3GPP TSG-SA WG6 Pre-SA6#51 SEAL/SEALDD
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Source:	**Ericsson**
Title:	**Redundant path establishment with dual UE – dual UP**
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Discussion on Redundant Path Establishment with Dual UE – Dual UP

Here we summarize our feedback on Huawei's presented concerns for clarification.

1. [HW] The configuration of RG related things by NRM server may need SA2 coordination to update the current 23.501 or 23.502 to define explicit interfaces for NRM server invoking the RG configuration service.

   [Er] We believe that no SA2 coordination is needed. The concept of Reliability Groups is already involved in TS 23.501 Annex F for Redundant User Plane configuration. In our proposal it is defined through S-NSSAI which is already supported by SA2. It is pre-configured in the UE itself. Please see the following parts in the previous pCR:

   "The UE RG is defined based on requested S-NSSAI with SST:URLLC and SD:RG. S-NSSAI can be recieved from 5GC (i.e. AMF) in URSP during UE registration procedure.

   The RG of each UE is sent from AMF to RAN when the UE context is established, and maintained as part of the RAN context, so each gNB has knowledge about the reliability group of the connected UEs. UE RG parameter is encoded into RFSP (RAT/Frequency Selection Priority). The requested S-NSSAI is used as input to select the RFSP index value for the UE. RAN uses the RFSP for RRM purposes and is based on local configuration determines the UE Reliability Group."

   "Beyond UEs and gNBs, the disjoint UP path establishment includes separate UPFs. To achieve this, the separate RGs are identified with the requested S-NSSAI. S-NSSAI might be recieved from 5GC (i.e. AMF) during the UE registration procedure, as noted also in step 2 of the procedure in Figure 6.X.2-1. S-NSSAI is used for AMF and SMF selection. UPF is selected with S-NSSAI/DNN."

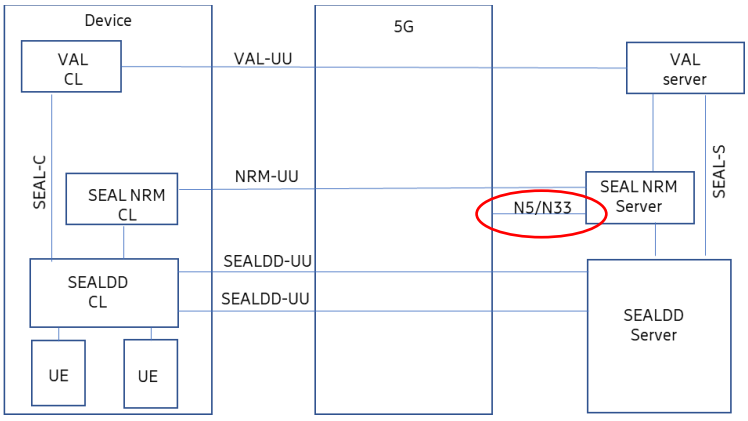
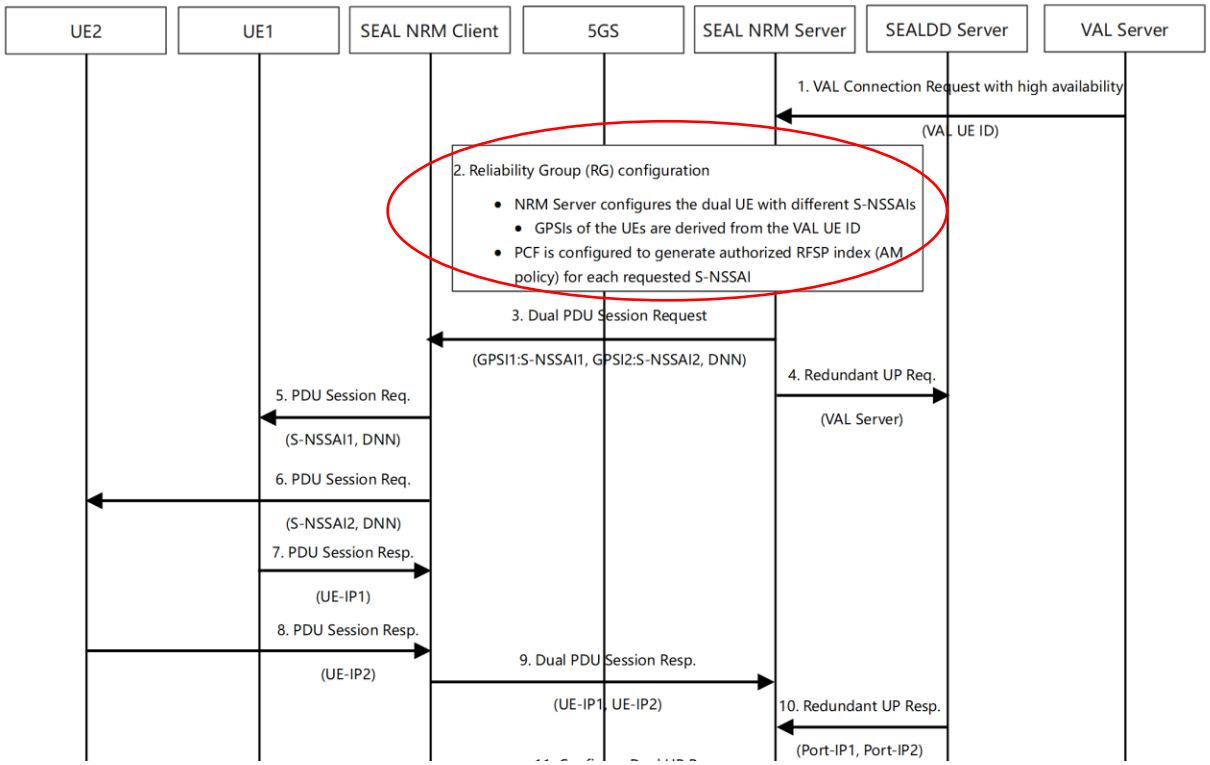


