

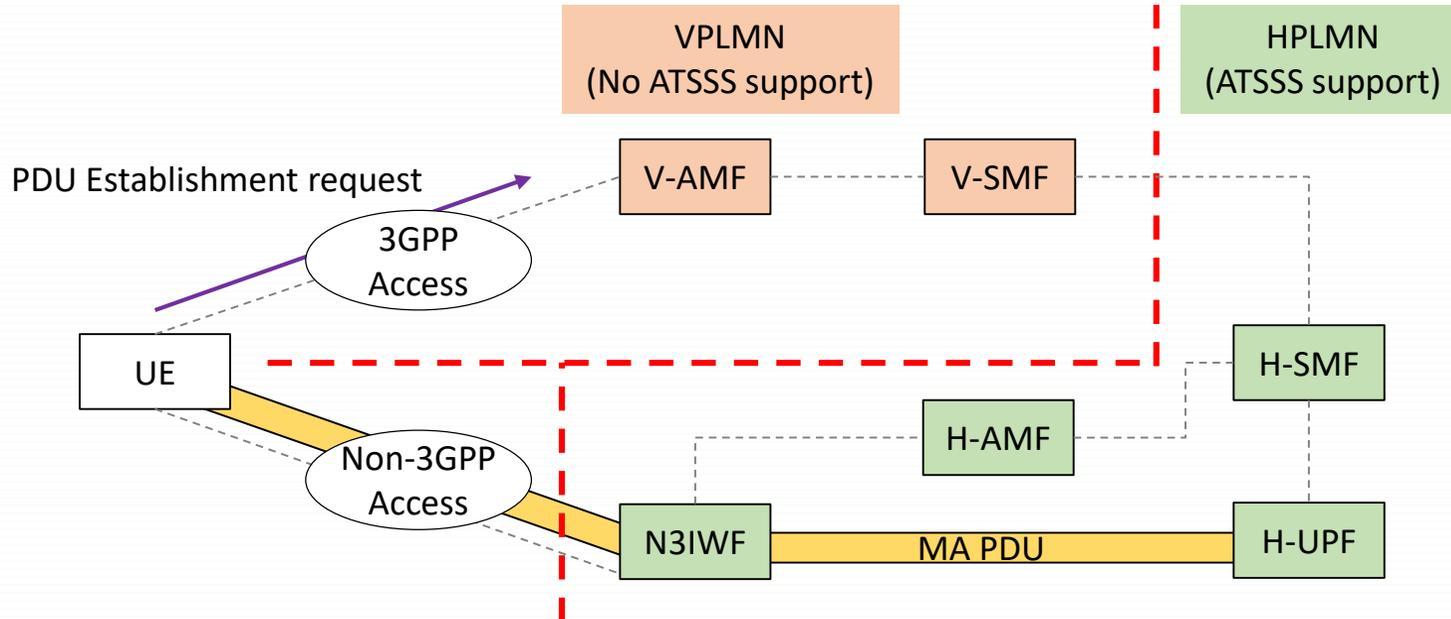
Discussion on MA PDU establishment when VPLMN does not support ATSSS

