**3GPP TSG-CT WG1 Meeting #134-eC1-22xxxx**

**E-Meeting, 17th – 25th February 2022**

|  |
| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **24.501** | **CR** | **4073** | **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)*.* |
|  |

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

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| --- |
|  |
| ***Title:***  | Correcting the type of the Requested MBS container IE and the Received MBS container IE to be type 6 |
|  |  |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | 5MBS |  | ***Date:*** | 2022-01-28 |
|  |  |  |  |  |
| ***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:*** | The length field of the Requested MBS container IE and the Received MBS container IE consists of two octets instead of one octet, where the length of Requested MBS container IE is set to 2 in C1-220812 .Hence those two IEs shall be of type 6 (TLV-E) instead of type 4 (TLV).Also that means the maximum length of the two IEs can be set to 65538. |
|  |  |
| ***Summary of change:*** | 1- Correcting the type of the Requested MBS container IE and the Received MBS container IE to be type 6 instead of type 4.2- Correcting the maximum length of the two IEs to be 65538 and removing the related Editor's Note.3- Correcting the minimum length of the two IEs as appropriate. |
|  |  |
| ***Consequences if not approved:*** | Wrong dentitions for the IEs stay in the spec. |
|  |  |
| ***Clauses affected:*** | 8.3.1.1, 8.3.2.1, 8.3.7.1, 8.3.9.1, 9.11.4.30, 9.11.4.31 |
|  |  |
|  | **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 \*\*\*\*\*

#### 8.3.1.1 Message definition

The PDU SESSION ESTABLISHMENT REQUEST message is sent by the UE to the SMF to initiate establishment of a PDU session. See table 8.3.1.1.1.

Message type: PDU SESSION ESTABLISHMENT REQUEST

Significance: dual

Direction: UE to network

Table 8.3.1.1.1: PDU SESSION ESTABLISHMENT REQUEST message content

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| IEI | Information Element | Type/Reference | Presence | Format | Length |
|  | Extended protocol discriminator | Extended protocol discriminator9.2 | M | V | 1 |
|  | PDU session ID | PDU session identity9.4 | M | V | 1 |
|  | PTI | Procedure transaction identity9.6 | M | V | 1 |
|  | PDU SESSION ESTABLISHMENT REQUEST message identity | Message type9.7 | M | V | 1 |
|  | Integrity protection maximum data rate | Integrity protection maximum data rate9.11.4.7 | M | V | 2 |
| 9- | PDU session type | PDU session type9.11.4.11 | O | TV | 1 |
| A- | SSC mode | SSC mode9.11.4.16 | O | TV | 1 |
| 28 | 5GSM capability | 5GSM capability9.11.4.1 | O | TLV | 3-15 |
| 55 | Maximum number of supported packet filters | Maximum number of supported packet filters9.11.4.9 | O | TV | 3 |
| B- | Always-on PDU session requested | Always-on PDU session requested9.11.4.4 | O | TV | 1 |
| 39 | SM PDU DN request container | SM PDU DN request container9.11.4.15 | O | TLV | 3-255 |
| 7B | Extended protocol configuration options | Extended protocol configuration options9.11.4.6 | O | TLV-E | 4-65538 |
| 66 | IP header compression configuration | IP header compression configuration9.11.4.24 | O | TLV | 5-257 |
| 6E | DS-TT Ethernet port MAC address | DS-TT Ethernet port MAC address9.11.4.25 | O | TLV | 8 |
| 6F | UE-DS-TT residence time | UE-DS-TT residence time9.11.4.26 | O | TLV | 10 |
| 74 | Port management information container | Port management information container9.11.4.27 | O | TLV-E | 8-65538 |
| 1F | Ethernet header compression configuration | Ethernet header compression configuration9.11.4.28 | O | TLV | 3 |
| 29 | Suggested interface identifier | PDU address9.11.4.10 | O | TLV | 11 |
| 7C | Service-level-AA container | Service-level-AA container9.11.2.10 | O | TLV-E | 6-n |
| 23 | Requested MBS container | Requested MBS container9.11.4.30 | O | TLV-E | 8-65538 |
| 34 | PDU session pair ID | PDU session pair ID9.11.4.32 | O | TLV | 3 |
| 35 | RSN | RSN9.11.4.33 | O | TLV | 3 |

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

#### 8.3.2.1 Message definition

The PDU SESSION ESTABLISHMENT ACCEPT message is sent by the SMF to the UE in response to PDU SESSION ESTABLISHMENT REQUEST message and indicates successful establishment of a PDU session. See table 8.3.2.1.1.

