**SA WG2 Meeting #143E S2-20xxxxx**

**24 February-09 March 2021, Elbonia (revision of S2-20xxxx)**

**Source: Ericsson (Rapporteur)**

**Title: eNPN work plan**

**Document for: Information**

**Agenda Item: TBD**

**Work Item / Release: eNPN / Rel-17**

*Abstract of the contribution: This contribution proposes a work plan for eNPN.*

# Work areas and coordination input

This is the work plan to identify work areas and volunteers for eNPN work item.

1. Identify the required tasks (e.g. CRs and content) of the work plan below, ready by DATE-1?
2. When tasks are settled, identify volunteers to write and drive CR(s) per task of the work plan below
3. Volunteers should upload first draft of normative CR(s) to the SA2#143E DRAFT folder by DATE-2(?), to allow other companies to provide comments, updates and cosigning (discussions to use SA2 discussion mail list).
4. During the SA2#143E meeting, it is recommended to use the corresponding volunteer’s CR as the baseline unless the volunteer's CR doesn’t help reach consensus and the concerns against the volunteer’s CRs are well justified to consider other CRs.
	1. If we are unable to reach consensus, we can also highlight the issues during CC#1 to determine the way forward.

NOTE: The work plan below includes aspects that are concluded and agreed to be part of the WID, i.e. aspects requiring further study in Q1 2021 are excluded.

General:

Common Terminology CR: General\_S2-21enpn-23501-terminology-abbrev\_r00

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| **"Key Issue #1"****Enhancements to Support SNPN along with credentials owned by an entity separate from the SNPN** |
| **Tasks** | **Title** | **SA2#143E****Volunteer/driver****(company, mail address)** | **Status/Comments** | **Clause impacted** |
| KI#1:T1-a | Feature description: General | Orange, antoine.mouquet@orange.com |  - A general introduction to the feature. [PH] Possible merge with KI#1:T1-c | Clause 5.30.2.0: Add general description on access to SNPNs using credentials from a separate entity.  |
| KI#1:T1-b | Feature description: Architectures for access to SNPN using credentials from a separate entity | Devaki (Nokia)Saso (Intel)Peter (Ericsson) | - Separate entity with AUSF and UDM - Separate entity with PLMN subscriptionAvailableKI#1T1-b\_S2-21xxxx-eNPN-separateentity-23501-g70andKI#1T1-b\_S2-21xxxx-eNPN-separateentity-23501-g70\_ericsson\_changes | New clause 5.30.2.X "Architectures for access to SNPN using credentials from a separate entity" |
| KI#1:T1-c | Feature description: SNPN selection and related aspects (SIB enhancements, UE configuration) | Sebastian (Qualcomm)Saso (Intel)Peter (Ericsson)Chia-Lin (MediaTek)Jianning(Xiaomi) | Available:KI#1T1-c\_S2-21xxxx-23501 SNPN\_selection | 5.30.2.2; 5.30.2.3, 5.30.2.4, 5.30.2.6 |
|  | Update the non-supported features for SNPN(general) | Xiaowan(vivo) | [PH] Possible merge with KI#1:T1-c | 5.30.1 |
| KI#1:T2 | Procedure updates |  |  | 23.502 |
| KI#1:T3 | separate entity with AAA - … | Devaki / (Nokia)**Qianghua (Huawei)****Peter (Ericsson)****Genadi (Lenovo)****Jianning****(Xiaomi)** | Normative work will start after feedback from SA3 is received on whether new NF or existing AUSF is enhanced.Available:KI#1T3\_S2-200xxxx - KI#1,T3 support AAA Server for primary authentication and authorization - v1 | 23.501 clause 5.30.2.X (see above)23.502 new clause |
| KI#1:T4 | Update of Separate entity controlled prioritized list of preferred SNPNs | **Qianghua (Huawei)**Fei (OPPO)Xiaobo(Alibaba)Amanda Xiang ( Futurewei)Chia-Lin (MediaTek)Jianning(Xiaomi) | LS out first in Q1Available:KI#1T4\_S2-200xxxx - KI#1,T4 update of prioritized list of preferred SNPNs and Group IDs to the UE - v1 | 23.501 clause 5.30.2.323.502 clause 4.20 or 5.2.3.3.1 |
| KI#1: T5 | Enable mobility between networks | **Qianghua (Huawei)****Zhendong(ZTE)****Chia-Lin (MediaTek)** | [PH] Possible merge with KI#1:T1-c for 23.501 and with KI#1:T2 for 23.502Available:KI#1T5\_S2-200xxxx - KI#1,T5-a-Enable mobility capability for SNPN - v1andKI#1 T5\_S2-210xxxx KI#1-T5, 23.501 Enable mobility between networks v2KI#1T5\_S2-210xxxx KI#1-T5, 23.502 Enable mobility between networks v1 | 23.501 clause 5.30.2.X23.502 clause 4.923.502 cluase 4.2.2.2.2 |
| **"Key Issue #2"****NPN support for Video, Imaging and Audio for Professional Applications (VIAPA)** |
| **Tasks** | **Title** | **SA2#143E****Volunteer/driver****(company, mail address)** | **Status/Comments** |  |
| KI#2:T1 | Informative guideline for how to use existing Rel-16 mechanisms and information to support VIAPA servicesSpecific for service continuity using existing Rel-16 N3IWF-architecture is used as the basis | Amanda Xiang ( Futurewei) Peter (Ericsson)Chia-Lin (MediaTek) |  | TS 23.501Updates to Annex D  |
| KI#2:T2 | To support service continuity for VIAPA:Informative guideline for mapping between standardized 5QI/ARP and DSCP marking to enable the PLMN and SNPN to use the same mapping values for UL and DL user plane traffic within SNPN and PLMN | Devaki (Nokia) | Available:KI#2T2\_S2-21xxxx-eNPN-DSCP-5QImapping | TS 23.501Updates to Annex D or new Annex? |
| KI#2:T3-a | To support UE to receive data services from one network (e.g. NPN), and paging as well as data services from another network (e.g. PLMN) simultaneously.Specific, for single radio UE, keep overlay network connection always in CM-CONNECTED.  | **Hualin(Huawei)****Peter (Ericsson)**Chia-Lin (MediaTek) | Available:KI#2T3-a\_S2-21xxxx\_eNPN HowToKeepUEinCM-CONNECTED state | TS 23.501Updates to Annex D |
| KI#2:T3-b | To support UE to receive data services from one network (e.g. NPN), and paging as well as data services from another network (e.g. PLMN) simultaneously.Specific, when N3IWF based solution is used, the overlay network and its service AF can use existing NEF notification procedures. | Amanda Xiang ( Futurewei) |  | TS 23.501Update to Annex D or new Annex?23.502 (?)4.15.7;  |
| KI#2:T3-c | To support UE to receive data services from one network (e.g. NPN), and paging as well as data services from another network (e.g. PLMN) simultaneously.Specific, The RAN node in the underlay network can receive an indication that the NG-RAN can use as input to decide whether it is preferred to release a UE to RRC-Inactive. | Xiaobo(Alibaba)Zhendong(ZTE) | [PH] Not part of normative WID, seeWID and TR cover sheet. | 23.501, 23.502 |