LG Electronics

Background

Problem scenario

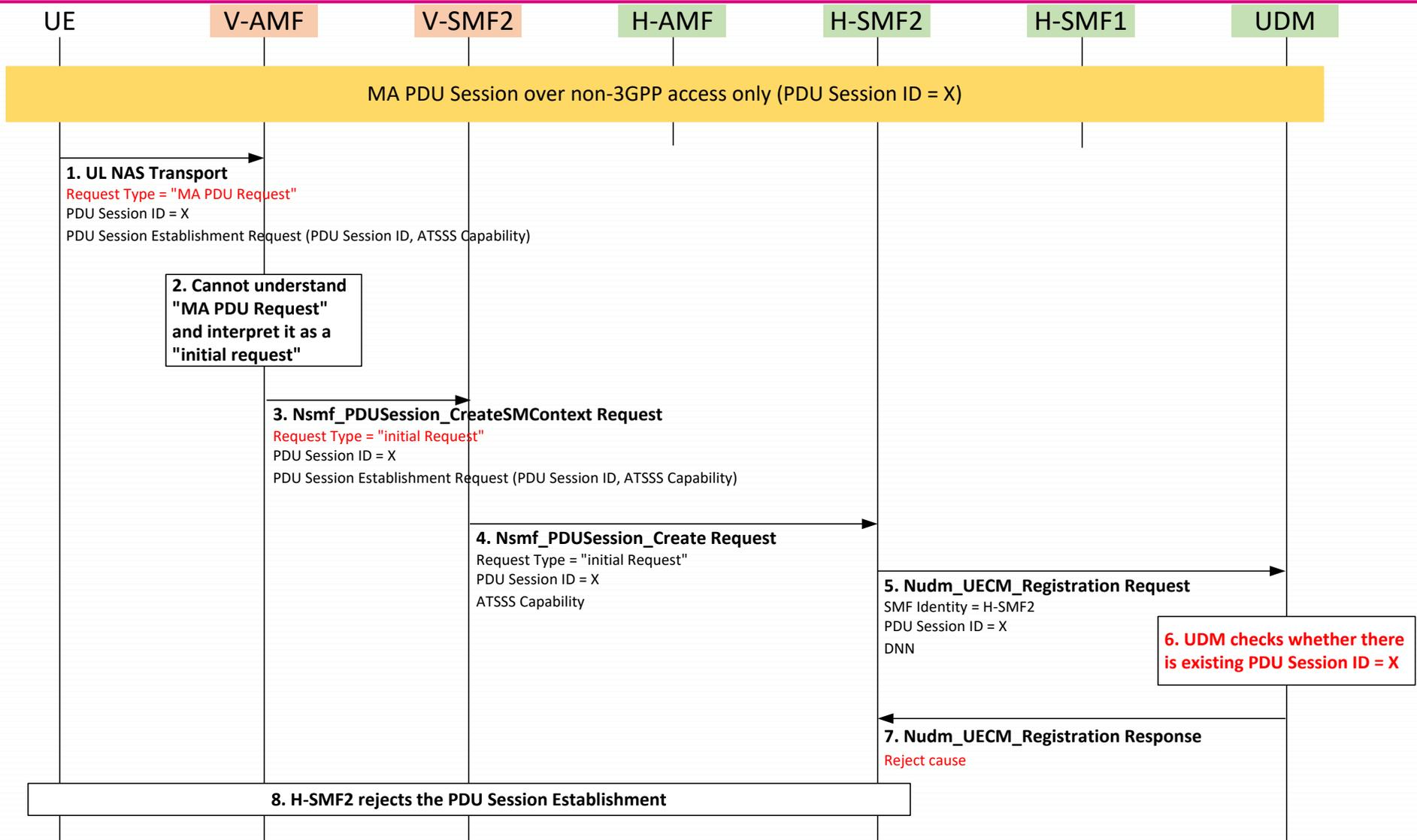
- HPLMN supports ATSSS but VPLMN does not support ATSSS.
- UE established MA PDU over non-3GPP access with direct connection to HPLMN.
- UE tries to add another access over 3GPP access in VPLMN.



