**3GPP TSG-CT WG1 Meeting #141-eC1-232370**

**E-Meeting, 17th - 21st April, 2023**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  | | | | | | | | |
| *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 | **X** |

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|  | | | | | | | | | | |
| ***Title:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***Release:*** | | |  |
|  | *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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | SA2 has agreed in CR3714 to 23.501 (see S2-2211441) clause 5.30.2.13 that a non-3GPP access network may advertise (e.g. with ANQP), not only the PLMNs with which 5G connectivity is supported (as specified in clause 6.3.12.2), but also the SNPNs with which 5G connectivity is supported and the related parameters and indications defined in clause 5.30.2.2 (i.e. human-readable network name(s), GIN(s), indication whether access using credentials from a Credentials Holder is supported, indication whether SNPN allows registration attempts from UEs that are not explicitly configured to select the SNPN, etc.):  *“- A non-3GPP access network may advertise (e.g. with ANQP), not only the PLMNs with which 5G connectivity is supported (as specified in clause 6.3.12.2), but also the SNPNs with which 5G connectivity is supported and the related parameters and indications defined in clause 5.30.2.2 (i.e. human-readable network name(s), GIN(s), indication whether access using credentials from a Credentials Holder is supported, indication whether SNPN allows registration attempts from UEs that are not explicitly configured to select the SNPN, etc.).”*  However, the SNPN List with trusted 5G Connectivity IE does not support human-readable network name(s).  Accordingly, this CR proposes to add human-readable network name to SNPN List with trusted 5G Connectivity IE. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add human-readable network name(s) to SNPN List with trusted 5G Connectivity IE. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Stage 3 not aligned with stage 2. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | H.2.4.7 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \*\*\*

### H.2.4.7 SNPN List with trusted 5G Connectivity IE

The SNPN List with trusted 5G Connectivity information element is used by the network to indicate the SNPNs that can be selected from the WLAN. The SNPN List with trusted 5G Connectivity information element optionally includes per SNPN access information, per SNPN supported GINs, per SNPN human-readable network name, and a GIN list. The SNPN List with trusted 5G Connectivity information element is type 6 information element of format TLV-E according to 3GPP TS 24.007 [48] and is coded as shown in figure H.2.4.7-1.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |  |
| SNPN List with trusted 5G Connectivity IE | | | | | | | | octet 1 |
| Length of SNPN List with trusted 5G Connectivity value contents | | | | | | | | octet 2  octet 3 |
| SNPN information List | | | | | | | | octet 4  octet d |
| GIN list | | | | | | | | octet d+1\*  octet Z\* |

Figure H.2.4.7-1: SNPN List with trusted 5G Connectivity information element

|  |  |  |
| --- | --- | --- |
| Length of SNPN information list | | octet 4  octet 5 |
| SNPN information entry 1 | | octet 6  octet b |
|  | .. | octet b+1\*  octet c-1\* |
| SNPN information entry N | | octet c\*  octet d\* |

Figure H.2.4.7-2: SNPN information List

|  |  |
| --- | --- |
| Length of SNPN information entry | octet 6  octet 7 |
| SNPN identity | octet 8  octet 16 |
| SNPN access information | octet 17\*  octet 18\* |
| Supported GINs | octet 19\*  octet a\* |
| Human-readable network name | octet a+1\*  octet b\* |

Figure H.2.4.7-3: SNPN information entry

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | 6 | 5 | 4 | 3 | | 2 | 1 | 0 |  |
| MCC digit 2 | | | | | MCC digit 1 | | | | octet 8 |
| MNC digit 3 | | | | | MCC digit 3 | | | | octet 9 |
| MNC digit 2 | | | | | MNC digit 1 | | | | octet 10 |
| NID value digit 1 | | | | | NID assignment mode | | | | octet 11 |
| NID value digit 3 | | | | | NID value digit 2 | | | | octet 12 |
| NID value digit 5 | | | | | NID value digit 4 | | | | octet 13 |
| NID value digit 7 | | | | | NID value digit 6 | | | | octet 14 |
| NID value digit 9 | | | | | NID value digit 8 | | | | octet 15 |
| Spare | | | | | NID value digit 10 | | | | octet 16 |

Figure H.2.4.7-4: SNPN identity

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | 6 | | 5 | | 4 | | 3 | | 2 | | 1 | | 0 | |  |
| Length of SNPN access information | | | | | | | | | | | | | | | octet 17 |
| Spare | | Spare | | Spare | | Spare | | Spare | | OB | | CHWC | | CH | octet 18 |

Figure H.2.4.7-5: SNPN access information

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | 6 | 5 | 4 | 3 | | 2 | 1 | 0 |  |
| Length of Supported GINs value | | | | | | | | | octet 19 |
| G(8) | G(7) | G(6) | G(5) | | G(4) | G(3) | G(2) | G(1) | octet 20\* |
| .. | | | | | | | | | octet 21\*  octet a-1\* |
| G(n) | G(n-1) | G(n-2) | G(n-3) | | G(n-4) | G(n-5) | G(n-6) | G(n-7) | octet a\* |

Figure H.2.4.7-6: Supported GINs

|  |  |
| --- | --- |
| Length of Human-readable network name | octet a+1 |
| Human-readable network name value | octet a+2\*  octet b\* |