Figure 1: Functional model for E2E redundant transmission path establishment with dual UE – dual UP

Also, please see the relevant part of the flow diagram in Figure 6.X.2-1:



2. [HW] About the roles of NRM and SEALDD in this scenario, I don't agree that NRM should be the controller plane and SEALDD is the user plane. In my opinion, SEALDD server is the data transmission functionality separated from the VAL server which carry out all the data transmission related functionalities for the VAL server. In that case, the service logic is that the VAL server consumes the SEALDD server's data transmission service and SEALDD server invokes the NRM to have RG configuration to establish redundant transmission path through two UEs.

   [Er] We believe such an extensive function of SEALDD is not stated in the TSs. Description of the SEALDD in the present version of 23700-34 is the following:

   "The SEAL data delivery server functional entity acts as the application server for the data delivery enablement. The SEALDD server supports the following capabilities:

   Editor's note: Detailed functionalities supported by SEALDD server is FFS."

   However, the central role of NRM Server is expressed explicitly in TS 23.434 in general for resource allocation:

   "14.3.3.3.2.2 Procedure
   The procedure is generic to any type of session establishment that requires requests for network resources.

   Procedures in figure 14.3.3.3.2.2-1 are the signalling procedures for the requesting resource at session establishment.

   Pre-condition:

- The VAL client has requested VAL service communication with the VAL server.

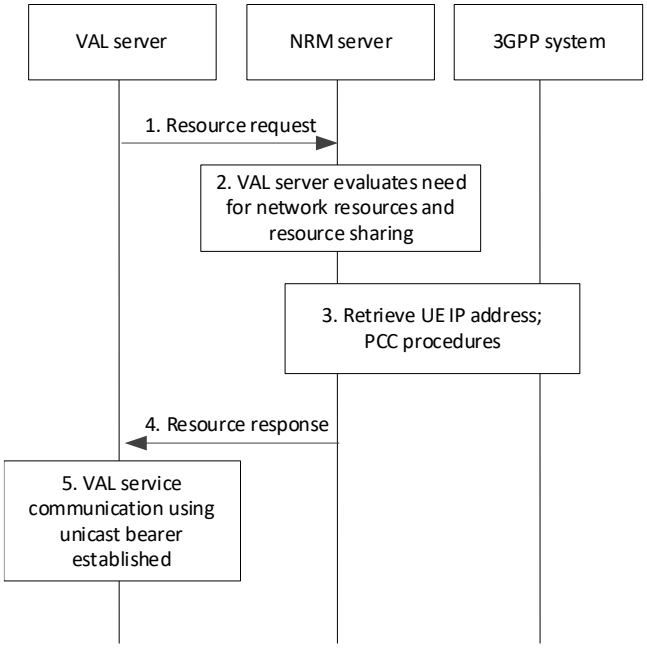


Figure 14.3.3.3.2.2-1: Resource request at VAL service communication establishment

1. The VAL server sends request for resources to the NRM server.
2. The NRM server evaluates the need for network resources and use of resource sharing.
3. The NRM server retrieves UE IP address by using event monitoring capability for PDU session status (or PDN connectivity status), and then PCC procedures are initiated from NRM server.
4. The NRM server sends a resource response to the VAL server.
5. The VAL service communication is established, and resources have been allocated."

Furthermore, we would like to emphasize that the assumed function of SEAL-DD UU *is not novel*. A CP/UP split architecture is considered which is already present in multiple configurations: in 5GC SMF/UPF itself, in TSN or in DetNet. The proposed CP role of NRM-S is in accordance with TS 23.434.

As we stated in the previous discussion, our suggestion is to keep the existing description and extend it with another option where SEALDD initiates the service and then NRM-Server sets up the service.