**3GPP TSG-CT WG4 Meeting #99eC4-204274**

**E-Meeting, 18th – 28th August 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.171** | **CR** | **0055** | **rev** | **1** | **Current version:** | **16.0.0** |  |
|  | | | | | | | | |
| *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:*** | Updating positioning SIBs in Ciphering Data Set | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Qualcomm Incorporated, Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5G\_eLCS | | | | |  | ***Date:*** | | | 2020-08-04 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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:*** | | New positioning SIBs have been added by RAN 2 WG in the posSibType-r15 data specified in 3GPP TS 36.331 v16.1.1. These updates need to be reflected by the positioning SIB data encoded in the Ciphering Data Set. | | | | | | | | |
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| ***Summary of change:*** | | New positioning SIBs added in the posSibType-r15 data in 3GPP TS 36.331 v16.1.1 have been added to the Ciphering Data Set. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Ciphering Data Set will not be aligned to the positioning SIBs specified in 3GPP TS 36.331 v16.1.1. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.4.39 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | * Added a new optional IE SIB Types Ext since all bits of SIB Types have been used up. * Merged Huawei CR | | | | | | | | |

# \*\*\* First change \*\*\*

7.4.39 Ciphering Data Set

This parameter contains a ciphering data set sent by the E-SMLC to the MME.

**Table 7.4.39-1: Ciphering Data Set**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** |
| **Ciphering Data Set** | M |  |  |  |
| >Ciphering Set ID | M |  | INTEGER  (0..65535) |  |
| >Ciphering Key | M |  | OCTET STRING (SIZE(16)) |  |
| >c0 | M |  | BIT STRING (SIZE (1..128)) |  |
| >SIB Types | M |  | OCTET STRING (SIZE(4)) | This IE contains a bitmap indicating the positioning SIB types for which the ciphering data set is applicable:  -- a bit set to 0 indicates that the ciphering data set is not applicable to the corresponding positioning SIB type  - a bit set to 1 indicates that the ciphering data set is applicable to the corresponding positioning SIB type  The mapping of the bits to the positioning SIB types is as follows:  -- bit 8 in the first octet maps to positioning SIB Type 1-1  -- bit 7 in the first octet maps to positioning SIB Type 1-2  -- bit 6 in the first octet maps to positioning SIB Type 1-3  -- bit 5 in the first octet maps to positioning SIB Type 1-4  -- bit 4 in the first octet maps to positioning SIB Type 1-5  -- bit 3 in the first octet maps to positioning SIB Type 1-6  -- bit 2 in the first octet maps to positioning SIB Type 1-7  -- bit 1 in the first octet maps to positioning SIB Type 2-1  -- bit 8 in the second octet maps to positioning SIB Type 2-2  -- bit 7 in the second octet maps to positioning SIB Type 2-3  -- bit 6 in the second octet maps to positioning SIB Type 2-4  -- bit 5 in the second octet maps to positioning SIB Type 2-5  -- bit 4 in the second octet maps to positioning SIB Type 2-6  -- bit 3 in the second octet maps to positioning SIB Type 2-7  -- bit 2 in the second octet maps to positioning SIB Type 2-8  -- bit 1 in the second octet maps to positioning SIB Type 2-9  -- bit 8 in the third octet maps to positioning SIB Type 2-10  -- bit 7 in the third octet maps to positioning SIB Type 2-11  -- bit 6 in the third octet maps to positioning SIB Type 2-12  -- bit 5 in the third octet maps to positioning SIB Type 2-13  -- bit 4 in the third octet maps to positioning SIB Type 2-14  -- bit 3 in the third octet maps to positioning SIB Type 2-15  -- bit 2 in the third octet maps to positioning SIB Type 2-16  -- bit 1 in the third octet maps to positioning SIB Type 2-17  -- bit 8 in the fourth octet maps to positioning SIB Type 2-18  -- bit 7 in the fourth octet maps to positioning SIB Type 2-19  -- bit 6 in the fourth octet maps to positioning SIB Type 3-1  Bits 5 to 1 in the fourth octets are spare and shall be coded as zero. |
| >SIB Types Ext | O |  | OCTET STRING (SIZE(4)) | This IE contains extension of the bitmap SIB Types indicating the positioning SIB types for which the ciphering data set is applicable:  -- a bit set to 0 indicates that the ciphering data set is not applicable to the corresponding positioning SIB type  -- a bit set to 1 indicates that the ciphering data set is applicable to the corresponding positioning SIB type  The mapping of the bits to the positioning SIB types is as follows:  -- bit 8 in the first octet maps to positioning SIB Type 1-8  -- bit 7 in the first octet maps to positioning SIB Type 2-20  -- bit 6 in the first octet maps to positioning SIB Type 2-21  -- bit 5 in the first octet maps to positioning SIB Type 2-22  -- bit 4 in the first octet maps to positioning SIB Type 2-23  -- bit 3 in the first octet maps to positioning SIB Type 2-24  -- bit 2 in the first octet maps to positioning SIB Type 2-25  Any unassigned bits are spare and shall be coded as zero. In the absence of this IE, the ciphering data set is not applicable for any of the positioning SIB types mapped by this IE. |
| >Validity Start time | M |  | OCTET STRING (SIZE(4)) | This IE contains the UTC time when the ciphering data set becomes valid, encoded in the same format as the first four octets of the 64-bit timestamp format as defined in clause 6 of IETF RFC 5905 [16]. |
| >Validity Duration | M |  | INTEGER  (0..65535) | In minutes |
| >TAIs List | O |  | OCTET STRING (SIZE (7..97)) | This IE contains the TAIs of the tracking areas for which the ciphering data set is applicable. It is encoded as octets 2 to n of the Tracking area identity list IE specified in clause 9.9.3.33 of 3GPP TS 24.301 [17].  If this IE is omitted, the ciphering data set is valid in the entire PLMN. |

# \*\*\* End of changes \*\*\*