

On the LS reply to SA3 LS on NSW0 architecture (FS_NSWO_5G; S2-2107064)

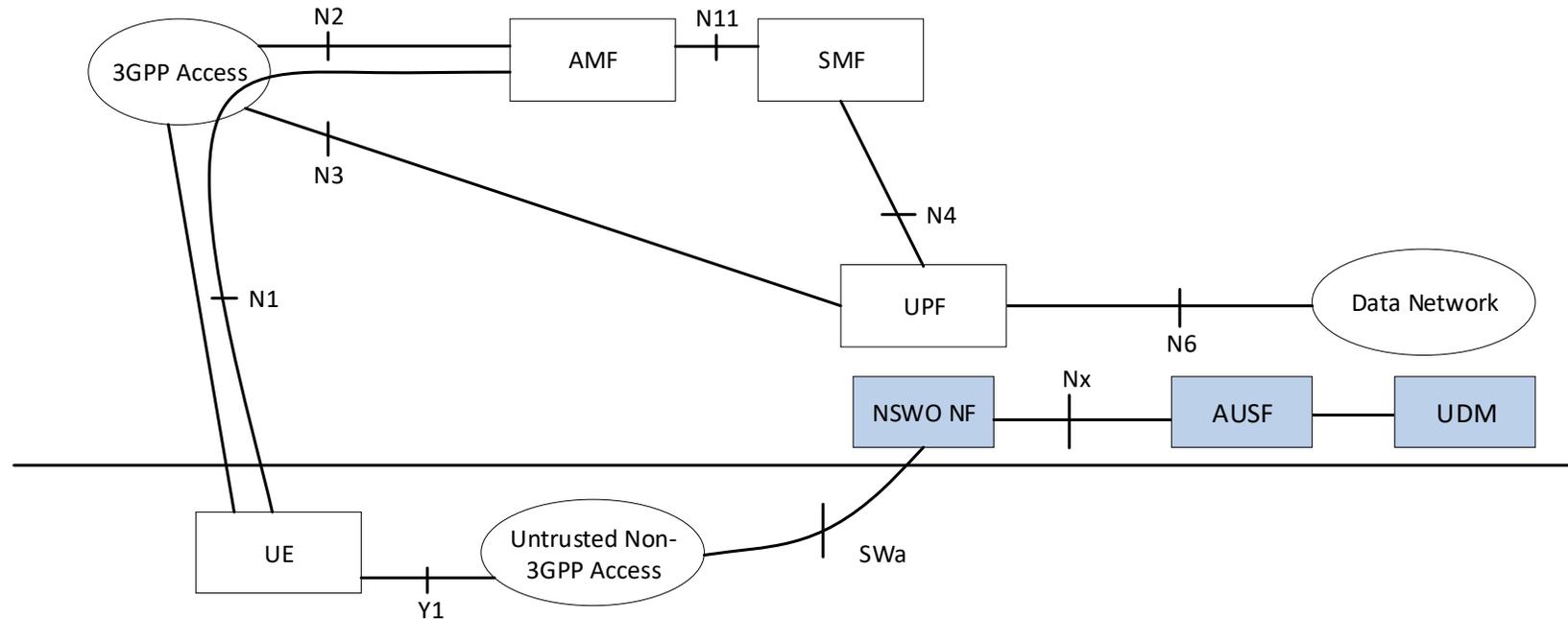
Agenda Item:	4.1
Source:	Intel
Document for:	Discussion



Introduction

- In their incoming LS (S2-2107064 / S3-213174) sent out from the SA3#104E meeting (August) SA3 requested the following from SA2:
 - SA WG3 kindly asks SA WG2 to review and provide feedback on NSW0 architectures.
 - TR 33.881 v0.2.0 (S3-213075) containing 3 solutions was attached to the LS.
- During their adhoc meeting (SA3#104-AdHoc; September 27-30) SA3 have further progressed the work and concluded to move forward with Solution #1. The conclusion in TR 33.881 v0.3.0 (S3-213607) has been updated as follows:
 - *Solution#1 is selected as the basis for the normative work of key issue#1 “Support of EAP-AKA’ authentication for NSW0” with the main characteristics as follows*
 - - *The WLAN access is connected to a new NSW0 NF which acts as a proxy of NSW0 authentication requests towards the 5GS.*
 - - *The UE makes use of a SUCI which is deconcealed by the 5GS in the UDM/SIDF.*
 - *NOTE: Aspects related to co-existence with 4G NSW0 deployments, support of EPS interworking and support of pre-Rel17 UEs have not been considered for the conclusions output of this TR.*

Solution #1 in TR 33.881



- TR 33.881 Figure 6.1.2.1-2: NSWO Architecture proposal

Is SA2 reply still needed?

- Even though SA3 have reached a conclusion, an LS reply is still needed, because according to the FS_NSWO_5G WID (SP-210262)
 - *SA2 positive feedback regarding the architectures for the selected solutions is required before they can proceed to normative phase.*

What should the SA2 reply contain?

