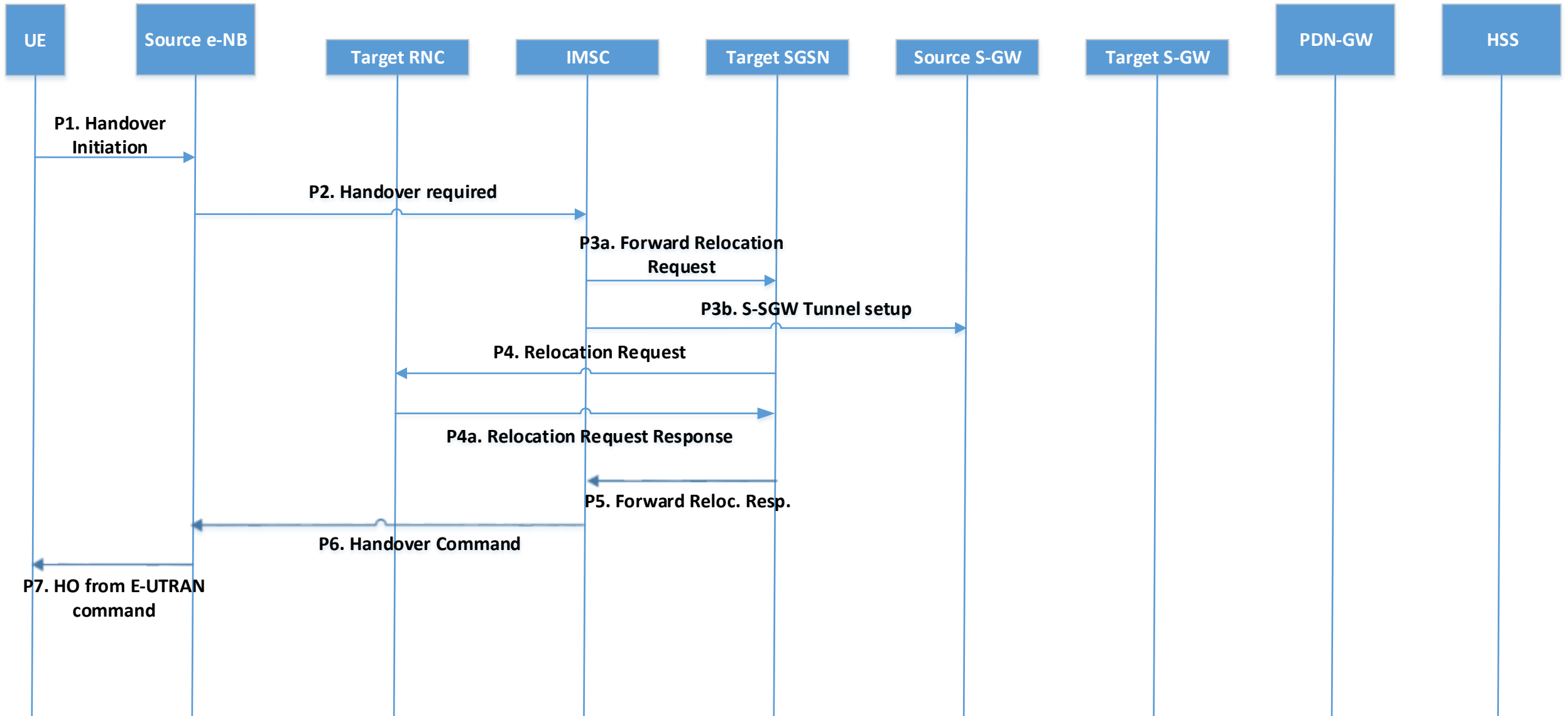
MESSAGE MAPPING



Handover Preparation
 Handover Execution

Proposed HO Preparation Signaling

SIGNALING

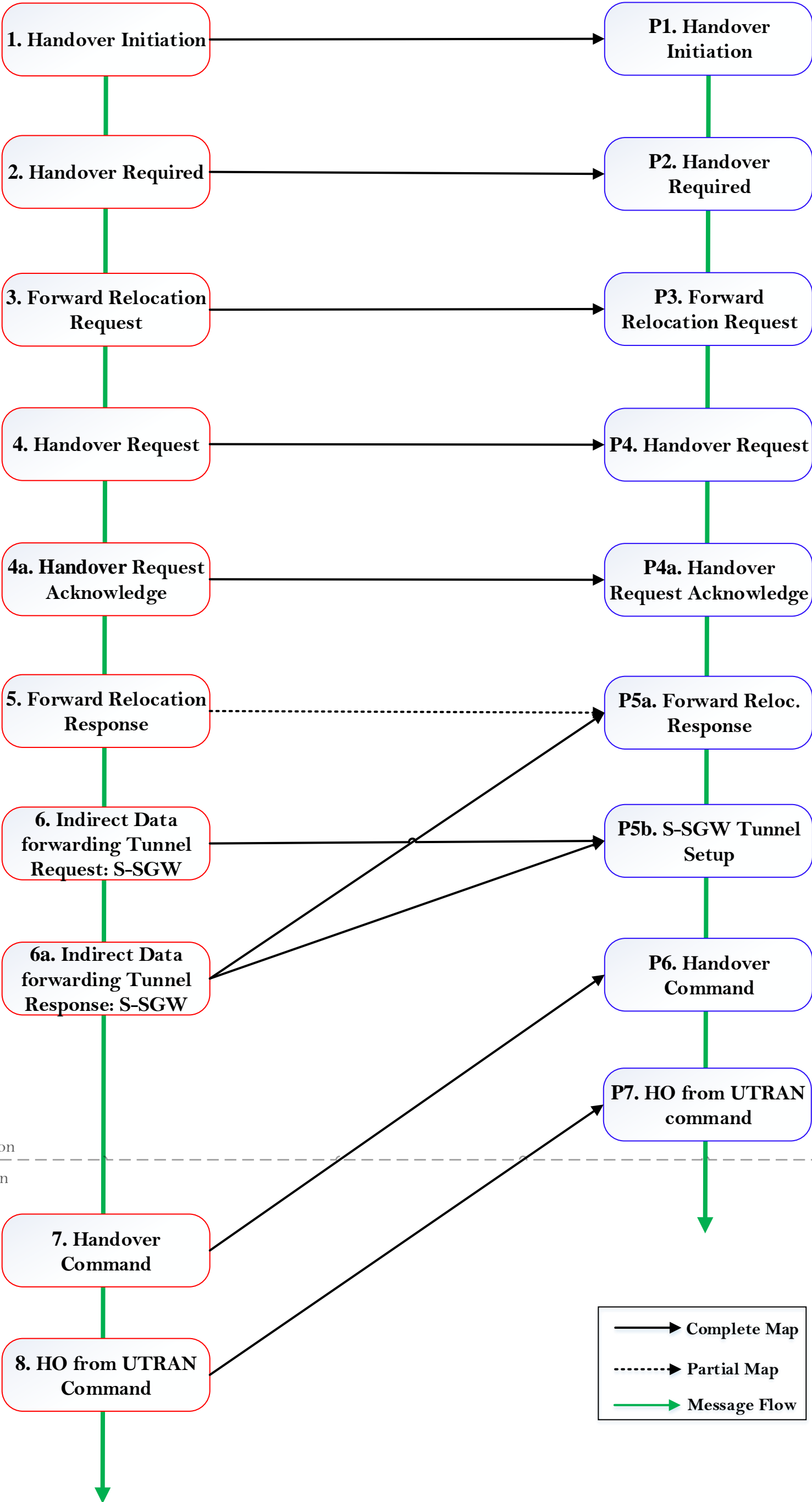


UMTS/2G to LTE Inter-RAT HO without
