**3GPP TSG-RAN WG3 Meeting #115e *R3-221804***

 **Online, 21st February– 3rd March, 2022**

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| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **38.473** | **CR** | **0690** | **Rev** | **9** | **Current version:** | **16.8.0** |  |
|  |
| *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 | **X** | Core Network |  |

|  |
| --- |
|  |
| ***Title:***  | Handling PDCP Duplication |
|  |  |
| ***Source to WG:*** | Ericsson, Intel Corporation, Nokia, Nokia Shanghai Bell |
| ***Source to TSG:*** | R3 |
|  |  |
| ***Work item code:*** |  NR\_IIOT-Core  |  | ***Date:*** | 2022-02-10 |
|  |  |  |  |  |
| ***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:*** | There is a need to indicate if the Rel 16 dynamic MAC UE control for UL PDCP duplication is used in the gNB-DU. |
|  |  |
| ***Summary of change:*** | Add in the RLC Duplication Information the indication if the MAC CE control is allowed.Impact Analysis:The CR has limited impact on the context setup and modification procedure.The change is backwards compatible. |
|  |  |
| ***Consequences if not approved:*** | The Rel 16 dynamic MAC CE control is not possible to use. |
|  |  |
| ***Clauses affected:*** | 9.3.1.146, 9.4.5, 9.4.7 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** | **X** |  |  Other core specifications  | TS 38.423 CR 0502TS 38.425 CR 0130 |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

#### 9.3.1.146 RLC Duplication Information

The IE contains the RLC duplication information in case that the indicated DRB is configured with more than two RLC entities as specified in TS 38.331 [8].

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| **RLC Duplication State List** |  | *1* |  |  | - |  |
| **>RLC Duplication State Items** |  | *1 .. <maxnoofRLCDuplicationState>* |  | Each position in the list represents a secondary RLC entity in ascending order by the logical channel ID in the order of MCG and SCG. | - |  |
| >>Duplication State | M |  | ENUMERATED (Active, Inactive, ...) |  | - |  |
| Primary Path Indication | O |  | ENUMERATED (True, False...) | Indicates whether the primary path is located at the gNB-DU for DC based PDCP duplication. | - |  |
| MAC CE Control | O |  | ENUMERATED (allowed, disallowed, not-relevant, …) | This IE indicates if the DU is allowed to control the MAC CE UL PDCP duplication.The value “not-relevant” means the MAC CE UL PDCP is not controlled by PDCP entity. | Yes | reject |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofRLCDuplicationState | Maximum no of Secondary RLC entities. Value is 3. |

### 9.4.5 Information Element Definitions

-- ASN1START

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

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-- Information Element Definitions

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

F1AP-IEs {

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

ngran-access (22) modules (3) f1ap (3) version1 (1) f1ap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

 id-gNB-CUSystemInformation,

 id-HandoverPreparationInformation,

 id-TAISliceSupportList,

 id-RANAC,

 id-BearerTypeChange,

 id-Cell-Direction,

 id-Cell-Type,

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 id-ExtendedTAISliceSupportList,

 id-E-CID-MeasurementQuantities-Item,

 id-ConfiguredTACIndication,

 id-NRCGI,

 id-SFN-Offset,

 id-TransmissionStopIndicator,

 id-SrsFrequency,

 id-EstimatedArrivalProbability,

 id-MAC-CE-Control,

 maxEARFCN,

 maxnoofAllowedAreas,

 maxnoofAMFRegions,

 maxnoofAoIs,

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-- M

MAC-CE-Control ::= ENUMERATED{

 allowed,

 disallowed,

 not-relevant,

 ...

}

MappingInformationIndex ::= BIT STRING (SIZE (26))

MappingInformationtoRemove ::= SEQUENCE (SIZE(1..maxnoofMappingEntries)) OF MappingInformationIndex

MaskedIMEISV ::= BIT STRING (SIZE (64))

MaxDataBurstVolume ::= INTEGER (0..4095, ..., 4096.. 2000000)

MaxPacketLossRate ::= INTEGER (0..1000)

MIB-message ::= OCTET STRING

MeasConfig ::= OCTET STRING

MeasGapConfig ::= OCTET STRING

MeasGapSharingConfig ::= OCTET STRING

MeasurementBeamInfoRequest ::= ENUMERATED {true, ...}

MeasurementBeamInfo ::= SEQUENCE {

 pRS-Resource-ID PRS-Resource-ID OPTIONAL,

 pRS-Resource-Set-ID PRS-Resource-Set-ID OPTIONAL,

 sSB-Index SSB-Index OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { MeasurementBeamInfo-ExtIEs} } OPTIONAL

}

MeasurementBeamInfo-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

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-- R

RACH-Config-Common ::= OCTET STRING

RACH-Config-Common-IAB ::= OCTET STRING

RACHReportContainer::= OCTET STRING

RACHReportInformationList ::= SEQUENCE (SIZE(1.. maxnoofRACHReports)) OF RACHReportInformationItem

RACHReportInformationItem ::= SEQUENCE {

 rACHReportContainer RACHReportContainer,

 uEAssitantIdentifier GNB-DU-UE-F1AP-ID OPTIONAL,

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

 ...

}

RACHReportInformationItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-MAC-CE-Control CRITICALITY reject EXTENSION MAC-CE-Control PRESENCE optional},

 ...

}

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RLCDuplicationInformation ::= SEQUENCE {

 rLCDuplicationStateList RLCDuplicationStateList,

 primaryPathIndication PrimaryPathIndication OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { {RLCDuplicationInformation-ExtIEs} } OPTIONAL

}

RLCDuplicationInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

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### 9.4.7 Constant Definitions

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

--

-- Constant definitions

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

F1AP-Constants {

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

ngran-access (22) modules (3) f1ap (3) version1 (1) f1ap-Constants (4) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

--

-- IE parameter types from other modules.

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

IMPORTS

 ProcedureCode,

 ProtocolIE-ID

FROM F1AP-CommonDataTypes;

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

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-- Elementary Procedures

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id-SlotNumber ProtocolIE-ID ::= 421

id-TRP-MeasurementRequestList ProtocolIE-ID ::= 422

id-MeasurementBeamInfoRequest ProtocolIE-ID ::= 423

id-E-CID-ReportCharacteristics ProtocolIE-ID ::= 424

id-ConfiguredTACIndication ProtocolIE-ID ::= 425

id-Extended-GNB-DU-Name ProtocolIE-ID ::= 426

id-Extended-GNB-CU-Name ProtocolIE-ID ::= 427

id-F1CTransferPath ProtocolIE-ID ::= 428

id-SFN-Offset ProtocolIE-ID ::= 429

id-TransmissionStopIndicator ProtocolIE-ID ::= 430

id-SrsFrequency ProtocolIE-ID ::= 431

id-SCGIndicator ProtocolIE-ID ::= 432

id-EstimatedArrivalProbability ProtocolIE-ID ::= 433

...

id-MAC-CE-Control ProtocolIE-ID ::= xxx

END

-- ASN1STOP