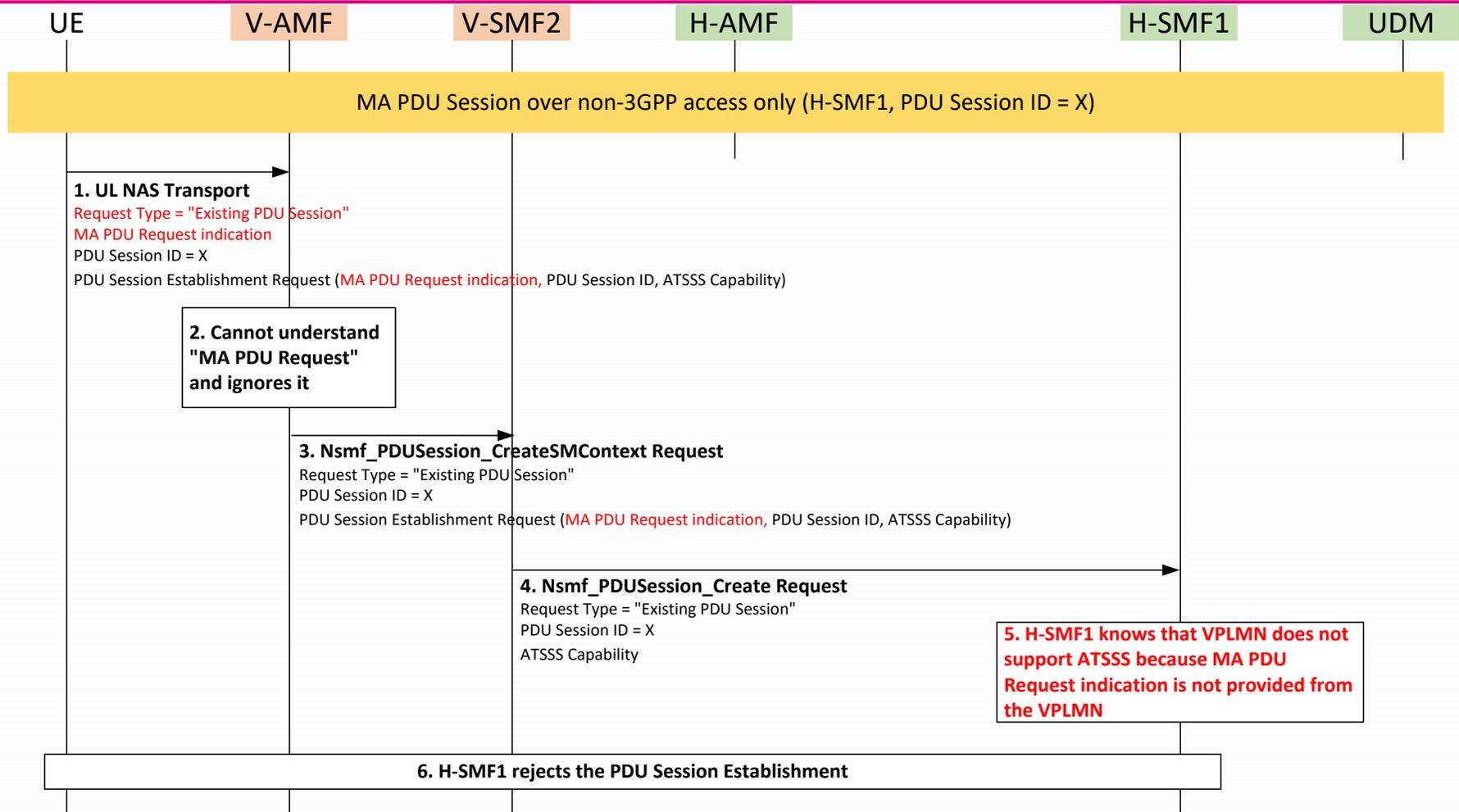
Difference between SA2 and CT1 specifications

	"MA PDU Request" indication	ATSSS Capability
SA2	Separate from Request Type (MA PDU Request + Request Type)	Only for MA PDU Session
CT1	Request Type = MA PDU Request	Both for SA PDU and MA PDU