Target SGW

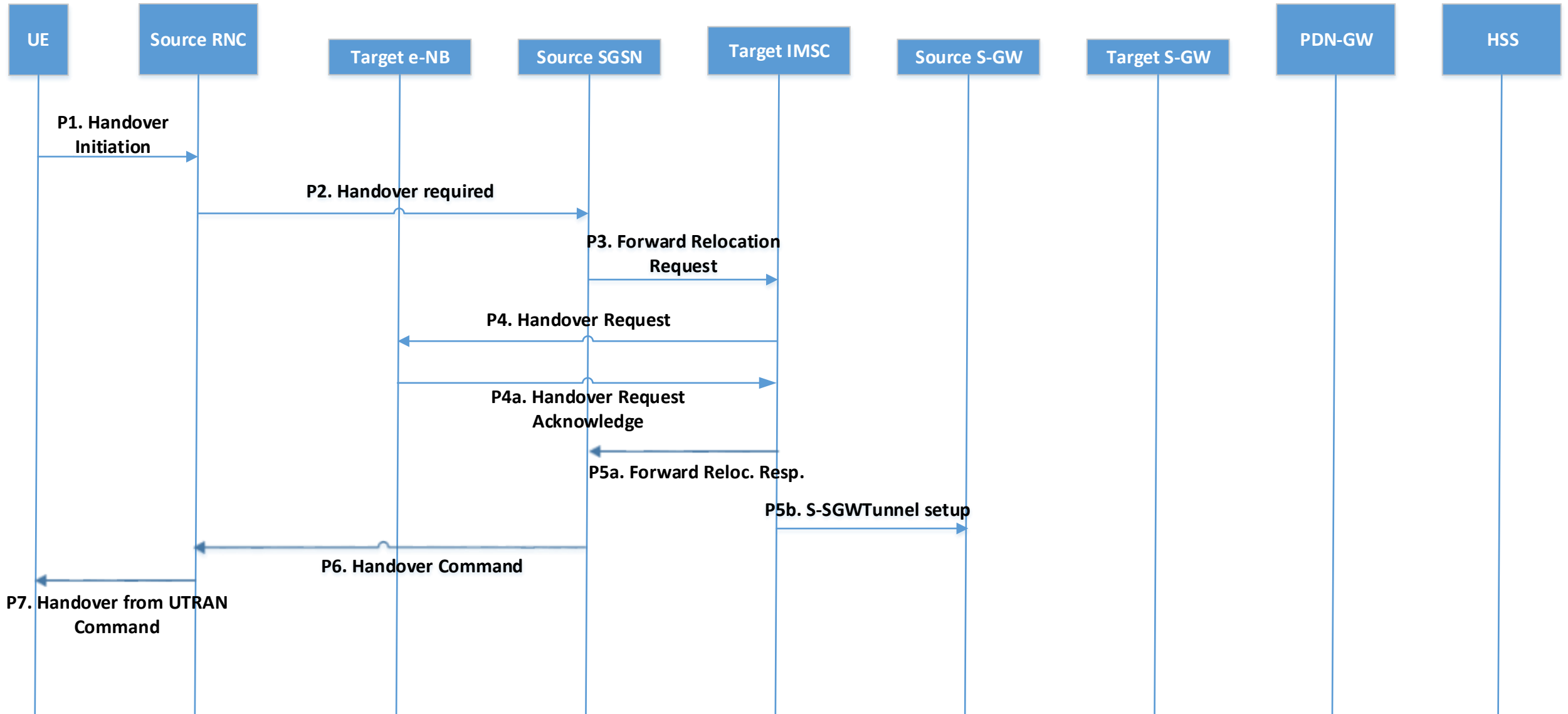
MESSAGE MAPPING

Current HO Preparation Signaling

Proposed HO Preparation Signaling

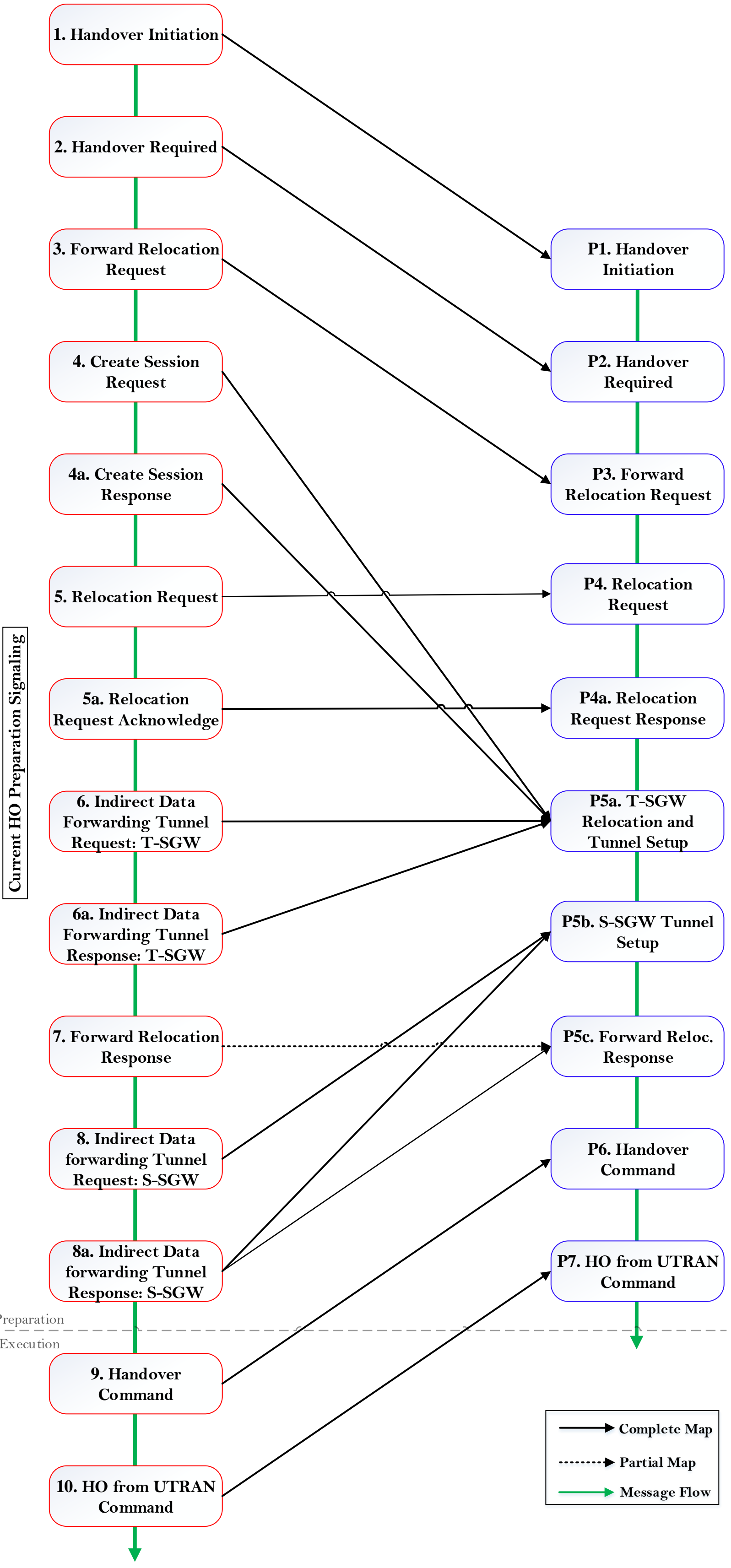


SIGNALING

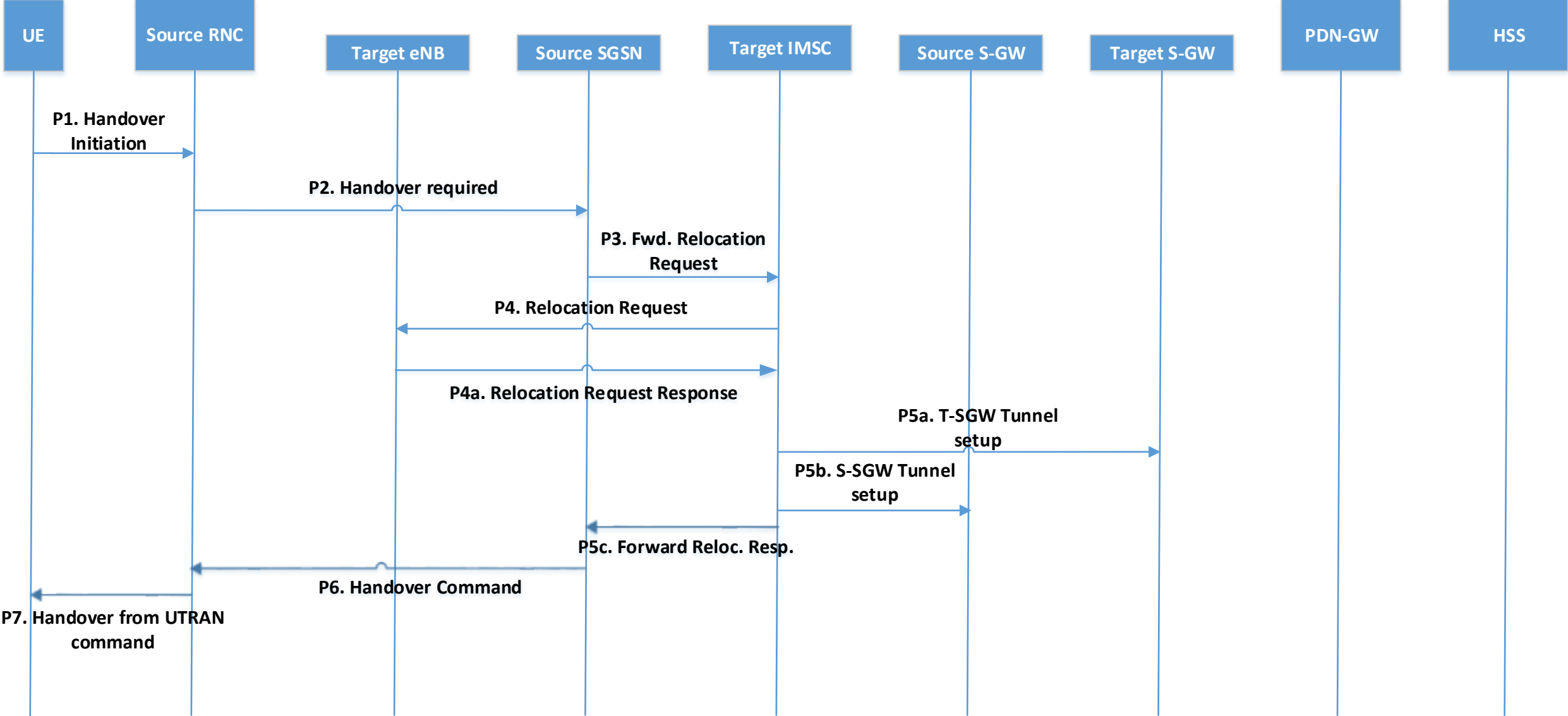


