**3GPP TSG-CT WG1 Meeting #133bis-eC1-22xxxx**

**E-meeting, 17-21 January 2022was C1-220292**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.501** | **CR** | **3903** | **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 |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | Correction of the length field of the requested MBS container IE | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5MBS | | | | |  | ***Date:*** | | | 2022-01-17 |
|  |  | | | |  | |  | | |  |
| ***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 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:*** | | The maximum number of MBMS sessions associated to a PDU session is expected to be more than 4 as SA2 LS S2-2109171 proposes the maximum number could be a value between 8 and 32.  The 1 octet size length field of the requested MBS container means the size of MBS container contents is up to 255 octets. However, it is not sufficient. When MBS session ID is "Source specific IP multicast address for IPv6", each MBS session information content needs 32 octets, i.e. 16 octets for source IP address information and 16 octets for destination IP address information. Even if the maximum number of the MBS sessions selects 8, the requested MBS container contents will reach to 256 octets (32\*8).  Therefore, it proposes to change size of length of Requested MBS container contents with 2 octet size.  In addition, for figure 9.11.4.30.4, it should be *MBS session ID for Type of MBS session ID = "Source specific IP multicast address for IPv4" or "Source specific IP multicast address for IPv6"*. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. Editorial corrections: there are two places "locally" where the underline needs to be removed. 2. Change the size of length of Requested MBS container contents with 2 octet size. 3. For figure 9.11.4.30.4, change it as *MBS session ID for Type of MBS session ID = "Source specific IP multicast address for IPv4" or "Source specific IP multicast address for IPv6".* | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Incorrect IE encoding definition. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.1.4.2, 5.1.4.3, 9.11.4.30 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \* \* \* \*

#### 5.1.4.2 Coordination between 5GMM for 3GPP access and EMM with N26 interface

A UE that is not registered shall be in state EMM-DEREGISTERED and state 5GMM-DEREGISTERED for 3GPP access.

In N1 mode, upon successful completion of a registration procedure over 3GPP access, the UE operating in single-registration mode shall enter substates 5GMM-REGISTERED.NORMAL-SERVICE or 5GMM-REGISTERED.NON-ALLOWED-SERVICE as described in subclause 5.3.5.2 for 3GPP access and EMM-REGISTERED.NO-CELL-AVAILABLE. The UE shall reset the registration attempt counter for 3GPP access and the attach attempt counter (see 3GPP TS 24.301 [15]).

At inter-system change from S1 mode to N1 mode, the UE shall enter substates 5GMM-REGISTERED.NORMAL-SERVICE or 5GMM-REGISTERED.NON-ALLOWED-SERVICE as described in subclause 5.3.5.2 for 3GPP accessand EMM-REGISTERED.NO-CELL-AVAILABLE and initiate a registration procedure for mobility and periodic registration update over 3GPP access indicating "mobility registration updating" in the 5GS registration type IE of the REGISTRATION REQUEST message (see subclause 5.5.1.3).

In S1 mode, upon successful completion of an attach or tracking area updating procedure, the UE operating in single-registration mode shall enter substates 5GMM-REGISTERED.NO-CELL-AVAILABLE for 3GPP access and EMM-REGISTERED.NORMAL-SERVICE. The UE shall reset the registration attempt counter for 3GPP access and the attach attempt counter (see 3GPP TS 24.301 [15]).

At inter-system change from N1 mode to S1 mode when there is no active PDU session for which interworking with EPS is supported as specified in subclause 6.1.4.1, and EMM-REGISTERED without PDN connection is not supported by the UE or the MME, the UE shall enter state 5GMM-DEREGISTERED for 3GPP access and state EMM-DEREGISTERED and then initiate the EPS attach procedure. If EMM-REGISTERED without PDN connection is supported by the UE and the MME, the UE shall enter substates EMM-REGISTERED.NORMAL-SERVICE and 5GMM-REGISTERED.NO-CELL-AVAILABLE for 3GPP access and initiate a tracking area updating procedure.

At inter-system change from N1 mode to S1 mode when there is at least one active PDU session for which interworking with EPS is supported as specified in subclause 6.1.4.1, the UE shall enter substates EMM-REGISTERED.NORMAL-SERVICE and 5GMM-REGISTERED.NO-CELL-AVAILABLE for 3GPP access and initiate a tracking area updating procedure (see 3GPP TS 24.301 [15]).

At inter-system change from N1 mode to S1 mode, if the UE has any PDU sessions associated with one or more MBS multicast sessions, the UE shall locally leave the associated MBS multicast sessions and the network shall consider the UE as removed from the associated MBS sessions.

\* \* \* Next change \* \* \* \*

#### 5.1.4.3 Coordination between 5GMM for 3GPP access and EMM without N26 interface

A UE operating in the single-registration mode that is not registered over 3GPP access shall be in state EMM-DEREGISTERED and in state 5GMM-DEREGISTERED for 3GPP access.

In N1 mode, upon successful completion of a registration procedure over 3GPP access, the UE operating in the single-registration mode shall enter substates 5GMM-REGISTERED.NORMAL-SERVICE or 5GMM-REGISTERED.NON-ALLOWED-SERVICE as described in subclause 5.3.5.2 for 3GPP access and EMM-REGISTERED.NO-CELL-AVAILABLE.

At inter-system change from N1 mode to S1 mode in 5GMM-IDLE mode, the UE shall behave as specified in subclause 4.8.2.3.