Message type: PDU SESSION ESTABLISHMENT ACCEPT

Significance: dual

Direction: network to UE

Table 8.3.2.1.1: PDU SESSION ESTABLISHMENT ACCEPT message content

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| IEI | Information Element | Type/Reference | Presence | Format | Length |
|  | Extended protocol discriminator | Extended protocol discriminator9.2 | M | V | 1 |
|  | PDU session ID | PDU session identity9.4 | M | V | 1 |
|  | PTI | Procedure transaction identity9.6 | M | V | 1 |
|  | PDU SESSION ESTABLISHMENT ACCEPT message identity | Message type9.7 | M | V | 1 |
|  | Selected PDU session type | PDU session type9.11.4.11 | M | V | 1/2 |
|  | Selected SSC mode | SSC mode9.11.4.16 | M | V | 1/2 |
|  | Authorized QoS rules | QoS rules9.11.4.13 | M | LV-E | 6-65538 |
|  | Session AMBR | Session-AMBR9.11.4.14 | M | LV | 7 |
| 59 | 5GSM cause | 5GSM cause9.11.4.2 | O | TV | 2 |
| 29 | PDU address | PDU address9.11.4.10 | O | TLV | 7-31 |
| 56 | RQ timer value | GPRS timer9.11.2.3 | O | TV | 2 |
| 22 | S-NSSAI | S-NSSAI9.11.2.8 | O | TLV | 3-10 |
| 8- | Always-on PDU session indication | Always-on PDU session indication9.11.4.3 | O | TV | 1 |
| 75 | Mapped EPS bearer contexts | Mapped EPS bearer contexts9.11.4.8 | O | TLV-E | 7-65538 |
| 78 | EAP message | EAP message9.11.2.2 | O | TLV-E | 7-1503 |
| 79 | Authorized QoS flow descriptions | QoS flow descriptions9.11.4.12 | O | TLV-E | 6-65538 |
| 7B | Extended protocol configuration options | Extended protocol configuration options9.11.4.6 | O | TLV-E | 4-65538 |
| 25 | DNN | DNN9.11.2.1B | O | TLV | 3-102 |
| 17 | 5GSM network feature support | 5GSM network feature support9.11.4.18 | O | TLV | 3-15 |
| 18 | Serving PLMN rate control | Serving PLMN rate control9.11.4.20 | O | TLV | 4 |
| 77 | ATSSS container | ATSSS container9.11.4.22 | O | TLV-E | 3-65538 |
| C- | Control plane only indication | Control plane only indication9.11.4.23 | O | TV | 1 |
| 66 | IP header compression configuration | IP header compression configuration9.11.4.24 | O | TLV | 5-257 |
| 1F | Ethernet header compression configuration | Ethernet header compression configuration9.11.4.28 | O | TLV | 3 |
| 7C | Service-level-AA container | Service-level-AA container9.11.2.10 | O | TLV-E | 6-n |
| 33 | Received MBS container | Received MBS container9.11.4.31 | O | TLV-E | 9-65538 |

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

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

#### 8.3.7.1 Message definition

The PDU SESSION MODIFICATION REQUEST message is sent by the UE to the SMF to request a modification of a PDU session. See table 8.3.7.1.1.

