**3GPP TSG-CT WG1 Meeting #141eC1-23XXXX**

**Online 17– 21 April 2023**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **24.501** | **CR** | **5263** | **rev** | **1** | **Current version:** | **18.2.1** |  |
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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:*** | Condition for mobility registration update in SNPN | | | | | | | | | |
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| ***Source to WG:*** | Samsung | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eNPN\_Ph2 | | | | |  | ***Date:*** | | | 2023-04-10 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | F |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
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| ***Reason for change:*** | | In CT1 #140 meeting C1-231177, conditions were added in TS 24.501 to indicate when the UE should perform mobility registration update in SNPNs. But it was not accurately specified that mobility registration update should be performed only for the same selected entry of “list of subscriber data” or the selected USIM subscription. | | | | | | | | |
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| ***Summary of change:*** | | 1. The mobility registration update should be performed only for the same selected entry of “list of subscriber data” or the selected USIM subscription. 2. Existing caluse for supporting mobility between SNPNs is also updated with the same condition. | | | | | | | | |
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| ***Consequences if not approved:*** | | Incorrect trigger for mobility registration update in SNPNs. | | | | | | | | |
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| ***Clauses affected:*** | | 4.14.2, 5.5.3.2.5 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

##### \*\*\*\*\* Start change \*\*\*\*\*

### 4.14.2 Stand-alone non-public network (SNPN)

If the UE is not SNPN enabled, the UE is always considered to be not operating in SNPN access operation mode. If the UE is SNPN enabled, the UE can operate in SNPN access operation mode. Details of activation and deactivation of SNPN access operation 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 operation mode (see 3GPP TS 23.122 [5] and 3GPP TS 24.502 [18] for further details on the SNPN selection);

b) a "permanently forbidden SNPNs" list and a "temporarily forbidden SNPNs" list are managed per access type independently (i.e. 3GPP access or non-3GPP access) and, if the UE supports access to an SNPN using credentials from a credentials holder, equivalent SNPNs or both, per entry of the "list of subscriber data" or, if the UE supports access to an SNPN using credentials from a credentials holder, per the PLMN subscription, by a UE operating in SNPN access operation mode instead of forbidden PLMN lists. If the UE supports onboarding services in SNPN, an additional "permanently forbidden SNPNs" list for onboarding services and an additional "temporarily forbidden SNPNs" list for onboarding services are managed.These lists shall be maintined across activation and deactivation of SNPN access operation mode;

Editor's note: It is FFS how the UE will handle these lists on T3245 expiry when UE is not operating in SNPN access operation mode.

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

d) void;

e) CAG is not supported in SNPN access operation 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;

NOTE 1: The network does not send 5GMM cause value #13 to the UE operating in SNPN access operation mode in this release of specification.

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 and, if the UE supports access to an SNPN using credentials from a credentials holder, equivalent SNPNs or both, entry of the "list of subscriber data" or, if the UE supports access to an SNPN using credentials from a credentials holder,PLMN subscription (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, 5GMM parameters for non-3GPP access, the UE is performing access to SNPN over non-3GPP access and the UE is not operating in SNPN access operation mode over 3GPP access. When accessing PLMN services via a SNPN using 3GPP access, access to 5GCN of the PLMN is performed using 5GMM procedures for non-3GPP access, 5GMM parameters for non-3GPP access, the UE is not performing access to SNPN over non-3GPP access, and the UE is operating in SNPN access operation mode over 3GPP access. 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. 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 of the specification .

Emergency services are not supported in an SNPN when a UE accesses SNPN services via a PLMN;

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

j) inclusion of a TAI of an SNPN other than the registered SNPN, into the registration area is not supported. The AMF of an SNPN shall only include into the registration area one or more TAIs of the registered SNPN;

j1) inclusion of a TAI of an SNPN other than the registered SNPN, into the LADN service area is not supported. The AMF of an SNPN shall only include one or more TAIs of the registered SNPN into the LADN service area;

j2) inclusion of a TAI of an SNPN other than the registered SNPN, into the allowed area or the non-allowed area, of the 3GPP access service area restrictions is not supported. The AMF of an SNPN shall include only one or more TAIs of the registered SNPN into the allowed area or the non-allowed area, of the 3GPP access service area restrictions;k) void;

l) void;