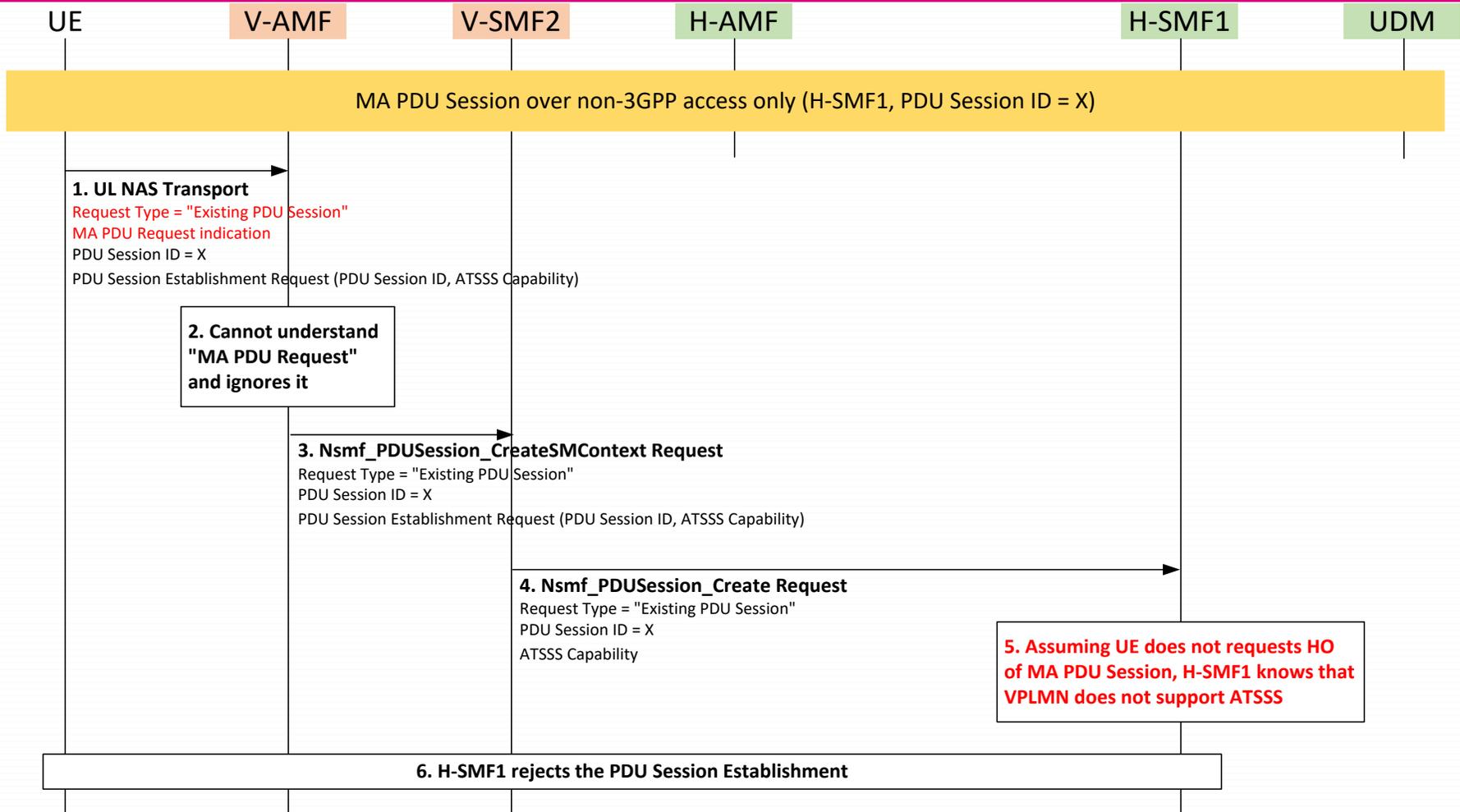
Solution candidates – Option 1



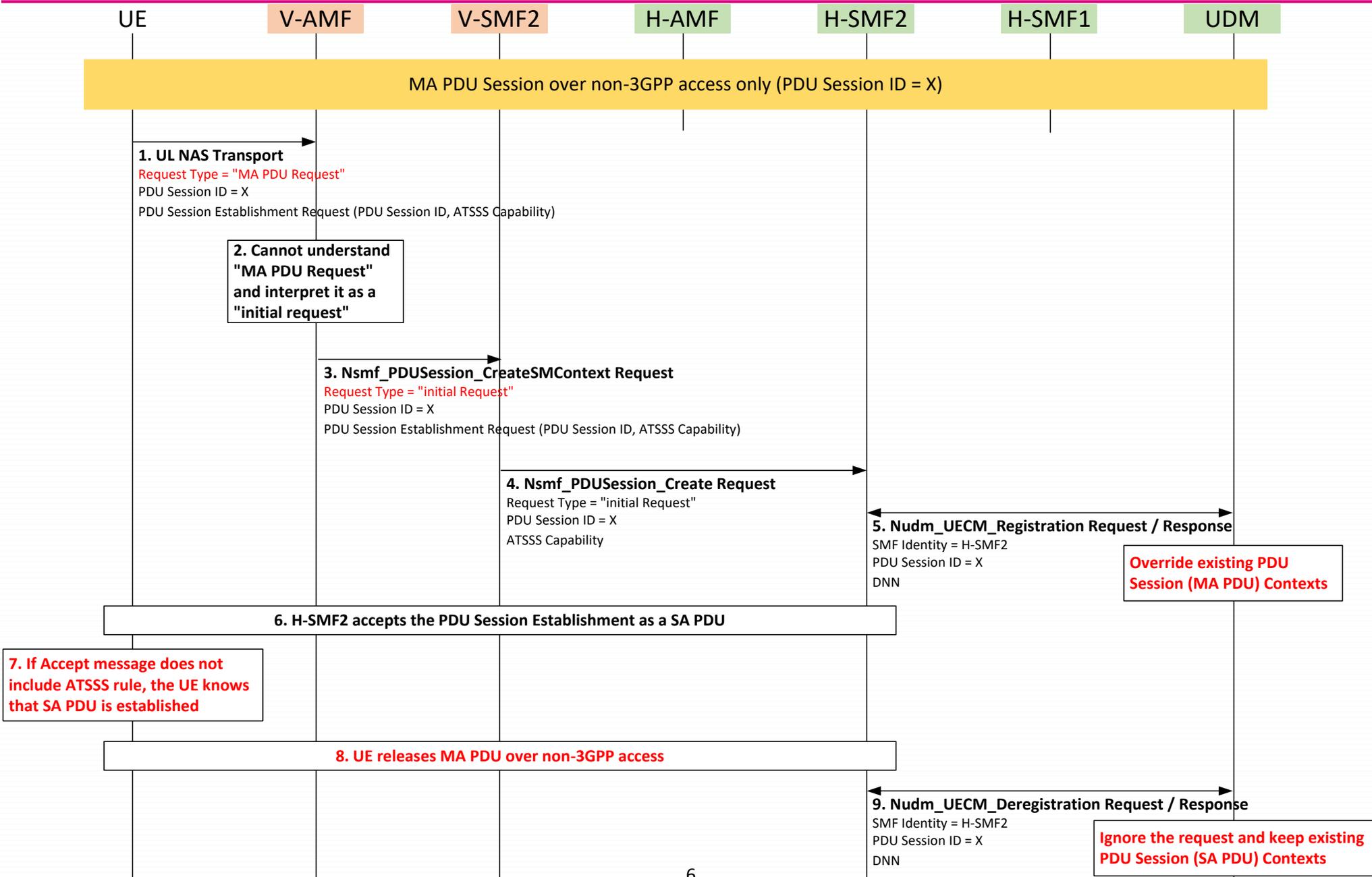
Solution candidates – Option 2a



Solution candidates – Option 2b



Solution candidates – Option 3



Comparison

Candidates	Solution summary and new requirements	Impacted WGs
<p>Option 1</p> <p>Modify UDM to support “direct” rejection of “duplicate” PDU Session ID from MA PDU Session Request for 2nd leg</p>	<p>UE sends "MA PDU request" in Request Type. H-SMF receives "initial request" in Request Type. UDM rejects H-SMF2's registration with <i>new cause</i> if there is duplicated PDU Session ID. The H-SMF2 rejects the UE's request with <i>new cause</i>.</p> <p>Q. When H-SMF selects UDM, is there a possibility that different UDM is selected ? (e.g. H-SMF1 selects UDM1 and H-SMF2 selects UDM2)</p>	<p>SA2 CT1 CT4</p>
<p>Option 2</p> <p>Restore SA2 original proposal in CT1 to NOT to overload the “Request Type” with MA PDU Session request but to indicate “Existing PDU Session” and to include "MA PDU Request" indication in UL NAS Transport</p>	<p>UE sends MA PDU request and set Request Type to "existing PDU Session". The H-SMF1 receives "existing PDU Session" in Request Type.</p> <p>The H-SMF1 detects that VPLMN does not support ATSSS (see below). The H-SMF rejects the UE's request with <i>new cause</i>.