UMTS/2G to LTE Inter-RAT HO with Target
SGW

MESSAGE MAPPING

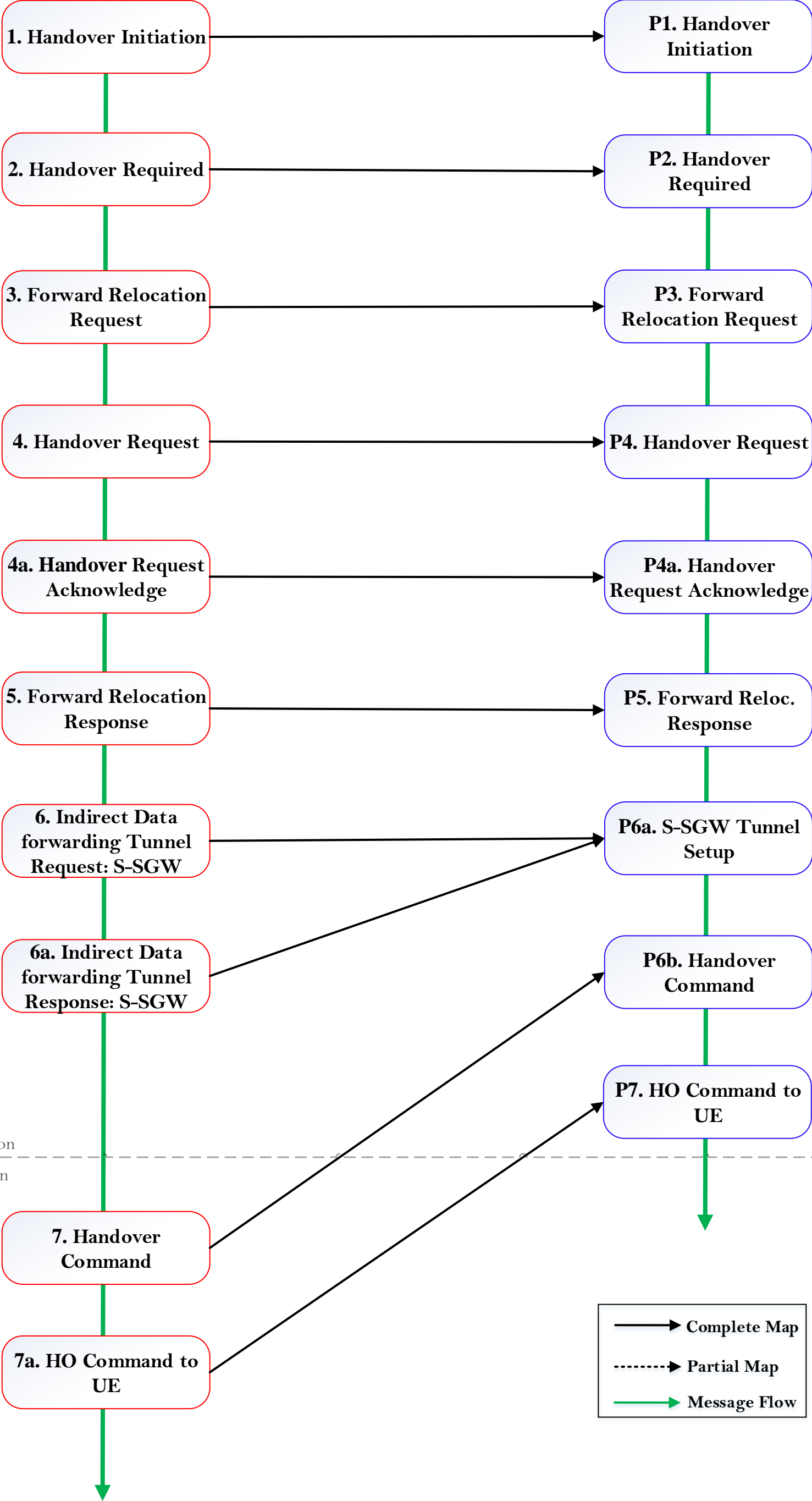


SIGNALING

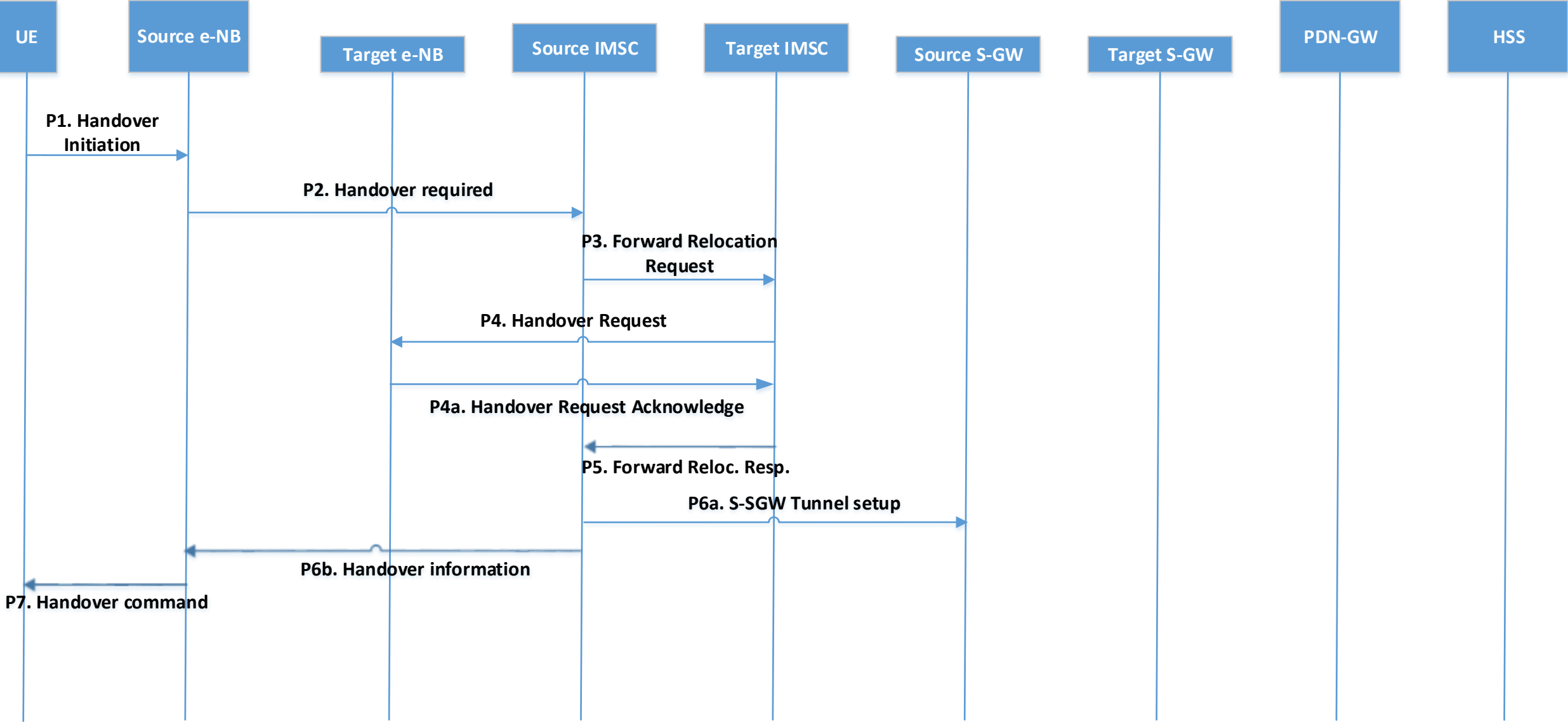


Intra-RAT HO with MME relocation (No S-GW relocation)