Message type: PDU SESSION MODIFICATION REQUEST

Significance: dual

Direction: UE to network

Table 8.3.7.1.1: PDU SESSION MODIFICATION REQUEST message content

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| IEI | Information Element | Type/Reference | Presence | Format | Length |
|  | Extended protocol discriminator | Extended protocol discriminator9.2 | M | V | 1 |
|  | PDU session ID | PDU session identity9.4 | M | V | 1 |
|  | PTI | Procedure transaction identity9.6 | M | V | 1 |
|  | PDU SESSION MODIFICATION REQUEST message identity | Message type9.7 | M | V | 1 |
| 28 | 5GSM capability | 5GSM capability9.11.4.1 | O | TLV | 3-15 |
| 59 | 5GSM cause | 5GSM cause9.11.4.2 | O | TV | 2 |
| 55 | Maximum number of supported packet filters | Maximum number of supported packet filters9.11.4.9 | O | TV | 3 |
| B- | Always-on PDU session requested | Always-on PDU session requested9.11.4.4 | O | TV | 1 |
| 13 | Integrity protection maximum data rate | Integrity protection maximum data rate9.11.4.7 | O | TV | 3 |
| 7A | Requested QoS rules | QoS rules9.11.4.13 | O | TLV-E | 7-65538 |
| 79 | Requested QoS flow descriptions | QoS flow descriptions9.11.4.12 | O | TLV-E | 6-65538 |
| 75 | Mapped EPS bearer contexts | Mapped EPS bearer contexts9.11.4.8 | O | TLV-E | 7-65538 |
| 7B | Extended protocol configuration options | Extended protocol configuration options9.11.4.6 | O | TLV-E | 4-65538 |
| 74 | Port management information container | Port management information container9.11.4.27 | O | TLV-E | 4-65538 |
| 66 | IP header compression configuration | Header compression configuration9.11.4.24 | O | TLV | 5-257 |
| 1F | Ethernet header compression configuration | Ethernet header compression configuration9.11.4.28 | O | TLV | 3 |
| 23 | Requested MBS container | Requested MBS container9.11.4.30 | O | TLV-E | 8-65538 |

NOTE: It is possible for UEs compliant with version 15.2.1 or earlier versions of this specification to send the Mapped EPS bearer contexts IE with IEI of value "7F" for this message.

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

#### 8.3.9.1 Message definition

The PDU SESSION MODIFICATION COMMAND message is sent by the SMF to the UE to indicate a modification of a PDU session. See table 8.3.9.1.1

Message type: PDU SESSION MODIFICATION COMMAND

Significance: dual

Direction: network to UE

Table 8.3.9.1.1: PDU SESSION MODIFICATION COMMAND message content

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| IEI | Information Element | Type/Reference | Presence | Format | Length |
|  | Extended protocol discriminator | Extended protocol discriminator9.2 | M | V | 1 |
|  | PDU session ID | PDU session identity9.4 | M | V | 1 |
|  | PTI | Procedure transaction identity9.6 | M | V | 1 |
|  | PDU SESSION MODIFICATION COMMAND message identity | Message type9.7 | M | V | 1 |
| 59 | 5GSM cause | 5GSM cause9.11.4.2 | O | TV | 2 |
| 2A | Session AMBR | Session-AMBR9.11.4.14 | O | TLV | 8 |
| 56 | RQ timer value | GPRS timer9.11.2.3 | O | TV | 2 |
| 8- | Always-on PDU session indication | Always-on PDU session indication9.11.4.3 | O | TV | 1 |
| 7A | Authorized QoS rules | QoS rules9.11.4.13 | O | TLV-E | 7-65538 |
| 75 | Mapped EPS bearer contexts | Mapped EPS bearer contexts9.11.4.8 | O | TLV-E | 7-65538 |
| 79 | Authorized QoS flow descriptions | QoS flow descriptions9.11.4.12 | O | TLV-E | 6-65538 |
| 7B | Extended protocol configuration options | Extended protocol configuration options9.11.4.6 | O | TLV-E | 4-65538 |
| 77 | ATSSS container | ATSSS container9.11.4.22 | O | TLV-E | 3-65538 |
| 66 | IP header compression configuration | IP header compression configuration9.11.4.24 | O | TLV | 5-257 |
| 74 | Port management information container | Port management information container9.11.4.27 | O | TLV-E | 4-65538 |
| 1E | Serving PLMN rate control | Serving PLMN rate control9.11.4.20 | O | TLV | 4 |
| 1F | Ethernet header compression configuration | Ethernet header compression configuration9.11.4.28 | O | TLV | 3 |
| 33 | Received MBS container | Received MBS container9.11.4.31 | O | TLV-E | 9-65538 |
| 7C | Service-level-AA container | Service-level-AA container9.11.2.10 | O | TLV-E | 6-n |

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

#### 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 6 information element with a minimum length of 8 octets and a maximum length of 65538 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 |
|  |  |  |  |  |  |  |  |
|  |  |
| MBS session information 1 | octet 3octet 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 3 |
| spare |  |  |
| MBS session ID | octet 4octet i |