m) UE mobility between SNPNs in 5GMM-CONNECTED mode is supported when the SNPNs are equivalent SNPNs for the selected entry of the "list of subscriber data" or the selected PLMN subscription. UE mobility between SNPNs in 5GMM-IDLE mode is supported when the UE supports access to an SNPN using credentials from a credentials holder or when the SNPNs are equivalent SNPNs for the selected entry of the "list of subscriber data" or the selected PLMN subscription. UE mobility between an SNPN and a PLMN is not supported;

n) CIoT 5GS optimizations are not supported;

o) void;

p) when registering or registered to an SNPN, the UE shall handle the 5GS mobile identity as described in subclause 5.5.1.2.2;

q) when registering or registered to an SNPN, the UE shall only consider:

1) a last visited registered TAI visited in the same SNPN as an available last visited registered TAI; or

2) a last visited registered TAI visited using the same entry of the "list of subscriber data" or the same PLMN subscription as an available last visited registered TAI, if the UE supports access to an SNPN using credentials from a credentials holder, equivalent SNPNs or both;

NOTE 2: If the last visited registered TAI is assigned by an SNPN other than the current SNPN, the serving AMF can determine the SNPN assigning the last visited registered TAI using the NID provided by the UE.

r) emergency service fallback is not supported;

s) when registering or registered for onboarding services in SNPN, the UE shall not provide the requested NSSAI to the network;

s1) when performing initial registration for onboarding services in SNPN, the UE shall set the 5GS registration type value to "SNPN onboarding registration";

t) when registering or registered for onboarding services in SNPN, the AMF shall not provide the configured NSSAI, the allowed NSSAI or the rejected NSSAI to the UE, shall use the S-NSSAI included in the AMF onboarding configuration data for onboarding services in SNPN and shall not perform NSSAA procedure for S-NSSAI used for onboarding services in SNPN;

u) the UE can access an SNPN indicating that onboarding is allowed using default UE credentials for primary authentication in order for the UE to be configured with one or more entries of the "list of subscriber data";

x) eCall over IMS is not supported in SNPN access operation mode and the UE ignores any USIM configuration for eCall only mode;

y) when registering or registered for onboarding services in SNPN, the AMF shall store in the 5GMM context of the UE an indication that the UE is registered for onboarding services in SNPN;

z) a UE with multiple valid entries of "list of subscriber data", or one or more valid USIMs and one or more valid entries of "list of subscriber data", capable of initiating and maintaining simultaneous separate registration states over 3GPP access with PLMN(s) or SNPN(s), using identities and credentials associated with those entries of "list of subscriber data", or USIMs and entries of "list of subscriber data", and supporting one or more of the N1 NAS signalling connection release, the paging indication for voice services, the reject paging request, the paging restriction and the paging timing collision control may use procedures defined for MUSIM UE, even if the UE does not include multiple valid USIMs;

za) when the UE is registering or registered for onboarding services in SNPN, the network slice admission control is not performed; and

NOTE 3: If the network determines that the UE cannot register to the onboarding SNPN due to lack of resources for the network slice used for onboarding, the AMF can reject the UE with 5GMM cause #22 "congestion".

v) proximity based services (5G ProSe as specified in 3GPP TS 24.554 [19E]) are not supported.

##### \*\*\*\*\* Next change \*\*\*\*\*

##### 5.2.3.2.5 PLMN-SEARCH

The UE shall perform PLMN selection or SNPN selection. If a new PLMN is selected, the UE shall reset the registration attempt counter and initiate a registration procedure for mobility and periodic registration update (see subclause 5.5.1.3). If a new SNPN is selected, the UE shall reset the registration attempt counter and initiate a mobility registration update if the UE supports access to an SNPN using credentials from a credentials holder or when the SNPNs are equivalent SNPNs, for the selected entry of the "list of subscriber data" or the selected PLMN subscription (see subclause 4.14.2), and the last registered SNPN and the newly selected SNPN are both identified by globally-unique SNPN identities. Otherwise the UE, may perform de-registration locally and shall initiate a registration procedure for initial registration (see subclause 5.5.1.2.2).

If the selected cell in the new PLMN is known not to be able to provide normal service, the UE may perform de-registration locally and initiate an initial registration for emergency services.

##### \*\*\*\*\* End of changes \*\*\*\*