**3GPP TSG-RAN WG3 #117-eR3-225230**

**Online, 15th - 24th August 2022 was R3-225166**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **37.483** | **CR** |  | **rev** | **1** | **Current version:** | **17.1.0** |  |
|  | | | | | | | | |
| *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 |  | Radio Access Network | **X** | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Corrections for the establishment of F1-U ptp retransmission tunnels | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson, Nokia, Nokia Shanghai Bell,Qualcomm, Verizon Wireless, AT&T, China Unicom, ZTE | | | | | | | | | |
| ***Source to TSG:*** | R3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_MBS-Core | | | | |  | ***Date:*** | | | 2022-08-08 |
|  |  | | | |  | |  | | |  |
| ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The current definition of the MBS Multicast F1-U Context Descriptor IE is not suitable to be included into all Multicast Distribution messages, where a simple reference would be sufficient. Moreover, including a UE/cell specific reference would require such reference to be updated in case of intra-DU mobility, which causes unnecessary signalling. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Reducing the content of the MBS Multicast F1-U Context Descriptor IE to a 4-octet reference which may include in addition an MBS Area Session ID (to indicate which location dependent content needs to be provided) and an indication whether a ptp F1-U context needs to be established for ptm transmission or ptp transmission or ptp retransmission or ptp forwarding.  .  Impact Analysis:  Impact assessment towards the previous version of the specification (same release):  This CR has isolated impact with the previous version of the specification (same release) because it corrects missing functions regarding F1-U tunnel control for multicast MBS only.  The impact can be considered isolated because the change affects only MBS functions functions regarding F1-U tunnel control.  The correction of the MBS Multicast F1-U Context Descriptor IE has protocol and ASN.1 impact. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Incomplete, contradicting and erroneous specification text will remain. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 9.3.1.225, 9.3.1.226, 9.3.1.x (new), 9.4.5 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

<<<<<<<<<<<<<<<<<<<< First Change >>>>>>>>>>>>>>>>>>>>

#### 9.3.1.125 MBS Multicast F1-U Context Descriptor

This IE contains a reference to a Multicast F1-U Context and may contain an MBS Area Session ID and an indication to setup a Multicast F1-U Context for ptp retransmissions.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| Multicast F1-U Context ReferenceE1 | M |  | 9.3.1.x |  |
| MC F1-U Context usage | M |  | ENUMERATED (ptm,  ptp,  ptp retransmission,  ptp forwarding ...) | "ptm" indicates that the Multicast F1-U Context is setup for ptm transmissions; decided by the DU.  "ptp" indicates that the Multicast F1-U Context is setup for ptp transmissions; decided by the DU.  "ptp retransmission" indicates that the Multicast F1-U Context is setup for ptp retransmissions (based on PDCP Status Report); requested by the CU  "ptp forwarding" indicates that the Multicast F1-U Context is setup for transmitting from a defined MBS Progress Information status onwards; requested by the CU. |
| MBS Area Session ID | O |  | 9.3.1.111 | To support per MBS Area Session F1-U tunnels and being able to refer to it. |

#### 9.3.1.126 Void

Void.



<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

#### 9.3.1.x Multicast F1-U Context ReferenceE1

This IE contains a reference to a Multicast F1-U Context used within an MBS-associated logical E1-connection.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| Multicast F1-U Context ReferenceE1 | M |  | OCTET STRING (SIZE(4)) | This value is allocated to uniquely denote an Multicast F1-U Context within an MBS-associated logical E1-connection. |

<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>



<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

#### 9.3.3.34 MC Bearer Context To Modify

This IE contains MBS session resource related information used to request a modification of a multicast MC Bearer Context.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| MC Bearer Context NG-U TNL Info at 5GC | O |  | 9.3.1.122 |  |
| MC Bearer Context NG-U TNL Info at NG-RAN Request | O |  | 9.3.1.123 | To request NG-U TNL information from the gNB-CU-UP, if not yet available at gNB-CU-CP |
| MBS Multicast F1-U Context Descriptor | C-ifSetupOrRemove |  | 9.3.1.125 |  |
| **MC MRB To Setup or Modify List** |  | *0..<maxnoofMRBs>* |  |  |
| >MRB ID | M |  | 9.3.1.16a |  |
| >MC Bearer Context F1-U TNL Info at DU | O |  | 9.3.1.124 |  |
| >SDAP Configuration | O |  | 9.3.1.39 |  |
| >MBS PDCP Configuration | O |  | PDCP Configuration  9.3.1.38 |  |
| >MBS QoS Flows Information To Be Setup | O |  | QoS Flow QoS Parameters List  9.3.1.25 |  |
| >MRB QoS | O |  | QoS Flow Level QoS Parameters 9.3.1.26 | Indicates the MRB QoS when more than one QoS Flow is mapped to the MRB. |
| >MBS Initial HFN and Reference PDCP SN Request | O |  | ENUMERATED (true, ...) | Indicates the MBS initial HFN and reference PDCP SN is requested. |
|  |  |  |  |  |
| **MC MRB To Remove List** |  | *0..<maxnoofMRBs>* |  |  |
| >MRB ID | M |  | 9.3.1.16a |  |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofMRBs | Maximum no. of MRBs for a UE. Value is 32. |

|  |  |
| --- | --- |
| Condition | Explanation |
| ifSetupOrRemove | This IE shall be present if either the *MC MRB To Setup or Modify List* IE or the *MC MRB To Remove List* IE or both IEs are included. |
|  |  |

<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

### 

### 9.4.5 Information Element Definitions

-- ASN1START

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- Information Element Definitions