MESSAGE MAPPING

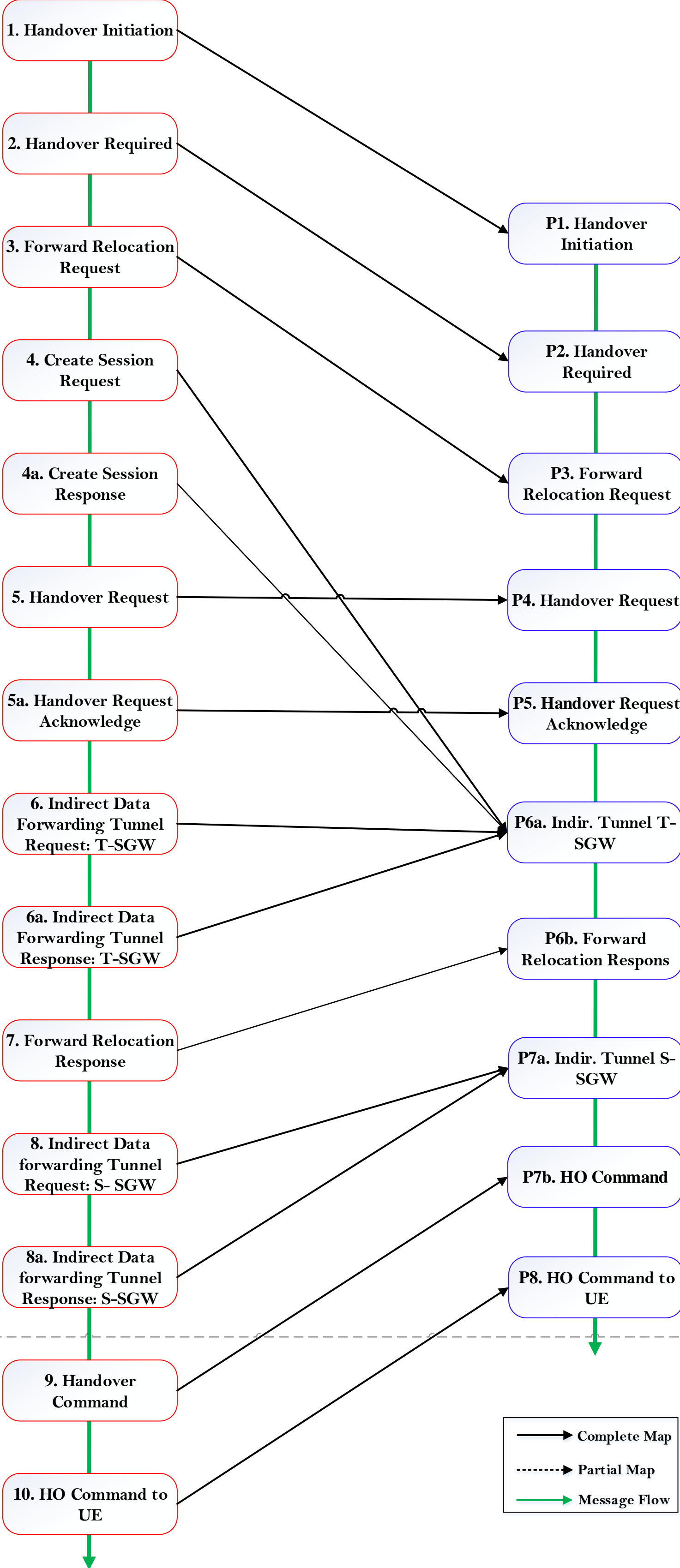


SIGNALING



Intra-RAT HO with MME and S-GW relocation

MESSAGE MAPPING

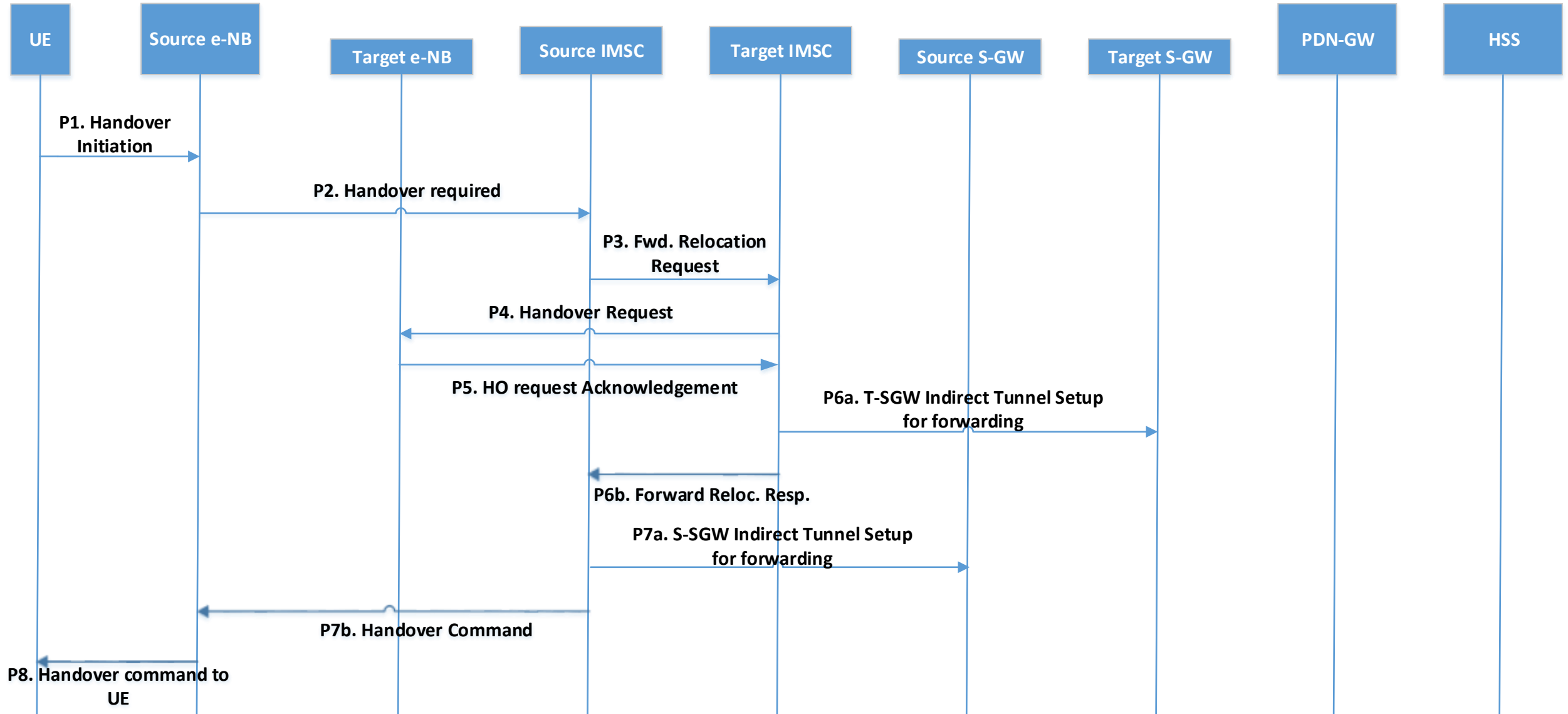


Current HO Preparation Signaling