| **"Key Issue #3"****Support of IMS voice and emergency services for SNPN** |
| **Tasks** | **Title** | **SA2#143E****Volunteer/driver****(company, mail address)** | **Status/Comments** |  |
| KI#3:T1 | Use of IMC when USIM or ISIM is not available  | Zhendong(ZTE)Megha(Intel)George (Ericsson) | See solution #21LS out to WGs responsible of specs identified by solution #21? | TS 23.228 |
| KI#3:T2 | Reuse of USIM credentials for IMS AKA shall be possible when USIM is available in UEs accessing IMS via an SNPN |  | Q: Any SA2 changes required? |  |
| KI#3:T3 | Support of voice and emergency services with SNPN | Haris (Qualcomm) | Excluding EPS fallback and T-ADSUpdates to IMS Emergency support functional description when the serving network is a SNPNAvailable:KI#3T3\_S2-21xxxx-23.501-IMS emergency over SNPN-r2andKI#3T3\_S2-21xxxx-23.501-IMS voice over SNPN-r2 | TS 23.501 |
| Zhendong(ZTE) | Available:KI#3T3\_S2-21xxxxx KI#3-T3, 23.502 Support of emergency services with SNPN | TS 23.502Update clause 4.2.2.2.2 |
| Belen (Ericsson) | **Available:** KI#3:T3\_**S2-21xxxxx\_eNPN\_Emergency\_23.503****and** KI#3:T3\_**S2-21xxxxx\_eNPN\_IMS\_voice\_23.503** | TS 23.503 |
| KI#3:T4 | Domain selection for voice and emergency | Haris (Qualcomm) | Introduction of support of emergency calls from SNPN in TS 23.167 inc. domain selectionAvailable:KI#3T4\_S2-210xxxx-23167 IMS emergency over SNPN-r2andKI#3T4\_S2-210xxxx-23167 IMS emergency over SNPN-r2-E | TS 23.167 Update Annex H |
| **"Key Issue #4"****UE onboarding and remote provisioning** |
| **Tasks** | **Title** | **SA2#143E****Volunteer/driver****(company, mail address)** | **Status/Comments** |  |
| KI#4:T1-a | GeneralArchitecture (SNPN and PNI-NPN) | **Hualin(Huawei)****Megha ( Intel) - SNPN****Peter (Ericsson)** | A general introduction to the feature and architecture (for SNPN and PNI-NPN)**Available: S2-21abcd\_UEOnboarding23501*****and general for PNI-NPN*:** | TS 23.501New clause 5.30.x? |
| KI#4: T1-b | Impact to SIB indicator for onboarding support (O-SNPN selection) to enable Network sharing | **Devaki (Nokia)****Amanda Xiang ( Futurewei )** | **[PH] possible merge with KI#4:T2?****Available:****KI#4 T1-b\_S2-21xxxx-eNPN-OSNPN-NetworkSelection\_r04** | TS 23.501 |
| KI#4:T2 | T2-a: UE Onboarding Component #1: 3GPP connectivity for UE to realize remote provisioning (SNPN) excluding T2-b  | **Qianghua (Huawei)**Xiaobo(Alibaba)Megha (Intel)Peter (Ericsson)Kisuk(Samsung) | **Available:****KI#4T2\_S2-21onbrd-23501-onboarding-KI#4-T2****and****KI#4T2a\_S2-200xxxx - KI#4,T2-a-UE Onboarding registration for NPN - v1** | TS 23.501 |
| **Qianghua (Huawei)**Xiaobo(Alibaba)Peter (Ericsson)Kisuk(Samsung) |  | TS 23.502 |
| T2-b: Impact to RRC indication and NAS indication for onboarding | Fei (OPPO)Chia-Lin (MediaTek) | [PH] possible merge with KI#4:T2 above?Available:KI#4T2\_S2-210abc1\_npn\_indications | TS 23.502 clause 4.2.2.2  |
|  | T2-c: Onboarding Configuration from O-SNPN to the UE  | Xiaowan(vivo)Kisuk(Samsung) | e.g. PS address[PH] possible merge with KI#4:T2 above?Available:T2-cd\_S2-21XXXXX\_23501\_eNPN\_T2-cd\_onboarding configuration | TS 23.501 |
|  | Xiaowan(vivo)Kisuk(Samsung) | [PH] possible merge with KI#4:T2 above?Available:KI#4T2 -cd\_S2-21XXXXX\_23502\_eNPN\_T2-c\_PS address | TS 23.502 |
|  | T2-d: Onboarding Configuration on the UE | Xiaowan(vivo)Megha(Intel)Mike (Convida Wireless)Kisuk(Samsung) | e.g. default credential, PS address, SO-SNPN identity[PH] possible merge with KI#4:T2 above?Available:T2-cd\_S2-21XXXXX\_23501\_eNPN\_T2-cd\_onboarding configuration | TS 23.501 |
|  | T2-e: UE Onboarding Component #1: onboarding network selection  | Guanzhou (InterDigital)Amanda Xiang ( Futurewei)Peter (Ericsson)Mike (Convida Wireless)Genadi (Lenovo) | How the UE selects a onboarding network with or without pre-configuration[PH] possible merge with KI#4:T2 above? | TS 23.501 |
| KI#4:T3 | UE Onboarding component #2: Enabling restricted PDU Session for remote provisioning of UE using User Plane (SNPN+PNI-NPN) | **Rainer (Nokia)****Megha (Intel) – SNPN case** | **Available:** | TS 23.501 |
| **Rainer (Nokia)****Megha (Intel) – SNPN case** |  | TS 23.502 |
| **Zhendong (ZTE)****Belen (Ericsson)** | **Available:****KI#4T3\_S2-21xxxxx KI#4-T3, 23.503 Enabling restricted PDU Session for remote provisioning of UE using User Plane** | TS 23.503 |
| KI#4:T4 | UE onboarding Component #2: Enabling remote provisioning of UE using Control Plane for PNI-NPN | **Yi (China Mobile)****Hualin(Huawei)****Peter (Ericsson)****Genadi (Lenovo)** | Based on sol #32 using SoR;Available:KI#4T4\_S2-20xxxxx KI#4 T4 23501 draftCR on SoR based PNI-NPN remote provisioning CMCC | TS 23.501 |
| **Yi (China Mobile)****Hualin(Huawei)****Peter (Ericsson)****Genadi (Lenovo)** | Based on sol #32 using SoRAvailable:KI#4T4\_S2-200xxxx - TS 23.502\_Network initiated remote provisioning for PNI-NPN | TS 23.502 |