**3GPP TSG-CT WG4 Meeting #98eC4-203262**

**E-Meeting, 02nd – 12th June 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.003** | **CR** | **0591** | **rev** | **-** | **Current version:** | **16.2.0** |  |
|  | | | | | | | | |
| *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 |  | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | NID in TAI / ECGI / NCGI definition | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | Vertical\_LAN | | | | |  | ***Date:*** | | | 2020-05-19 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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:*** | | For SNPNs, in the Core Network interfaces, the TAI / ECGI / NCGI is extended with a Network Identifier (NID). See TS 29.571 clause 5.4.4.4, 5.4.4.5 and 5.4.4.6. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | For the Core Network interfaces:  - Define the TAI as MCC+MNC+TAC + optional NID (for SNPN).  - Define the ECGI as MCC + MNC + ECI + optional NID (for SNPN).  - Define the NCG as MCC + MNC + NCI + optional NID (for SNPN). | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The definition of TAI / ECGI / NCGI is not aligned across all specifications. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 28.6, 19.6 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \* \* \* \*

## 28.6 5GS Tracking Area Identity (TAI)

The 5GS Tracking Area Identity (TAI) consists of a Mobile Country Code (MCC), Mobile Network Code (MNC), and Tracking Area Code (TAC). It is composed as shown in figure 28.6-1.



Figure 28.6-1: Structure of the 5GS Tracking Area Identity (TAI)

The TAI is composed of the following elements:

- Mobile Country Code (MCC) identifies the country in which the PLMN is located. The value of the MCC is the same as the 3-digit MCC contained in the IMSI;

- Mobile Network Code (MNC) is a code identifying the PLMN in that country. The value of the MNC is the same as the 2-digit or 3-digit MNC contained in the IMSI;

- 5GS Tracking Area Code (TAC) is a fixed length code (of 3 octets) identifying a Tracking Area within a PLMN. This part of the tracking area identification shall be coded using a full hexadecimal representation. The following are reserved hexadecimal values of the TAC:

- 000000, and

- FFFFFE.

NOTE: The above reserved values are used in some special cases when no valid TAI exists in the UE (see 3GPP TS 24.501 [125] for more information).

In the 5G Core Network interfaces, when the TAI needs to be identified in the context of Standalone Non-Public Networks (SNPN), the 5GS Tracking Area Identity (TAI) is extended with the Network Identifier (NID) of the SNPN, as shown in Figure 28.6-x.



Figure 28.6-x: Structure of the 5GS Tracking Area Identity (TAI)

It is composed of the following elements:

- Mobile Country Code (MCC), as described in Figure 28.6.1;

- Mobile Network Code (MNC), as described in Figure 28.6.1;

- 5GS Tracking Area Code (TAC), as described in Figure 28.6.1;

- A Network Identifier (NID) of the SNPN, consisting on 44 bits (11 hexadecimal digits), as described in clause 12.7.

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

### 19.6 E-UTRAN Cell Identity (ECI) and E-UTRAN Cell Global Identification (ECGI)

The E-UTRAN Cell Global Identification (ECGI) shall be composed of the concatenation of the PLMN Identifier (PLMN-Id) and the E-UTRAN Cell Identity (ECI) as shown in figure 19.6-1 and shall be globally unique:



Figure 19.6-1: Structure of E-UTRAN Cell Global Identification

The ECI shall be of fixed length of 28 bits and shall be coded using full hexadecimal representation. The exact coding of the ECI is the responsibility of each PLMN operator.

For more details on ECI and ECGI, see 3GPP TS 36.413 [84].

In the 5G Core Network interfaces, when the ECGI needs to be identified in the context of Standalone Non-Public Networks (SNPN), the ECGI is extended with the Network Identifier (NID) of the SNPN, as shown in Figure 19.6.x.



Figure 19.6-x: Structure of E-UTRAN Cell Global Identification

It is composed of the following elements:

- Mobile Country Code (MCC);

- Mobile Network Code (MNC);

- E-UTRAN Cell Identity (ECI), as described in Figure 19.6-1;

- A Network Identifier (NID) of the SNPN, consisting on 44 bits (11 hexadecimal digits), as described in clause 12.7.

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

### 19.6A NR Cell Identity (NCI) and NR Cell Global Identity (NCGI)

The NR Cell Global Identity (NCGI) shall be composed of the concatenation of the PLMN Identifier (PLMN-Id) and the NR Cell Identity (NCI) as shown in figure 19.6A-1 and shall be globally unique:



Figure 19.6A-1: Structure of NR Cell Global Identity

The NCI shall be of fixed length of 36 bits and shall be coded using full hexadecimal representation. The exact coding of the NCI is the responsibility of each PLMN operator.

For more details on NCI and NCGI, see 3GPP TS 38.413 [123].

In the 5G Core Network interfaces, when the NCGI needs to be identified in the context of Standalone Non-Public Networks (SNPN), the NCGI is extended with the Network Identifier (NID) of the SNPN, as shown in Figure 19.6A-x.



Figure 19.6A-x: Structure of NR Cell Global Identification

It is composed of the following elements:

- Mobile Country Code (MCC);

- Mobile Network Code (MNC);

- NR Cell Identity (NCI), as described in Figure 19.6A-1;

- A Network Identifier (NID) of the SNPN, consisting on 44 bits (11 hexadecimal digits), as described in clause 12.7.

\* \* \* End of Changes \* \* \* \*