**3GPP TSG-CT WG6 Meeting #111eC6-220295**

**E-Meeting, 17th – 20th May 2022**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **956** | **rev** | **1** | **Current version:** | **17.5.0** |  |
|  | | | | | | | | |
| *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 | **X** | ME | **X** | Radio Access Network |  | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Satellite E-UTRAN in PLMN selector | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | MediaTek Inc. | | | | | | | | | |
| ***Source to TSG:*** | CT6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | IoT\_SAT\_ARCH\_EPS | | | | |  | ***Date:*** | | | 2022-05-19 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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 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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | PLMN / Satellite E-UTRAN is a new combination to prioritize among other PLMN / access technologies combinations in PLMN selector lists.  Both satellite NG-RAN and satellite E-UTRAN are introduced in Rel-17.  Instead of spending more bits for introducing new satellite access type(s) in the table, it’s seen more efficient to reserve one bit, i.e. access Technology Identifier, to indicate whether a further selected access technology is satellite access or not. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Access Technology Identifier “Satellite access” indicates whether a further selected access technology is a satellite access or not. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Not possible to set priority for PLMN + satellite E-UTRAN access combination in PLMN selector list. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.2.5 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

### 4.2.5 EFPLMNwAcT (User controlled PLMN selector with Access Technology)

If service n° 20 is "available", this file shall be present.

This EF contains the coding for n PLMNs, where n is at least eight. This information is determined by the user and defines the preferred PLMNs of the user in priority order. The first record indicates the highest priority and the nth record indicates the lowest. The EF also contains the Access Technologies for each PLMN in this list. (see TS 23.122 [31])

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Identifier: '6F60' | | Structure: transparent | | | Optional | |
| SFI: '0A' | | |  | | | |
| File size: 5n bytes (where n ≥8) | | | Update activity: low | | | |
| Access Conditions:  READ PIN  UPDATE PIN  DEACTIVATE ADM  ACTIVATE ADM | | | | | | |
| Bytes | Description | | | M/O | | Length |
| 1 to 3 | 1st PLMN (highest priority) | | | M | | 3 bytes |
| 4 to 5 | 1st PLMN Access Technology Identifier | | | M | | 2 bytes |
| 6 to 8 | 2nd PLMN | | | M | | 3 bytes |
| 9 to 10 | 2nd PLMN Access Technology Identifier | | | M | | 2 bytes |
| : | : | | |  | |  |
| 36 to 38 | 8th PLMN | | | M | | 3 bytes |
| 39 to 40 | 8th PLMN Access Technology Identifier | | | M | | 2 bytes |
| 41 to 43 | 9th PLMN | | | O | | 3 bytes |
| 44 to 45 | 9th PLMN Access Technology Identifier | | | O | | 2 bytes |
| : | : | | |  | |  |
| (5n-4) to (5n‑2) | Nth PLMN (lowest priority) | | | O | | 3 bytes |
| (5n-1) to 5n | Nth PLMN Access Technology Identifier | | | O | | 2 bytes |

‑ PLMN

Contents:

- Mobile Country Code (MCC) followed by the Mobile Network Code (MNC).

Coding:

- according to TS 24.008 [9].

- Access Technology Identifier:

Coding:

- 2 bytes are used to select the access technology where the meaning of each bit is as follows:

- bit = 1: access technology selected;

- bit = 0: access technology not selected.

Byte5 n-1:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | b8 | | b7 | | b6 | | b5 | | b4 | | b3 | | b2 | | b1 | |
|  |  | |  | |  | |  | |  | |  | |  | |  | |  | | RFU |
|  |  | |  | |  | |  | |  | |  | |  | |  | |  | | RFU |
|  |  | |  | |  | |  | |  | |  | |  | |  | |  | | Satellite access (see table 4.2.5.2 below) |
|  |  | |  | |  | |  | |  | |  | |  | |  | |  | | NG-RAN |
|  |  | |  | |  | |  | |  | |  | |  | |  | |  | | E-UTRAN in NB-S1 mode (see table 4.2.5.1 below) |
|  |  | |  | |  | |  | |  | |  | |  | |  | |  | | E-UTRAN in WB-S1 mode (see table 4.2.5.1 below) |
|  |  | |  | |  | |  | |  | |  | |  | |  | |  | | E-UTRAN (see table below) |
|  |  | |  | |  | |  | |  | |  | |  | |  | |  | | UTRAN |

NOTE 1: NG-RAN refers to E-UTRA or NR connected to 5GCN.

NOTE 2: How to indicate an access technology is a satellite access, see example coding in table 4.2.5.2.

Table 4.2.5.1: Coding of the E-UTRAN

|  |  |  |  |
| --- | --- | --- | --- |
| b7 | b6 | b5 | Description |
| 0 | x | x | E-UTRAN not selected |
| 1 | 0 | 0 | E-UTRAN in WB-S1 mode and NB-S1 mode |
| 1 | 0 | 1 | E-UTRAN in NB-S1 mode only |
| 1 | 1 | 0 | E-UTRAN in WB-S1 mode only |
| 1 | 1 | 1 | E-UTRAN in WB-S1 mode and NB-S1 mode |

NOTE: E-UTRAN refers to E-UTRA connected to EPC.

Table 4.2.5.2: Example coding of the Satellite access

|  |  |  |  |
| --- | --- | --- | --- |
| b7 | b4 | b3 | Description |
| 1 | 0 | 0 | E-UTRAN |
| 1 | 0 | 1 | Satellite E-UTRAN |
| 0 | 1 | 0 | NG-RAN |
| 0 | 1 | 1 | Satellite NG-RAN |

Byte 5n:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | b8 | | b7 | | b6 | | b5 | | b4 | | b3 | | b2 | | b1 | |
|  |  | |  | |  | |  | |  | |  | |  | |  | |  | | RFU |
|  |  | |  | |  | |  | |  | |  | |  | |  | |  | | RFU |
|  |  | |  | |  | |  | |  | |  | |  | |  | |  | | GSM (see table 4.2.5.3 below) |
|  |  | |  | |  | |  | |  | |  | |  | |  | |  | | EC-GSM-IoT (see table 4.2.5.3 below) |
|  |  | |  | |  | |  | |  | |  | |  | |  | |  | | cdma2000 1xRTT |
|  |  | |  | |  | |  | |  | |  | |  | |  | |  | | cdma2000 HRPD |
|  |  | |  | |  | |  | |  | |  | |  | |  | |  | | GSM COMPACT |
|  |  | |  | |  | |  | |  | |  | |  | |  | |  | | GSM (see table 4.2.5.3 below) |

Table 4.2.5.3: Coding of the GSM

|  |  |  |  |
| --- | --- | --- | --- |
| b8 | b4 | b3 | Description |
| 0 | x | x | GSM and EC-GSM-IoT not selected |
| 1 | 0 | 0 | GSM and EC-GSM-IoT |
| 1 | 0 | 1 | GSM without EC-GSM-IoT |
| 1 | 1 | 0 | EC-GSM-IoT only |
| 1 | 1 | 1 | GSM and EC-GSM-IoT |