</p> <p>Option 2a. The UE includes "MA PDU Request" indication both in UL NAS Transport and PDU Session Establishment. If VPLMN does not provide "MA PDU Request" indication, the H-SMF1 detects that VPLMN does not support ATSSS.</p> <p>Option 2b. Assume that Handover of MA PDU Session is not supported. In this case, no need to include additional "MA PDU Request" indication in PDU Session Establishment request and ATSSS Capability can be included all the time. The H-SMF1 detects that VPLMN does not support ATSSS because it receives Request Type = "existing PDU Session" but VPLMN does not provided "MA PDU Request" indication.</p>	<p>SA2 CT1</p>
<p>Option 3</p> <p>Modify UDM to ignore PDU Session Context Release from Non-associated SMF</p>	<p>UE sends "MA PDU request" in Request Type. H-SMF2 receives "initial request" in Request Type. H-SMF2 accepts the request as a new single access PDU Session. During UDM registration, UDM should not report error to the H-SMF2 even though there is duplicated PDU Session ID and override existing one. The UE knows that ATSSS is not supported in VPLMN because no ATSSS rule is included in accept message. The UE release MA PDU Session. During UDM deregistration, UDM should not remove PDU Session contexts (i.e. the UDM should check SMF ID in addition to PDU Session ID during the (De)Registration)</p>	<p>SA2 CT1 CT4</p>

Proposal

- ❑ **We propose to select Option 2a or Option 2b**
 - Companion CR S2-20XXXXX is based on Option 2a