Proposed HO Preparation Signaling

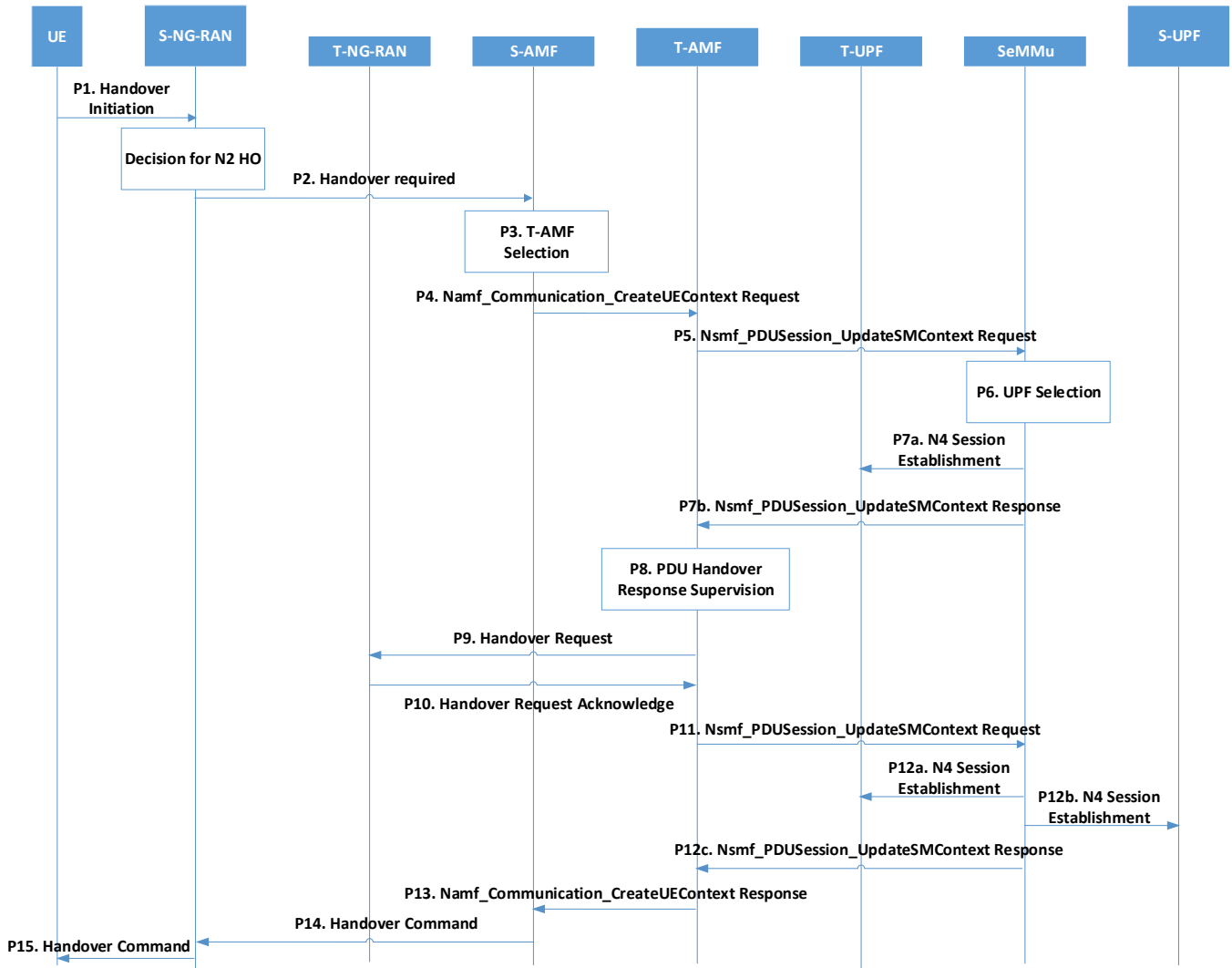
Handover Preparation
Handover Execution

SIGNALING

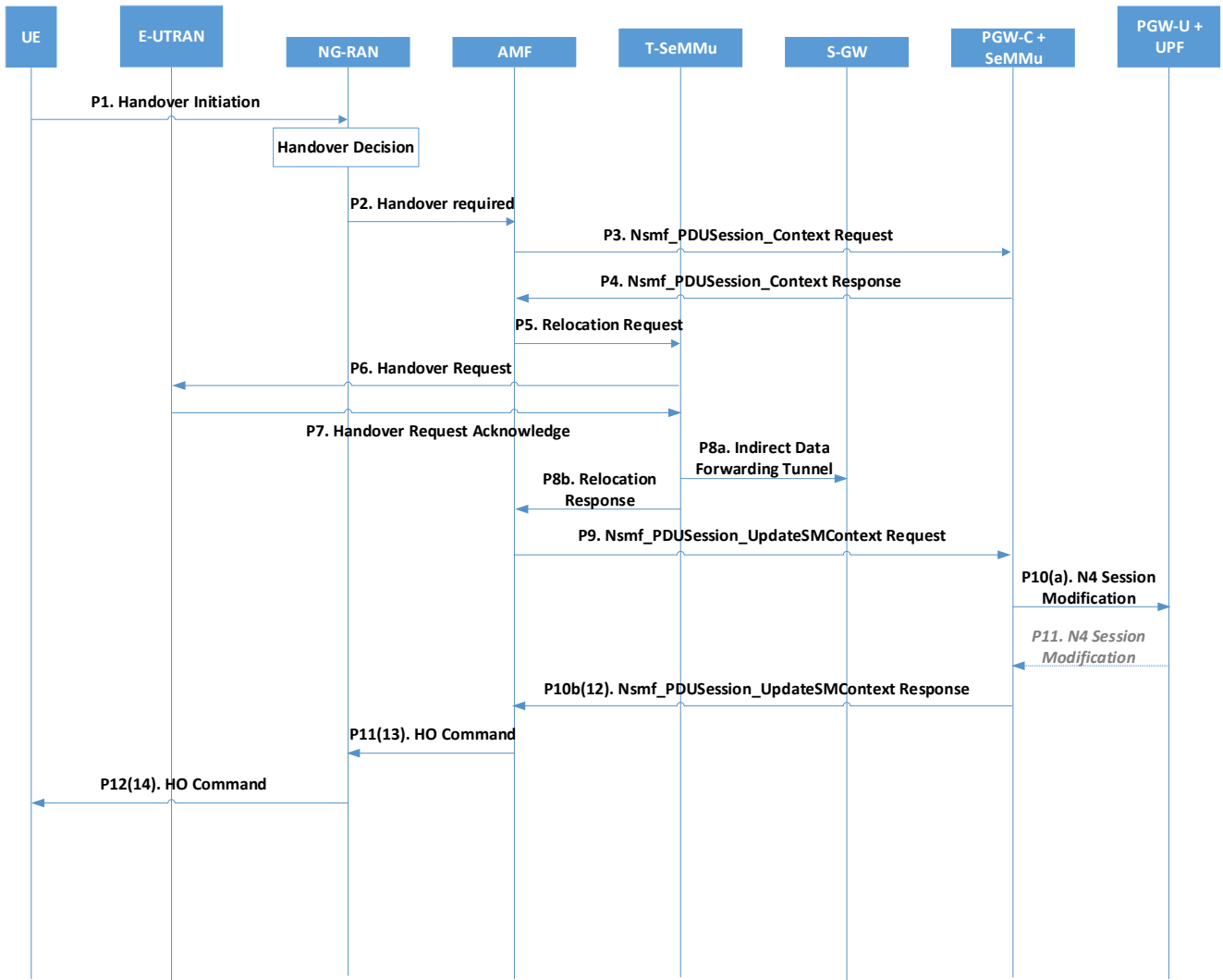