Figure H.2.4.7-6a: HRNN

|  |  |
| --- | --- |
| Length of GIN list | octet d+1  octet d+2 |
| GIN information entry 1 | octet d+3  octet e |
| .. | octet e+1\*  octet f-1\* |
| GIN information entry N | octet f\*  octet Z\* |

Figure H.2.4.7-7: GIN list

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6 | 5 | 4 | 3 | 2 | 1 | 0 |  | |
| Length of GIN information entry | | | | | | | | octet d+3  octet d+4 | |
| MCC digit 2 | | | | MCC digit 1 | | | | octet d+5 | |
| MNC digit 3 | | | | MCC digit 3 | | | | octet d+6 | |
| MNC digit 2 | | | | MNC digit 1 | | | | octet d+7 | |
| NID list | | | | | | | | octet d+8  octet e | |

Figure H.2.4.7-8: GIN information entry

|  |  |
| --- | --- |
| Length of NID list | octet d+8  octet d+9 |
| NID identity 1 | octet d+10  octet d+15 |
| .. | octet d+16\*  octet e-1\* |
| NID identity N | octet e\*  octet e+5\* |

Figure H.2.4.7-9: NID list

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | 6 | 5 | 4 | 3 | | 2 | 1 | 0 |  |
| NID value digit 1 | | | | | NID assignment mode | | | | octet d+10 |
| NID value digit 3 | | | | | NID value digit 2 | | | | octet d+11 |
| NID value digit 5 | | | | | NID value digit 4 | | | | octet d+12 |
| NID value digit 7 | | | | | NID value digit 6 | | | | octet d+13 |
| NID value digit 9 | | | | | NID value digit 8 | | | | octet d+14 |
| Spare | | | | | NID value digit 10 | | | | octet d+15 |

Figure H.2.4.7-10: NID identity

Table H.2.4.7-1: SNPN List with trusted 5G Connectivity information element

|  |
| --- |
| SNPN List with trusted 5G Connectivity information element (octets 1 to Z) |
| SNPN identity (octets 8 to 16)  MCC (octet 8, octet 9 bits 0 to 3) or (octet d+5, octet d+6 bits 0 to 3)  The MCC (Mobile country code) field is coded as in ITU-T Recommendation E.212 [63], Annex A  MNC (octet 10, octet 9 bits 4 to 7) or (octet d+7, octet d+6 bits 4 to 7).  The coding of the MNC (Mobile network code) field is the responsibility of each administrationbutBCDcodingshall be used. The MNC shall consist of 2 or 3 digits. If a network operator decides to use only two digits in the MNC, bits 4 to 7 of octet 9 or octet d+6 shall be coded as "1111".  NID assignment mode (octet 11 bits 0 to 3) or (octet d+10 bits 0 to 3)  This field contains the binary encoding of the assignment mode of the NID as defined in 3GPP TS 23.003 [3].  NID value (octet 11 bits 4 to 7, octets 12 to 15, octet 16 bits 0 to 3) or (octet d+10 bits 4 to 7, octets d+11 to d+14, octet d+15 bits 0 to 3)  This field contains the binary encoding of each hexadecimal digit of the NID value as defined in 3GPP TS 23.003 [3]  Bits 4 to 7 of octet 16 or Bits 4 to 7 of octet d+15 are spare and shall be coded as zero. |
| SNPN access information (octets 17 to 18)  CH (octet 18 bit 0)  This bit indicates whether the SNPN supports access using credentials from a credentials holder.  0 access using credentials from a credentials holder supported.  1 access using credentials from a credentials holder not supported.  CHWC (octet 18 bit 1)  This bit indicates whether the SNPN allows registration attempts with credentials from a credentials holder from UEs that are not explicitly configured to select the SNPN.  0 registration attempts from UEs without configuration to select the SNPN not allowed.  1 registration attempts from UEs without configuration to select the SNPN allowed.  OB (octet 18 bit 2)  This bit indicates whether the SNPN allows onboarding.  0 onboarding is not allowed.  1 onboarding is allowed.  octet 18 bits 3 to 7 are spare. |
| Supported GINs value (octets 19 to a)  G(1) to G(n) is a bitmap indicating whether the SNPN identity in the SNPN information entry supports a corresponding GIN in the GIN list. G(1) bit corresponds to GIN index value one in the GIN list, G(2) corresponds to GIN index value two in the GIN list and so on. A bit set to 1 indicates that the GIN is supported by the SNPN and a bit set to 0 indicates that the GIN is not supported by the SNPN. The length of the Supported GINs value field in octets is the ceiling of the number of GINs in the GIN list divided by 8. The filling bits, if any, are set to 0. |
| Human-readable network name value (octets a+2 to b)  Human-readable network name value contains a Human-readable network name encoded in UTF-8 format with variable number of bytes per character as specified in 3GPP TS 23.003 [3] clause 4.11. |
| GIN list (octets d+1 to Z)  The GIN list contains one or more GIN information entries. Each GIN information entry contains either one GIN, which is identified by a PLMN ID (MCC, MNC) and a single NID (NID list with a single NID entry), or multiple GINs that share the same PLMN ID with each GIN identified by the shared PLMN ID and a NID entry in the NID list. The GIN index m is defined as d1+d2+…+d(n-1)+i for the GIN included in the n-th entry of the GIN list and the i-th entry of its corresponding GIN information entry, where d(k) is the number of GIN index values used in the k-th GIN information entry. |

\*\*\* End change \*\*\*