Figure 9.11.4.30.2: MBS session information

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

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

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

|  |
| --- |
| Type of MBS session ID (bits 1 to 2 of octet 3) |
| 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 3) |
| Bits |
| **4** | **3** |  |  |
| 0 | 1 |  | Join MBS session |
| 1 | 0 |  | Leave MBS session |
| All other values are reserved. |
|  |
| Bits 5 to 8 of octet 3 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 4 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. |
|  |

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

#### 9.11.4.31 Received MBS container

The purpose of the Received MBS container information element is to indicate to the UE the information of the MBS sessions that the network accepts or rejects the UE to join, or the information of the MBS sessions that the UE is removed from.

The Received MBS container information element is coded as shown in figure 9.11.4.31.1, figure 9.11.4.31.2, figure 9.11.4.31.3, figure 9.11.4.31.4, figure 9.11.4.31.5, figure 9.11.4.31.6, figure 9.11.4.31.7, figure 9.11.4.31.8, figure 9.11.4.31.9 and table 9.11.4.31.1.

The Received MBS container is a type 6 information element with a minimum length of 9 octets and a maximum length of 65538 octets.

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

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

Figure 9.11.4.31.1: Received MBS container information element

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| Rejection cause | MSAI | MD | octet 4 |
| 0 | 0 | 0 | 0 | 0 | MTI | IPAE | octet 5 |
| spare |  |
| TMGI | octet 6octet j |
| Source IP address information | octet j+1\*octet v\* |
| Destination IP address information | octet v+1\*octet k\* |
| MBS service area | octet k+1\*octet s\* |
| MBS timers | octet s+1\*octet i\* |

Figure 9.11.4.31.2: Received MBS information

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| MBS TAI list  | octet k+1\*octet i\* |

Figure 9.11.4.31.3: MBS service area for MBS service area indication = "MBS service area included as MBS TAI list"

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| NR CGI list | octet k+1\*octet i\* |

Figure 9.11.4.31.4: MBS service area for MBS service area indication = "MBS service area included as NR CGI list"

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| MBS TAI list  | octet k+1\*octet y\* |
| NR CGI list | octet y+1\*octet i\* |

Figure 9.11.4.31.5: MBS service area for MBS service area indication = "MBS service area included as MBS TAI list and NR CGI list"

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| NR CGI 1 | octet k+1\*octet k+8\* |
| NR CGI 2 | octet k+8\*octet k+15\* |
| … | octet k+16\*octet c\* |
| NR CGI w | octet c+1\*octet i\* |

Figure 9.11.4.31.6: NR CGI list

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| NR Cell ID | octet k+1\* |
| octet k+5\* |
| MCC digit 2  | MCC digit 1 | octet k+6\* |
| MNC digit 3 | MCC digit 3 | octet k+7\* |
| MNC digit 2 | MNC digit 1 | octet k+8\* |

Figure 9.11.4.31.7: NR CGI

|  |  |
| --- | --- |
| MBS start time | octet s+1\*octet s+6\* |

Figure 9.11.4.31.8: MBS timers for MBS timer indication = "MBS start time"

|  |  |
| --- | --- |
| MBS back-off timer | octet s+1\* |

Figure 9.11.4.31.9: MBS timers for MBS timer indication = "MBS back-off timer"

