**3GPP TSG-CT WG1 Meeting #133-eC1-21xxxx**

**E-meeting, 11-19 November 2021**

|  |
| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **24.501** | **CR** | **3772** | **rev** | **1** | **Current version:** | **17.4.1** |  |
|  |
| *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)*.* |
|  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **x** | Radio Access Network |  | Core Network |  |

|  |
| --- |
|  |
| ***Title:***  | Reservation of a bit in an entry of the CAG information list IE |
|  |  |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell, China Mobile |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | 5GProtoc17 |  | ***Date:*** | 2021-11-15 |
|  |  |  |  |  |
| ***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)* |
|  |  |
| ***Reason for change:*** | CT6 informed CT1 in C1-216508 that:*CT6 agreed the attached CR, which introduces a CAG-ID range in the pre-configured CAG information list. It is used to meet the requirements of CR#0714 of TS 23.122.**In TS 31.102, in order to indicate that a CAG information list entry contains a CAG-ID range, the second bit of the fifth octet is set to “1”.*Since indication of CAG-ID range is not available in the 5GMM protocol and the use of the bit for other purpose in the future should be avoided, it is proposed to reserve the bit to 0. |
|  |  |
| ***Summary of change:*** | The bit is reserved. |
|  |  |
| ***Consequences if not approved:*** | The protocol is not futureproof. If the bit is not reserved, nothing prevents CT1 from using includes a CAG-ID range. If that happens, configuration in the USIM is broken. |
|  |  |
| ***Clauses affected:*** | 9.11.3.18A |
|  |  |
|  | **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:*** |  |

#### 9.11.3.18A CAG information list

The purpose of the CAG information list information element is to provide "CAG information list" or to delete the "CAG information list" at the UE.

The CAG information list information element is coded as shown in figures 9.11.3.18A.1 and 9.11.3.18A.2 and table 9.11.3.18A.1.

The CAG information list is a type 6 information element, with a minimum length of 3 octets.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| CAG information list IEI | octet 1 |
| Length of CAG information list contents | octet 2octet 3 |
| Entry 1 | octet 4\*octet a\* |
| Entry 2 | octet a+1\*octet b\* |
| … | octet b+1\*octet g\* |
| Entry n | octet g+1\*octet h\* |

Figure 9.11.3.18A.1: CAG information list information element

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Length of entry contents | octet q |
| MCC digit 2 | MCC digit 1 | octet q+1 |
| MNC digit 3 | MCC digit 3 | octet q+2 |
| MNC digit 2 | MNC digit 1 | octet q+3 |
| 0Spare | 0Spare | 0Spare | 0Spare | 0Spare | 0Spare | 0 | CAGonly | octet q+4 |
| CAG-ID 1 | octet q+5\*octet q+8\* |
| CAG-ID 2 | octet q+9\*octet q+12\* |
| … | octet q+13\*octet q+4m\* |
| CAG-ID n | octet q+4m+1\*octet q+4m+4\* |

Figure 9.11.3.18A.2: Entry n

Table 9.11.3.18A.1: CAG information list information element

|  |
| --- |
| MCC, Mobile country code (octet q+1 and bits 1 to 4 octet q+2)The MCC field is coded as in ITU-T Recommendation E.212 [42], annex A. |
|  |
| MNC, Mobile network code (bits 5 to 8 of octet q+2 and octet q+3)The coding of this field is the responsibility of each administration, but BCD coding shall 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 5 to 8 of octet q+2 shall be coded as "1111". |
|  |
| The contents of the MCC and MNC digits are coded as octets 6 to 8 of the Temporary mobile group identity IE in figure 10.5.154 of 3GPP TS 24.008 [12]. |
|  |
| Indication that the UE is only allowed to access 5GS via CAG cells (CAGonly) (bit 1 of octet q+4) |
| Bit |
| 1 |  |
| 0 | "Indication that the UE is only allowed to access 5GS via CAG cells" is not set (i.e., the UE is allowed to access 5GS via non-CAG cells) |
| 1 | "Indication that the UE is only allowed to access 5GS via CAG cells" is set (i.e., the UE is not allowed to access 5GS via non-CAG cells) |
|  |
| CAG-ID m (octet q+4m+1 to octet q+4m+4)This field contains the 32 bit CAG-ID. The coding of the CAG-ID is defined as the CAG-Identifier in 3GPP TS 23.003 [4].NOTE 1: The Length of CAG information list contents shall be 3 if no subscription data for CAG information list exists.NOTE 2: The Length of entry contents shall be 4 if there is no allowed CAG-ID for the PLMN.NOTE 3: Bit 2 in octet q+4 may be set to 1 in the USIM (see 3GPP TS 31.102 [22]). |