- SA2 should confirm the SA3 choice of Solution #1 because:
 - The solution minimizes the AUSF and UDM impact.
 - Avoids the use of the legacy 3GPP AAA Server/Proxy.
 - In PLMN roaming scenarios allows the Security Anchor Function (SEAF) to reside in the visited network and re-use the 5GC roaming architecture.
- SA2 should also request SA3 to address the PLMN roaming scenario
 - PLMN roaming is not excluded from the FS_NSWO_5G scope
 - A possible PLMN roaming architecture is depicted in the backup slide
- SA2 should also request SA3 to clarify the co-existence with the EPS solution for UEs with no 5G subscription
 - From the NOTE in the TR 33.881 conclusion it is not clear whether the co-existence aspects have not yet been considered by SA3 or whether they have been deliberately excluded from the study scope (“*NOTE: Aspects related to co-existence with 4G NSWO deployments, support of EPS interworking and support of pre-Rel17 UEs have not been considered for the conclusions output of this TR.*”)
 - The use case where UEs with no 5G subscription are connected to the same WLAN in parallel with 5G UEs is a very realistic scenario and should be addressed in the standard
 - A possible solution could be that UEs with 4G-only subscription use a different realm in the NAI compared to UEs with 5G subscription, thus allowing the WLAN AP to route the AAA requests to the 3GPP AAA Server/Proxy or to the NSWO NF, respectively. Alternatively, the WLAN AP could be configured to route all AAA requests to the NSWO NF, and then the NSWO NF could complete the routing towards the correct network (EPS or 5GS) based on the user identifier in the NAI

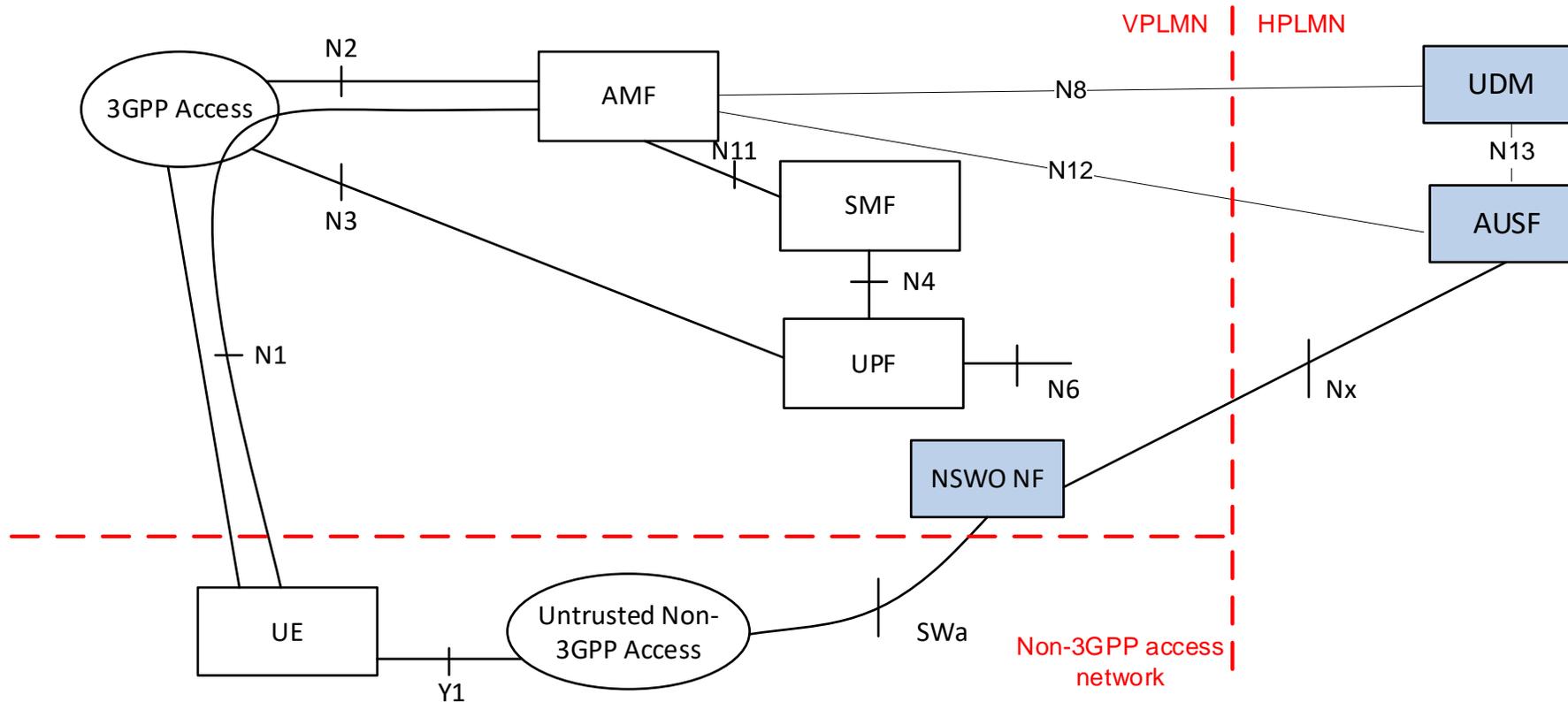
Proposal

- It is proposed that in their LS reply SA2 should:
 - confirm the SA3 choice of Solution #1
 - request SA3 to address the PLMN roaming scenario
 - request SA3 to clarify the co-existence with the EPS solution for UEs with no 5G subscription
- A draft LS reply along these lines is provided in S2-2107099

Backup



Possible roaming architecture for Solution #1 in TR 33.881



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