**3GPP TSG|WG-SA WG2 Meeting #142E S2-2008472**

**Elbonia, 16 – 20 November 2020 (Revision of S2-20xxxxx)**

**Source: Ericsson, AT&T, CableLabs, Charter Communications, China Unicom, Convida Wireless, Intel, Lenovo, Motorola Mobility, OPPO, Sony, Huawei, HiSilicon, ETRI, Samsung, China Telecom, KDDI, Futurewei, DOCOMO, Spreadtrum Communications, China Mobile, ZTE**

**Title: New WID on enhanced support of Non-Public Networks**

**Document for: Approval**

**Agenda Item: 9.1**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

# Title: Work Item on enhanced support of Non-Public Networks

## Acronym: eNPN

## Unique identifier: *{A number to be provided by MCC at the plenary}*

Potential target Release: Rel-17

## 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Affects:** | UICC apps | ME | AN | CN | Others (specify) |
| **Yes** |  | x | x | x |  |
| **No** |  |  |  |  |  |
| **Don't know** | x |  |  |  | x |

## 2 Classification of the Work Item and linked work items

### 2.1 Primary classification

|  |  |
| --- | --- |
| x | Feature |
|  | Building Block |
|  | *Work Task* |
|  | Study Item |

### 2.2 Parent Work Item

|  |
| --- |
| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| AVPROD | SA1 | 840045 | WID on Audio-Visual Service Production |
| IESNPN | SA1 | 860008 | WID on IMS emergency support for SNPN |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work Items (if any) |
| Unique ID | Title | Nature of relationship |
| 820017 | 5GS Enhanced support of Vertical and LAN Services | *Antecedent Stage 2 work item* |
| 840024 | Study on enhanced support of Non-Public Networks | *Antecedent Stage 2 study item* |

## 3 Justification

This work item aims at specifying system enhancements required for 5G system to support service requirements for Audio-Visual Service Production, and service requirements for IMS voice and emergency support for SNPN, as concluded by the Study on enhanced support of Non-Public Networks.

The service requirements are documented in TS 22.261, 22.263, 22.101 and 22.228.

## 4 Objective

The objective is to specify enhancements to 5GS as per conclusions reached within TR 23.700-07 for the following aspects:

Editor’s note: All items to be updated based on discussion at SA2#142e.

- Enhancements to Support SNPN along with credentials owned by an entity separate from the SNPN (KI#1)

- To support SNPN selection for UEs with an SNPN subscription as per conclusions in clause 8.1.X

- To enable scenarios when UE is using a SNPN subscription when the separate entity is offering a UDM/AUSF

- To enable scenarios when UE is using a PLMN subscription when the separate entity is offering a UDM/AUSF

Editor’s note: How to enable the scenario when separate entity is offering a AAA server and is using SNPN subscription as per conclusions in clause 8.1.1 is FFS based on feedback from SA3.

- To enable mobility between networks as per conclusions in clause 8.1.2

- NPN enhancements to enable support for Video, Imaging and Audio for Professional Applications (VIAPA) (KI#2):

- 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.

- Support of IMS voice and emergency services for SNPN (KI#3)

- To enable support for IMS and emergency services as per conclusions in clause 8.3.

- Support for UE Onboarding and remote provisioning (KI#4)

Editor’s note: LS sent to SA3 regarding security related ENs.

- To enable UE onboarding over an Onboarding Network (ON) (O-SNPN or PLMN) and remote provisioning using user plane mechanisms for SNPN credentials as per conclusions in clause 8.4.1.

Editor’s note: Support for control plane remote provisioning architecture for SNPN credentials is FFS based on feedback from SA3.

NOTE X: Using PLMN credentials for UE onboarding and PLMN as Onboarding Network (ON) is already possible. When Onboarding network is a PLMN, the functionality to restrict usage is activated for the UE by AMF based on received subscription profile from the UDM. How the subscription profile is defined, e.g. using DNN, S-NSSAI or other information dedicated for onboarding, is up to operator’s decision.

NOTE Y: Usage of a PLMN as Onboarding Network (ON) for a UE equipped with a USIM shall be possible. The SO-SNPN credentials can be transmitted to UE via UP connectivity.

- To enable UE onboarding with PLMN credentials and remote provisioning for PNI-NPN credentials using control and user plane mechanisms as per conclusions in clause 8.4.2.

NOTE Z: No enhancement for the UE onboarding with PLMN credentials used for primary authentication and PLMN network selection are needed for the case of PNI-NPN credentials provisioning.

## 5 Expected Output and Time scale

|  |
| --- |
| **New specifications** *{One line per specification. Create/delete lines as needed}* |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Rapporteur |
|  |  |  |  |  |  |

|  |
| --- |
| **Impacted existing TS/TR** *{One line per specification. Create/delete lines as needed}* |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| 23.501 | Architectural and Conceptual enhancements to support the stated objectives | SA#92 (June 2021) |  |
| 23.502 | Procedural enhancements to support the stated objectives | SA#92 (June 2021) |  |
| 23.503 | Policy and Charging Control Framework for the 5G System | SA#92 (June 2021) |  |
| 23.228 | IMS enhancements to support the stated objectives | SA#92 (June 2021) |  |
| 23.167 | Enhancements to Domain Selection Rules for emergency session | SA#92 (June 2021) |  |

## 6 Work item Rapporteur(s)

Hedman, Peter, Ericsson, peter dot hedman at ericsson dot com

## 7 Work item leadership

SA2

## 8 Aspects that involve other WGs

Security aspects will be covered by SA3.

Management aspects will be covered by SA5.

## 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| AT&T |
| CableLabs |
| CATT? |
| Charter Communications |
| China Mobile |
| China Telecom |
| China Unicom |
| Convida Wireless |
| Deutsche Telekom? |
| DOCOMO |
| Ericsson |
| ETRI |
| Futurewei |
| HiSilicon |
| Huawei |
| Intel |
| Interdigital? |
| KDDI |
| KT? |
| Lenovo |
| LG Electronics? |
| MediaTek Inc |
| Motorola Mobility |
| NICT? |
| Nokia? |
| Nokia Shanghai Bell? |
|  |
| OPPO |
| Qualcomm Incorporated |
| Rogers Communications? |
| Samsung |
| Sandvine? |
| Siemens? |
| Sony |
| Spreadtrum Communications |
| Telecom Italia? |
| Verizon UK Ltd? |
| Volkswagen AG? |
| ZTE |