At inter-system change from N1 mode to S1 mode, if the UE has any PDU sessions associated with one or more MBS multicast sessions, the UE shall locally leave the associated MBS multicast sessions and the network shall consider the UE as removed from the associated MBS sessions.

In S1 mode, upon successful completion of an attach or tracking area updating procedure, the UE operating in the single-registration mode shall enter substates 5GMM-REGISTERED.NO-CELL-AVAILABLE for 3GPP access and EMM-REGISTERED.NORMAL-SERVICE.

At inter-system change from S1 mode to N1 mode in 5GMM-IDLE mode, the UE operating in the single-registration mode shall enter substates EMM-REGISTERED.NO-CELL-AVAILABLE and 5GMM- REGISTERED.NORMAL-SERVICE for 3GPP access and then initiate the registration procedure for mobility and periodic registration update over 3GPP access indicating "mobility registration updating" in the 5GS registration type IE of the REGISTRATION REQUEST message (see subclause 5.5.1.3).

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

#### 9.11.4.30 Requested MBS container

The purpose of the Requested MBS container information element is for UE to request to join or leave one or more MBS sessions.

The Requested MBS container information element is coded as shown in figure 9.11.4.30.1, figure 9.11.4.30.2, figure 9.11.4.30.3, figure 9.11.4.30.4 and table 9.11.4.30.1.

The Requested MBS container is a type 4 information element with a minimum length of 8 octets and a maximum length of n octets.

Editor's note: The maximum number of MBS session informations is FFS and is currently assumed to be 4.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Requested MBS container IEI | | | | | | | | octet 1 |
| Length of Requested MBS container contents | | | | | | | | octet 2  octet 3 |
| MBS session information 1 | | | | | | | | octet 4  octet i |
| MBS session information 2 | | | | | | | | octet i+1\*  octet l\* |
| … | | | | | | | | octet l+1\*  octet m\* |
| MBS session information p | | | | | | | | octet m+1\*  octet n\* |

Figure 9.11.4.30.1: Requested MBS container information element

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | | 6 | 5 | | 4 | | | 3 | 2 | | 1 |  |
| 0 | 0 | 0 | | | 0 | | MBS operation | | | | Type of MBS session ID | | octet 4 |
| spare | | | | | | | |  | | |  |
| MBS session ID | | | | | | | | | | | | | octet 5  octet i |

Figure 9.11.4.30.2: MBS session information

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| TMGI | | | | | | | | octet 5 |
| octet i |

Figure 9.11.4.30.3: MBS session ID for Type of MBS session ID = "Temporary Mobile Group Identity (TMGI)"

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Source IP address information | | | | | | | | octet 5  octet v |
| Destination IP address information | | | | | | | | Octet v+1  Octet i |

Figure 9.11.4.30.4: MBS session ID for Type of MBS session ID = "Source specific IP multicast address for IPv4" or "Source specific IP multicast address for IPv6"

**Table 9.11.4.30.1: Requested MBS container information element**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Type of MBS session ID (bits 1 to 2 of octet 4) | | | | | |
| Bits | | | | | |
| **2** | | **1** |  |  | |
| 0 | | 1 |  | Temporary Mobile Group Identity (TMGI) | |
| 1 | | 0 |  | Source specific IP multicast address for IPv4 | |
| 1 | | 1 |  | Source specific IP multicast address for IPv6 | |
| All other values are reserved. | | | | | |
|  | | | | | |
| MBS operation (bits 3 to 4 of octet 4) | | | | | |
| Bits | | | | | |
| **4** | **3** | |  | |  |
| 0 | 1 | |  | | Join MBS session |
| 1 | 0 | |  | | Leave MBS session |
| All other values are reserved. | | | | | |
|  | | | | | |
| Bits 5 to 8 of octet 4 are spare and shall be coded as zero. | | | | | |
|  | | | | | |
| If Type of MBS session ID is set to "Temporary Mobile Group Identity (TMGI)", the MBS session ID contains the TMGI (octet 5 to i) and is coded as described in subclause 10.5.6.13 in 3GPP TS 24.008 [12] starting from octet 2. | | | | | |
|  | | | | | |
| If Type of MBS session ID is set to "Source specific IP multicast address for IPv4" or " Source specific IP multicast address for IPv6", the MBS session ID contains the Source IP address information and the Destination IP address information. | | | | | |
|  | | | | | |
| Source IP address information (octet 5 to v) | | | | | |
| This field contains the IP unicast address used as source address in IP packets for identifying the source of the multicast service. | | | | | |
|  | | | | | |
| If the type of MBS session ID indicates "Source specific IP multicast address for IPv4", the Source IP address information in octet 5 to octet 8 contains an IPv4 address. If the type of MBS session ID indicates "Source specific IP multicast address for IPv6", the Source IP address information in octet 5 to octet 20 contains an IPv6 address. | | | | | |
|  | | | | | |
| Destination IP address information (octet v+1 to i) | | | | | |
| This field contains the IP multicast address used as destination address in related IP packets for identifying a multicast service associated with the source. | | | | | |
|  | | | | | |
| If the type of MBS session ID indicates "Source specific IP multicast address for IPv4", the Destination IP address information in octet v+1 to octet v+4 contains an IPv4 address. If the type of MBS session ID indicates "Source specific IP multicast address for IPv6", the Source IP address information in octet v+1 to octet v+16 contains an IPv6 address. | | | | | |
|  | | | | | |

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