**3GPP TSG-CT WG1 Meeting #123-eC1-20xxxx**

**Electronic meeting, 16-24 April 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **24.501** | **CR** | **2177** | **rev** | **1** | **Current version:** | **16.4.1** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network |  |

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| ***Title:*** | Non-3GPP access for PLMN and SNPN | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | Vertical\_LAN | | | | |  | ***Date:*** | | | 2020-03-26 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) Rel-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | As per stage 2 specified in TS 23.501 sub 5.30.2.7 and 5.30.2.8, when the UE accesing PLMN via SNPN or accessing SNPN via PLMN, the SNPN or the PLMN will take the role of "Untrusted non-3GPP access".  In stage 3, for PLMN case, CT1 has used the term “non-3GPP access” very often but it is not so clear whether it also covers “accessing PLMN via SNPN” or not. For SNPN case, even CT1 has indicated in some NOTEs that “non-3GPP access” refers to “accessing SNPN via PLMN”, but it is better to clearly document this in a general subclause that accessing PLMN services via an SNPN and accessing SNPN services via a PLMN are treated as untrusted non-3GPP access by the UE. Note that at the AMF, as in both cases is accessing via N3IWF, then it is naturally the AMF will treat them as untrusted non-3GPP access.  Furthermore, as indicated in the SA2 reply LS C1-200234(S2-1912601), in R16, for accessing SNPN over non-3GPP access, it only covers accessing SNPN via PLMN, while all other non-3GPP access types, e.g. WLAN, trusted non-3GPP access, wireline access are not supported. This should be clearly documented in a gernal subclause in stage 3 as well. | | | | | | | | |
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| ***Summary of change:*** | | It proposes to   1. Document in a general subclause that accessing PLMN services via an SNPN and accessing SNPN services via a PLMN are treated as untrusted non-3GPP access by the UE. 2. Document in a general subclause that non-3GPP access other than accessing SNPN services via a PLMN is not supported in an SNPN. | | | | | | | | |
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| ***Consequences if not approved:*** | | It is not so clear in stage 3 that whether the term “non-3GPP access” used in TS 24.501 covers “accessing PLMN services via an SNPN” or “accessing SNPN services via a PLMN”. For SNPN, it is not so clear whether non-3GPP access other than accessing SNPN services via a PLMN is supported or not. | | | | | | | | |
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| ***Clauses affected:*** | | 4.7.1, 4.14.2 | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* First Change \* \* \* \*

### 4.7.1 General

From the UE's NAS perspective, in general the procedures and messages defined for 5GMM and 5GSM are used over non-3GPP access as over 3GPP access. However, a number of aspects are different as described in the following subclauses. From the UE's NAS perspective, accessing PLMN services via an SNPN and accessing SNPN services via a PLMN are treated as untrusted non-3GPP access.

\* \* \* Next Change \* \* \* \*

### 4.14.2 Stand-alone non-public network

If the UE is not SNPN enabled, the UE is always considered to be not operating in SNPN access mode. If the UE is SNPN enabled, the UE can operate in SNPN access mode. Details of activation and deactivation of SNPN access mode at the SNPN enabled UE are up to UE implementation.

The functions and procedures of NAS described in the present document are applicable to an SNPN and an SNPN enabled UE unless indicated otherwise. The key differences brought by the SNPN to the NAS layer are as follows:

a) instead of the PLMN selection process, the SNPN selection process is performed by a UE operating in SNPN access mode (see 3GPP TS 23.122 [5] for further details on the SNPN selection);

b) a "permanently forbidden SNPNs" list and a "temporarily forbidden SNPNs" list are managed by a UE operating in SNPN access mode instead of forbidden PLMN lists;

c) inter-system change to and from S1 mode is not supported;

d) emergency services are not supported in SNPN access mode;

e) CAG is not supported in SNPN access mode;

f) with respect to the 5GMM cause values:

1) 5GMM cause values #74 "Temporarily not authorized for this SNPN" and #75 "Permanently not authorized for this SNPN" are supported whereas these 5GMM cause values cannot be used in a PLMN; and

2) 5GMM cause values #11 "PLMN not allowed", #31 "Redirection to EPC required", #73 "Serving network not authorized", and #76 "Not authorized for this CAG or authorized for CAG cells only" are not supported whereas these 5GMM cause values can be used in a PLMN;

Editor's note [WI: Vertical\_LAN, CR#1286]: It is FFS whether 5GMM cause value # 72 "Non-3GPP access to 5GCN not allowed" is supported in an SNPN.

g) a list of "5GS forbidden tracking areas for roaming" and a list of "5GS forbidden tracking areas for regional provision of service" are managed per SNPN (see 3GPP TS 23.122 [5]);

h) when accessing SNPN services via a PLMN using 3GPP access, access to 5GCN of the SNPN is performed using 5GMM procedures for non-3GPP access and 5GMM parameter for non-3GPP access. When accessing PLMN services via a SNPN, access to 5GCN of the PLMN is performed using 5GMM procedures for non-3GPP access and 5GMM parameter for non-3GPP access. If the UE is accessing the PLMN using non-3GPP access, the access to 5GCN of the SNPN via PLMN is not specified in this release;

i) when registered to an SNPN, the UE shall use only the UE policies provided by the registered SNPN;

j) equivalent SNPN is not supported;

k) neither the default configured NSSAI nor the network slicing indication is supported in SNPNs;

l) roaming is not supported in SNPN access mode; and

m) handover between SNPNs is not supported.

x) non-3GPP access to SNPN is not supported except accessing SNPN services via a PLMN using 3GPP access.

\* \* \* End of Change \* \* \* \*