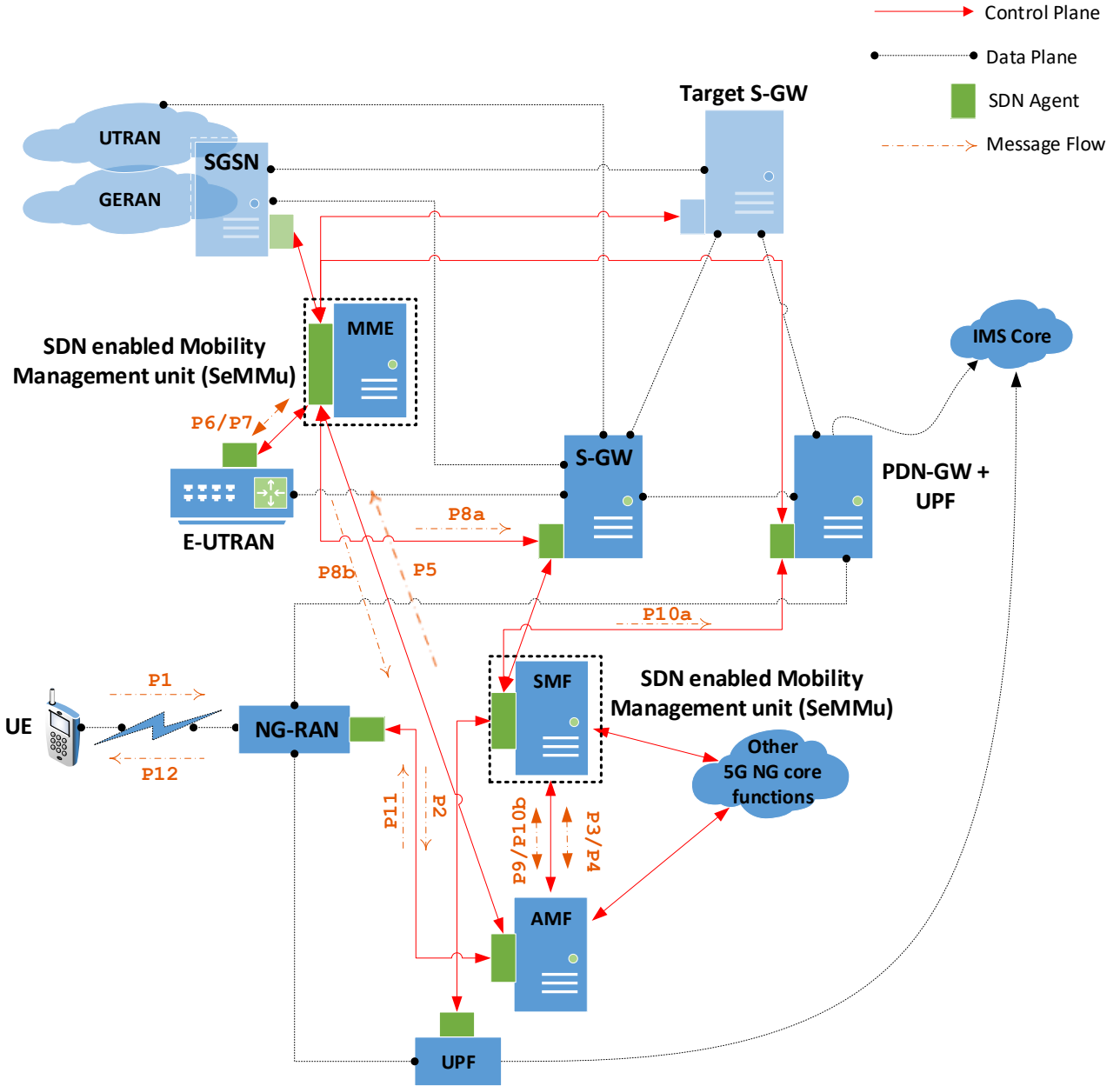
5G Handover Signaling

Inter NG-RAN Signaling: N2 based Handover

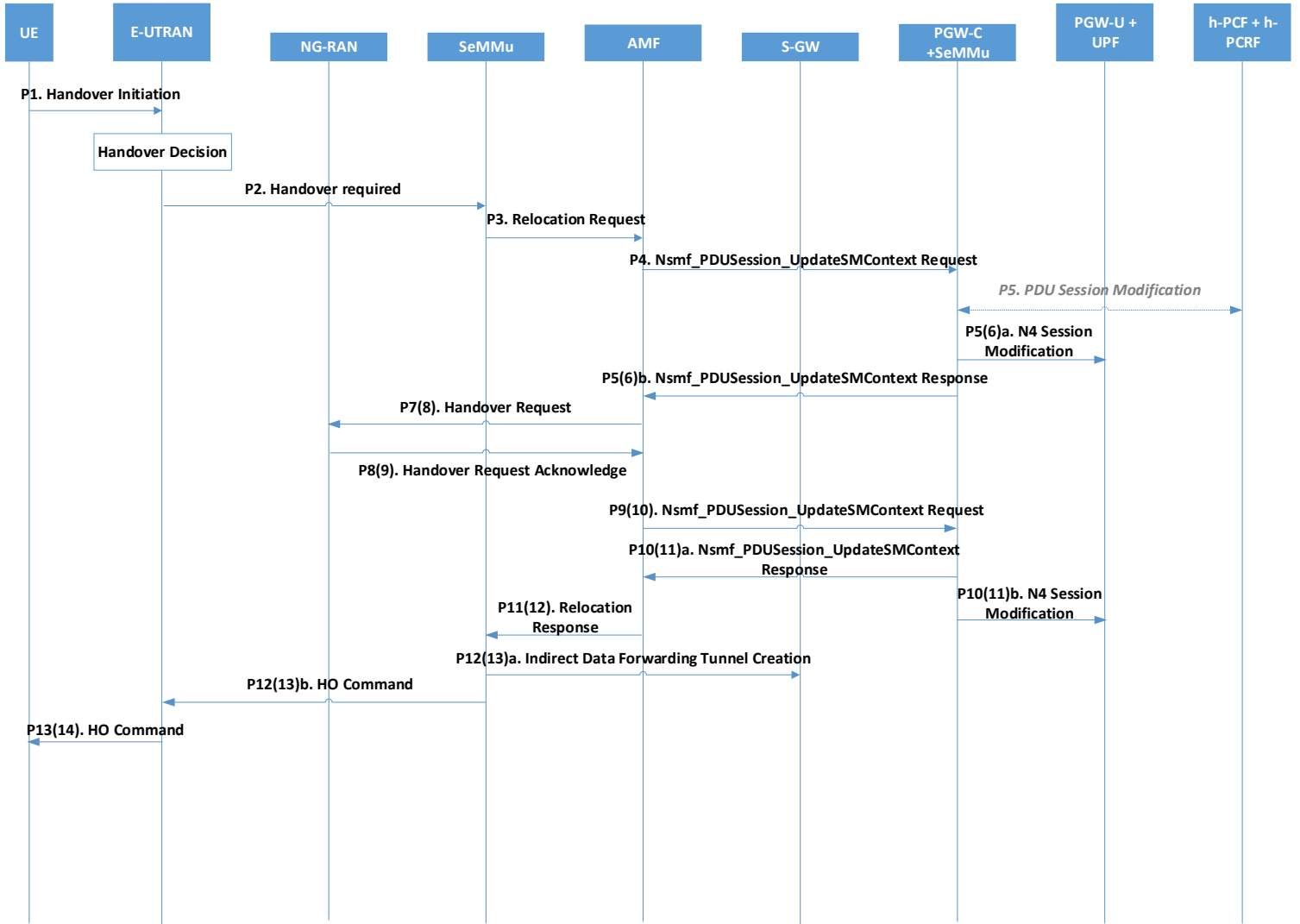


5G core to EPS Handover with N26 Interface