**Table 9.11.4.31.1: Received MBS container information element**

|  |
| --- |
| MBS decision (MD) (bits 1 oto 3 of octet 4)  |
| The MD indicates the network decision of the join requested by the UE, the network requests to remove the UE from the MBS session or the network request to update the MBS service area of MBS session. |
| Bits |
| **3** | **2** | **1** |  |
| 0 | 0 | 1 | MBS service area update |
| 0 | 1 | 0 | MBS join is accepted |
| 0 | 1 | 1 | MBS join is rejected |
| 1 | 0 | 0 | Remove UE from MBS session |
| All other values are unused in this version of the specification and interpreted as 000 if received. |
|  |
| If MD is set to "MBS join is rejected", bits 5 to 8 of octet 3 shall contain the Rejection cause, otherwise bits 5 to 8 of octet 3 are spare and shall be coded as zero. |
|  |
| MBS service area indication (MSAI) (bits 4 and 5 of octet 4) |
| The MSAI indicates whether the MBS service area is included in the IE or not |
| Bits |
| **5** | **4** |  |  |
| 0 | 0 |  | MBS service area not included |
| 0 | 1 |  | MBS service area included as MBS TAI list |
| 1 | 0 |  | MBS service area included as NR CGI list |
| 1 | 1 |  | MBS service area included as MBS TAI list and NR CGI list |
|  |
| Rejection cause (bits 6 to 8 of octet 4) |
| The Rejection cause indicates the reason of rejecting the join request. |
| Bits |
| **8** | **7** | **6** |  |  |
| 0 | 0 | 0 |  | No additional information provided |
| 0 | 0 | 1 |  | Insufficient resources |
| 0 | 1 | 0 |  | User is not authorized to use MBS service  |
| 0 | 1 | 1 |  | MBS session has not started or will not start soon |
| 1 | 0 | 0 |  | User is outside of local MBS service area |
| 1 | 0 | 1 |  | Session context not found |
| All other values are unused in this version of the specification and interpreted as 000 if received. |
|  |
| IP address existence (IPAE) (bit1 of octet 5) |
| The IPAE indicates whether the Source IP address information and Destination IP address information are included in the IE or not. |
| Bit |
| **1** |  |  |
| 0 |  | Source and destination IP address information not included |
| 1 |  | Source and destination IP address information included |
|  |
| If IPAE is set to "Source and destination IP address information included", Source IP address information and Destination IP address information shall be included in the IE, otherwise Source IP address information and Destination IP address information shall not be included in the IE. |
|  |
| Bits 4 to 8 of octet 5 are spare and shall be coded as zero. |
| MBS timer indication (MTI) (bits 2 and 3 of octet 5) |
| The MTI indicates whether there is MBS timer included in the IE or not. |
| Bit |
| **3** | **2** |  |
| 0 | 0 | No MBS timers included |
| 0 | 1 | MBS start time included |
| 1 | 0 | MBS back-off timer included |
| All other values are unused in this version of the specification and interpreted as 00 if received |
|  |
| TMGI (octets 6 to j) |
| The TMGI is coded as described in subclause 10.5.6.13 in 3GPP TS 24.008 [12] starting from octet 2. |
|  |
| Source IP address information (octet j+1 to v) |
| This field contains the IP unicast address used as source address in IP packets for identifying the source of the multicast service. The value of this field is copied from the corresponding source IP address information in the requested MBS container. |
|  |
| Destination IP address information (octet v+1 to k) |
| This field contains the IP multicast address used as destination address in related IP packets for identifying a multicast service associated with the source. The value of this field is copied from the corresponding destination IP address information in the requested MBS container. |
|  |
| MBS service area (octet k+1 to i) |
| The MBS service area contains either the MBS TAI list or the NR CGI list, that identifies the service area(s) for a local MBS service. |
|  |
| MBS TAI list (octet k+1 to i) |
| The MBS TAI list is coded as the 5GS tracking area identity list defined in subclause 9.11.3.9. |
|  |
| NR CGI (octet k+1 to i) |
| The NR CGI globally identifies an NR cell. It contains the NR Cell ID and the PLMN ID of that cell. |
|  |
| NR Cell ID (octet k+1 to k+5) |
| The NR Cell ID consists of 36 bits identifying an NR Cell ID as specified in subclause 9.3.1.7 of 3GPP TS 38.413 [31], in hexadecimal representation. Bit 8 of octet y+1 is the most significant bit and bit 5 of octet y+5 is the least significant bit. Bits 1 to 4 of octet y+5 are spare and shall be coded as zero. |
| MBS start time (octets s+1 to s+6) |
| The MBS start time is coded as described in subclause 10.5.3.9 in 3GPP TS 24.008 [12] starting from octet 2 till octet 7. |
|  |
| MBS back-off timer (octet s+1) |
| The MBS back-off timer is coded as octet 3 described in subclause 10.5.7.4a in 3GPP TS 24.008 [12]. |
|  |
| NOTE: The IPAE bit is not expected to be set to "Source and destination IP address information included" when the MBS decision (MD) indicates "Remove UE from MBS session". |

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