**3GPP TSG-CT WG1 Meeting #133-bis-e *rev of* C1-220057**

**E-meeting, 17-21 January 2022**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
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|  | **24.501** | **CR** | **3840** | **rev** | **-** | **Current version:** | **17.5.0** |  |
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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:***  | UE-initiated de-registration procedure when the UE is registered for onboarding services in SNPN |
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| ***Source to WG:*** | SHARP |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | eNPN |  | ***Date:*** | 2022-01-07 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-17 |
|  | *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 canbe 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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | It was agreed that an Onboarding SUCI/SUPI is used while the UE is registered for onboarding services in SNPN, as follows:*3.1 Definitions**Onboarding SUCI: SUCI derived from onboarding SUPI.**Onboarding SUPI: SUPI derived by a UE in SNPN access mode, from default UE credentials and used to identify the UE during initial registration for onboarding services in SNPN and while registered for onboarding services in SNPN.*However, this feature has not been supported in the UE-initiated de-registration procedure in the current specification. i.e.:-If the UE does not have a valid 5G-GUTI while the UE is registered for onboarding services in SNPN, the UE may use a SUCI other an Onboarding SUCI.-It is unclear that the Onboarding SUCI is used in the UE-initiated de-registration procedure while the UE is registered for onboarding services in SNPN. |
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| ***Summary of change:*** | -Clarify that the Onboarding SUCI should be used in the UE-initiated de-registration procedure while the UE is registered for onboarding services in SNPN. |
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| ***Consequences if not approved:*** | The UE may use a SUCI other than the Onboarding SUCI in the UE-initiated de-registration procedure while the UE is registered for onboarding services in SNPN. |
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| ***Clauses affected:*** | 4.14.2, 5.5.2.2.1 |
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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:*** |  |

\*\*\*\*\* 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 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] 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, per entry of the "list of subscriber data" or the PLMN subscription, by a UE operating in SNPN access operation mode instead of forbidden PLMN lists;

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, entry of the "list of subscriber data" or 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 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 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;

NOTE 2: The term "non-3GPP access" in an SNPN refers to the case where the UE is accessing 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) equivalent SNPN is not supported;

k) void;

l) void;

m) UE mobility between SNPNs in 5GMM-CONNECTED mode is not supported, UE mobility between SNPNs in 5GMM-IDLE mode is supported when the UE supports access to an SNPN using credentials from a credentials holder, and UE mobility between an SNPN and a PLMN is not supported;

n) CIoT 5GS optimizations are not supported;

o) accessing SNPN services using non-3GPP access is not supported, except when accessing SNPN services via a PLMN using 3GPP access as specified in item h;

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 and  5.5.2.2.1;

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;

NOTE 3: 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 in order for the UE to be configured with one or more entries of the "list of subscriber data"; and

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.

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

##### 5.5.2.2.1 UE-initiated de-registration procedure initiation

The de-registration procedure is initiated by the UE by sending a DEREGISTRATION REQUEST message (see example in figure 5.5.2.2.1). The De-registration type IE included in the message indicates whether the de-registration procedure is due to a "switch off" or not. The access type included in the message indicates whether the de-registration procedure is:

a) for 5GS services over 3GPP access when the UE is registered over 3GPP access;

b) for 5GS services over non-3GPP access when the UE is registered over non-3GPP access; or

c) for 3GPP access, non-3GPP access or both when the UE is registered in the same PLMN over both accesses.

If the UE has a valid 5G-GUTI, the UE shall populate the 5GS mobile identity IE with the valid 5G-GUTI. If the UE does not have a valid 5G-GUTI, the UE shall populate the 5GS mobile identity IE with its SUCI as follows:

a) if timer T3519 is not running, generate a fresh SUCI as specified in 3GPP TS 33.501 [24], send a DEREGISTRATION REQUEST message with the SUCI , start timer T3519 and store the value of the SUCI sent in the DEREGISTRATION REQUEST message; and

b) if timer T3519 is running, send a DEREGISTRATION REQUEST message with the stored SUCI.

NOTE: If the UE is registered for onboarding services in SNPN, the UE populates the 5GS mobile identity IE with onboarding SUCI as its SUCI.

If the UE does not have a valid 5G-GUTI and it does not have a valid SUCI, then the UE shall populate the5GS mobile identity IE with its PEI.

If the de-registration request is not due to switch off and the UE is in the state 5GMM-REGISTERED or 5GMM-REGISTERED-INITIATED, timer T3521 shall be started in the UE after the DEREGISTRATION REQUEST message has been sent. The UE shall enter the state 5GMM-DEREGISTERED-INITIATED.

If the UE is to be switched off, the UE shall try for a period of 5 seconds to send the DEREGISTRATION REQUEST message. During this period, the UE may be switched off as soon as the DEREGISTRATION REQUEST message has been sent.



Figure 5.5.2.2.1.1: UE-initiated de-registration procedure