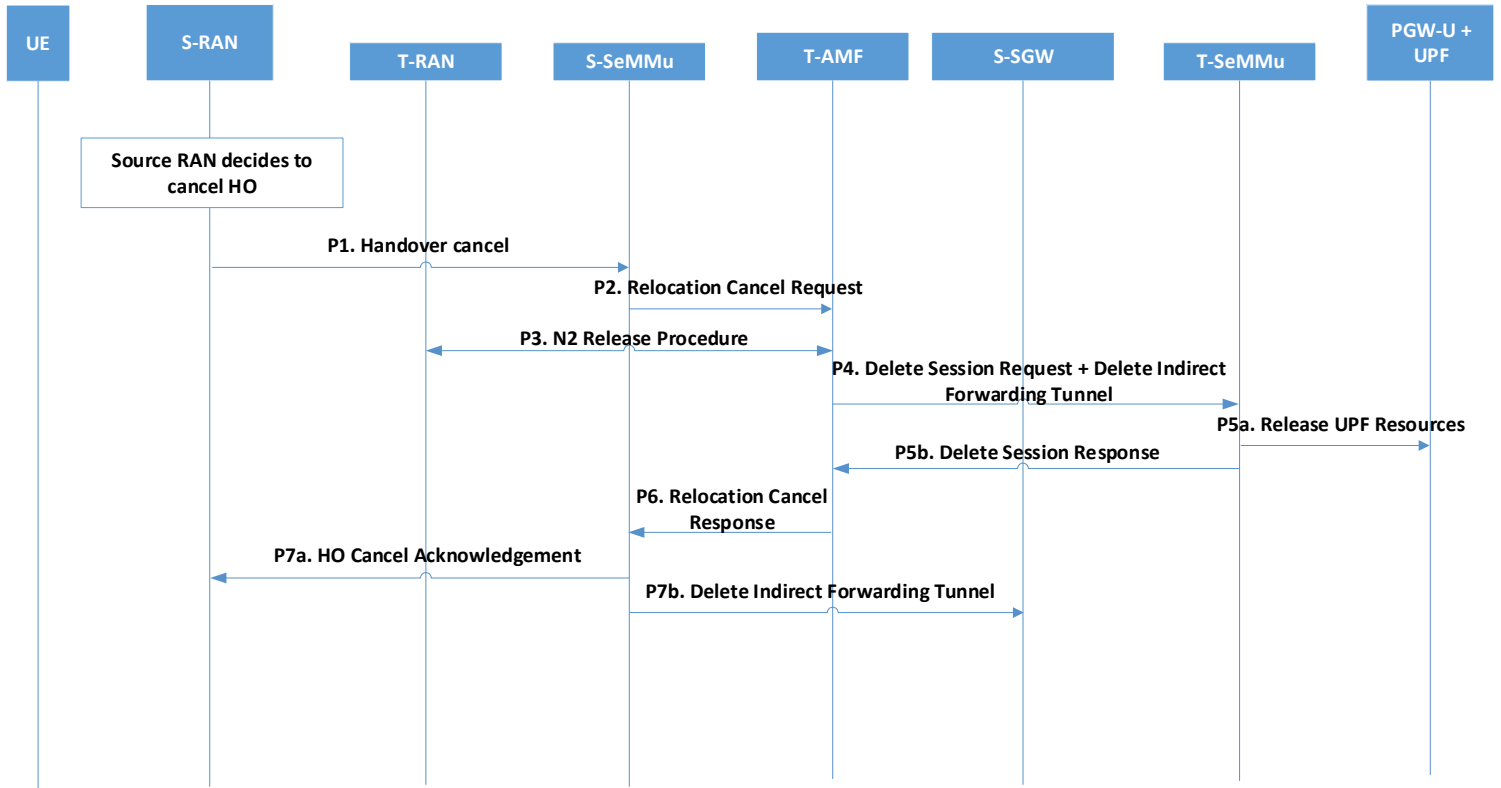




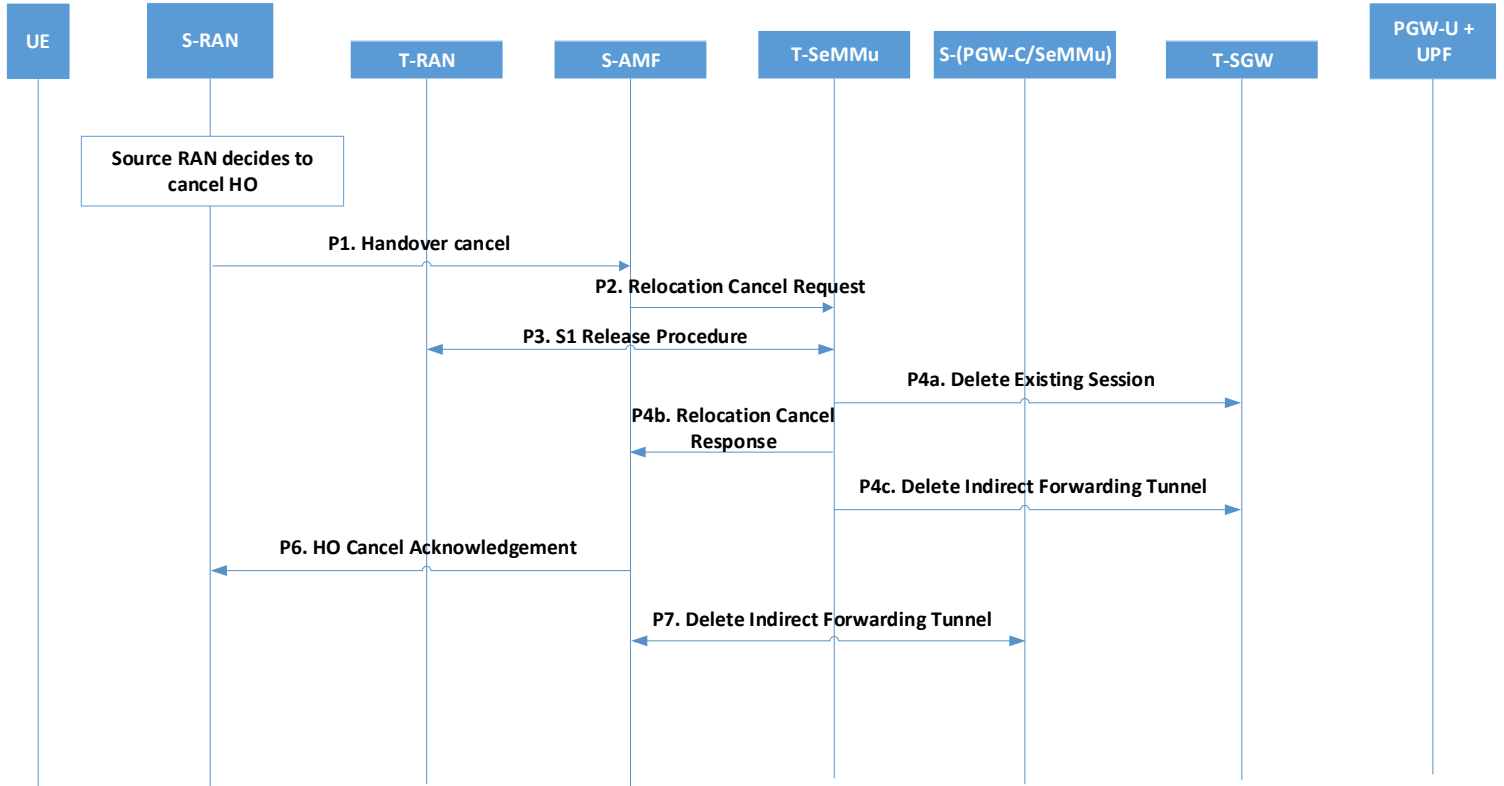
EPS to 5G Core Handover with N26 Interface



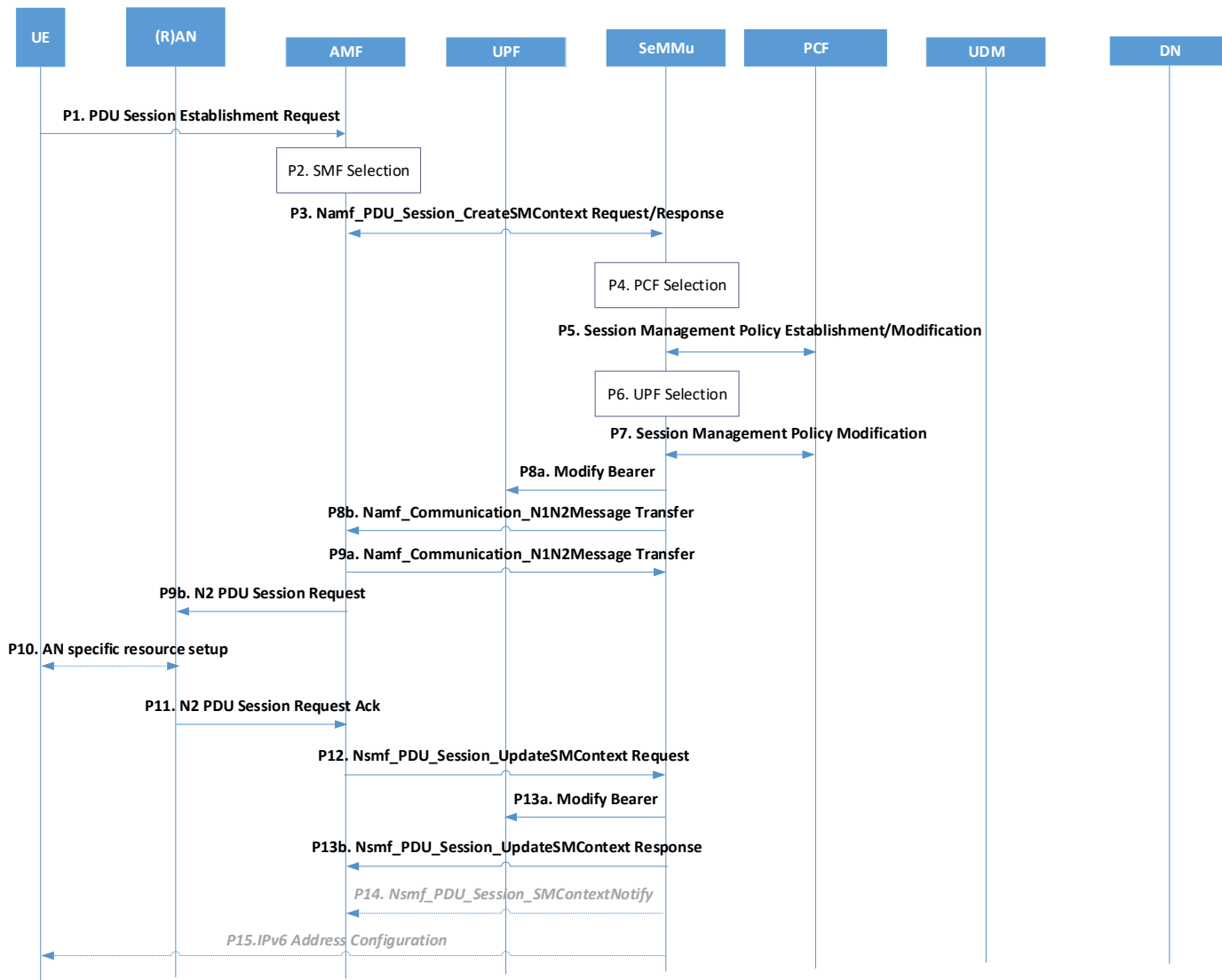
EPS to 5G Core Handover Cancel



5G Core to EPS Handover Cancel



**EPS to 5G Core Handover
without N26 interface:
PDU establishment**



**5G Core to EPS Handover
without N26 interface: UE
requested Connectivity**