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

E1AP-IEs {

itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)

ngran-access (22) modules (3) e1ap (5) version1 (1) e1ap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

<<<<<<<<<<<<<<<<<<<< Unmodified Text Omitted >>>>>>>>>>>>>>>>>>>>

-- MCBearerContextToModify

MCBearerContextToModify ::= SEQUENCE {

mcBearerContextNGUTNLInfoat5GC MCBearerContextNGUTNLInfoat5GC OPTIONAL,

mcBearerContextNGUTnlInfoatNGRANRequest MCBearerContextNGUTnlInfoatNGRANRequest OPTIONAL,

mbsMulticastF1UContextDescriptor MBSMulticastF1UContextDescriptor OPTIONAL,

-- This IE shall be present if either the *MC MRB To Setup or Modify List* IE or the *MC MRB To Remove List* IE or both IEs are included.

mcMRBToSetupModifyList MCMRBSetupModifyConfiguration OPTIONAL,

mcMRBToRemoveList MCMRBRemoveConfiguration OPTIONAL,

iE-Extensions ProtocolExtensionContainer { {MCBearerContextToModify-ExtIEs} } OPTIONAL,

...

}

MCBearerContextToModify-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

MCBearerContextNGUTNLInfoat5GC ::= SEQUENCE {

mbsNGUInformationAt5GC MBSNGUInformationAt5GC,

mbsAreaSession-ID MBSAreaSessionID OPTIONAL,

iE-Extensions ProtocolExtensionContainer { {MCBearerContextNGUTNLInfoat5GC-ExtIEs} } OPTIONAL,

...

}

MCBearerContextNGUTNLInfoat5GC-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

MCBearerContextNGUTnlInfoatNGRANRequest ::= SEQUENCE {

ngRANNGUTNLRequested ENUMERATED {requested, ...},

mbsAreaSession-ID MBSAreaSessionID OPTIONAL,

iE-Extensions ProtocolExtensionContainer { {MCBearerContextNGUTnlInfoatNGRANRequest-ExtIEs} } OPTIONAL,

...

}

MCBearerContextNGUTnlInfoatNGRANRequest-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

MCMRBSetupModifyConfiguration ::= SEQUENCE {

mrb-ID MRB-ID,

f1uTNLatDU MCBearerContextF1UTNLInfoatDU OPTIONAL,

sdap-config SDAP-Configuration OPTIONAL,

mbs-pdcp-config PDCP-Configuration OPTIONAL,

qoS-Flow-QoS-Parameter-List QoS-Flow-QoS-Parameter-List OPTIONAL,

mrbQoS QoSFlowLevelQoSParameters OPTIONAL,

mbsInitialHFNRefSNReq MBS-Initial-HFN-Ref-SN-Req OPTIONAL,

iE-Extensions ProtocolExtensionContainer { {MCMRBSetupModifyConfiguration-ExtIEs} } OPTIONAL,

...

}

MCMRBSetupModifyConfiguration-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

MCBearerContextF1UTNLInfoatDU ::= SEQUENCE {

mbsF1UInfoatDU UP-TNL-Information,

mbsMulticastF1UContextDescriptor MBSMulticastF1UContextDescriptor,

iE-Extensions ProtocolExtensionContainer { {MCBearerContextF1UTNLInfoatDU-ExtIEs} } OPTIONAL,

...

}

MCBearerContextF1UTNLInfoatDU-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

MBSMulticastF1UContextDescriptor ::= CHOICE {

du NULL,

mbsAreaSession MBSAreaSessionID,

cell MCDUCellReference,

ptp-retransmission MBSPTPUEReference,

ptp-only-MRB MBSPTPUEReference,

choice-extension ProtocolIE-SingleContainer {{MBSMulticastF1UContextDescriptor-ExtIEs}}

}

MBSMulticastF1UContextDescriptor-ExtIEs E1AP-PROTOCOL-IES ::= {

...

}

MCDUCellReference ::= SEQUENCE {

du-CellIndex INTEGER (1..512),

nr-CGI NR-CGI,

iE-Extensions ProtocolExtensionContainer { {MCDUCellReference-ExtIEs} } OPTIONAL,

...

}

MCDUCellReference-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

MBSPTPUEReference::= SEQUENCE {

ueReferenceID INTEGER (0..65535, ...),

du-CellIndex INTEGER (1..512),

iE-Extensions ProtocolExtensionContainer { {MBSPTPUEReference-ExtIEs} } OPTIONAL,

...

}

MBSPTPUEReference-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

MCMRBRemoveConfiguration ::= SEQUENCE (SIZE(1..maxnoofMRBs)) OF MRB-ID

MBS-Initial-HFN-Ref-SN-Req ::= ENUMERATED {true, ... }

<<<<<<<<<<<<<<<<<<<< Unmodified Text Omitted >>>>>>>>>>>>>>>>>>>>

MulticastF1UContextReferenceE1 ::= OCTET STRING (SIZE(4))

MBSMulticastF1UContextDescriptor ::= SEQUENCE {

multicastF1UContextReferenceE1 MulticastF1UContextReferenceE1,

mc-F1UCtxtusage ENUMERATED {ptp, ptp, ptp-retransmission, ptp-forwarding, ...},

mbsAreaSession MBSAreaSessionID OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { MBSMulticastF1UContextDescriptor-ExtIEs } } OPTIONAL,

...

}

MBSMulticastF1UContextDescriptor-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

<<<<<<<<<<<<<<<<<<<< End of Changes >>>>>>>>>>>>>>>>>>>>