**3GPP TSG-RAN WG3 Meeting #114b-e R3-22xxxx**

**E-meeting, 17-26 Jan 2022**

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| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **38.423** | **CR** | **0743** | **rev** | **1** | **Current version:** | **15.14.0** |  |
|  |
| *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 |  |

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|  |
| ***Title:***  | CR to 38.423 on UP security policy update |
|  |  |
| ***Source to WG:*** | Huawei, China Telecom |
| ***Source to TSG:*** | R3 |
|  |  |
| ***Work item code:*** | NR\_newRAT-Core |  | ***Date:*** | 2022-01-17 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-15 |
|  | *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:*** | As observed from section 10.7.2 in TS 37.340, the MR-DC may be setup first, then the target MN triggers the path switch request procedure, where the updated security indication may be included in the Path Switch Request Acknowledge message as described in section 6.1.1 of TS 33.501 Then the target MN needs to update the security indication in the S-NG-RAN node initiated S-NG-RAN node Modification.  |
|  |  |
| ***Summary of change:*** | * Add the security indication in the *PDU Session Resource Modification Info – SN terminated* IE in the SN modify request message, and the security result in the *PDU Session Resource Modification Response Info – SN terminated* IE in the SN modification request acknowledge message.

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).The impact can be considered isolated because the change only affects the update of security indication for MR-DC. |
|  |  |
| ***Consequences if not approved:*** | The Security Indication can not be updated towards the SN, in case the security indication is updated in the Path Switch Request Acknowledge message.  |
|  |  |
| ***Clauses affected:*** | 8.3.3.2, 9.2.1.9, 9.2.1.10, 9.3.5, 9.3.7 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS 38.463 CR# 0674/0675 |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** | Rev0: R3-220906Rev1: R3-22xxxx |

*CHANGE BEGIN*

### 8.3.3 M-NG-RAN node initiated S-NG-RAN node Modification Preparation

#### 8.3.3.1 General

This procedure is used to enable an M-NG-RAN node to request an S-NG-RAN node to either modify the UE context at the S-NG-RAN node or to query the current SCG configuration for supporting delta signalling in M-NG-RAN node initiated S-NG-RAN node change, or to provide the S-RLF-related information to the S-NG-RAN node.

The procedure uses UE-associated signalling.

#### 8.3.3.2 Successful Operation



Figure 8.3.3.2-1: M-NG-RAN node initiated S-NG-RAN node Modification Preparation, successful operation

**<Unchanged Text Omitted>**

If the *Default DRB Allowed* IE is included in the *PDU Session Resource Setup Info – SN terminated* IE or *PDU Session Resource Modification Info – SN terminated* IE of the S-NODE MODIFICATION REQUEST message and set to "true", the S-NG-RAN node may configure the default DRB for the PDU session.

If the *Default DRB Allowed* IE is included in the *PDU Session Resource Setup Info – SN terminated* IE or *PDU Session Resource Modification Info – SN terminated* IE of the S-NODE MODIFICATION REQUEST message and set to "false", the S-NG-RAN node shall not configure the default DRB for the PDU session and the S-NG-RAN shall reconfigure the default DRB into a normal DRB if it has configured the default DRB before.

If the *Security Indication* IE is included in the *PDU Session Resource Modification Info – SN terminated* IE of the S-NODE MODIFICATION REQUEST message, the S-NG-RAN node shall replace any existing security indication, and the behaviour of the S-NG-RAN node shall be the same as specified for the same IE in the *PDU Session Resources To Be Setup List* IE in the Handover Preparation procedure, for the concerned PDU session, and the S-NG-RAN node shall include the *Security Result* IE in the *PDU Session Resource Modification Response Info – SN terminated* IE.

If the S-NODE MODIFICATION REQUEST ACKNOWLEDGE message includes the *DRB IDs taken into use* IE, the M-NG-RAN node, if applicable, shall act as specified in TS 37.340 [8].

If the M-NG-RAN node receives in the S-NODE MODIFICATION REQUEST ACKNOWLEDGE message within the *PDU Session Resource Modification Response Info –MN terminated* IE a DRBs Admitted to be Setup or Modified Item with DRB ID(s) that it has not requested to be setup or modified, the M-NG-RAN node shall ignore the contained information.

**<Unchanged Text Omitted>**

#### 9.2.1.9 PDU Session Resource Modification Info – SN terminated

This IE contains information related to a PDU session resource for an M-NG-RAN node initiated request to modify DRBs configured with an SN terminated bearer option.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| UL NG-U UP TNL Information at UPF | O |  | UP Transport Layer Information 9.2.3.30 | UPF endpoint of the NG-U transport bearer. For delivery of UL PDUs | – |  |
| Network Instance | O |  | 9.2.3.85 | This IE shall be ignored if the *Common Network Instance* IE is present. | – |  |
| **QoS Flows To Be Setup List** |  | *0..1* |  |  | – |  |
| **>QoS Flows To Be Setup Item** |  | *1 .. <maxnoofQoSFlows>* |  |  | – |  |
| >>QoS Flow Identifier  | M |  | 9.2.3.10 |  | – |  |
| >>QoS Flow Level QoS Parameters  | M |  | 9.2.3.5 | For GBR QoS flows, this IE contains GBR QoS flow information as received at NG-C  | – |  |
| >>Offered GBR QoS Flow Information  | O |  | GBR QoS Flow Information9.2.3.6 | This IE contains M-Node offered GBR QoS Flow Information.  | – |  |
| >>QoS Flow Mapping Indication | O |  | 9.2.3.79 |  | – |  |
| Data Forwarding and Offloading Info from source NG-RAN node | O |  | 9.2.1.17 | Applicable for the QoS flows contained in the *QoS Flows To Be Setup List* IE. | – |  |
| **QoS Flows To Be Modified List** |  | *0..1* |  |  | – |  |
| **>QoS Flows To Be Modified Item** |  | *1 .. <maxnoofQoSFlows>* |  |  | – |  |
| >>QoS Flow Identifier  | M |  | 9.2.3.10 |  | – |  |
| >>QoS Flow Level QoS Parameters  | O |  | 9.2.3.5 | For GBR QoS flows, this IE contains GBR QoS flow information as received at NG-C  | – |  |
| >>Offered GBR QoS Flow Information  | O |  | GBR QoS Flow Information9.2.3.6 | This IE contains M-Node offered GBR QoS Flow Information.  | – |  |
| QoS Flows To Be Released List |  | *0..1* | QoS Flow List with Cause9.2.1.4 |  | – |  |
| **DRBs To Be Modified List** |  | *0..1* |  |  | – |  |
| **>DRBs to Be Modified Item** |  | *1 .. <maxnoofDRBs>* |  |  | – |  |
| >>DRB ID | M |  | 9.2.3.33 |  | – |  |
| >>MN DL CG UP TNL Information | O |  | UP Transport Parameters 9.2.3.76 | M-NG-RAN node GTP-U endpoint(s) of a DRB’s Xn transport bearer at its lower layer CG resource. For delivery of DL PDUs. | – |  |
| >>secondary MN DL CG UP TNL Information | O |  | UP Transport Parameters 9.2.3.76 | M-NG-RAN node GTP-U endpoint(s) of a DRB’s Xn transport bearer at its lower layer CG resource. For delivery of DL PDUs in case of PDCP duplication. | – |  |
| >>LCID | O |  | 9.2.3.70 | LCID for primary path if PDCP duplication is applied | – |  |
| >>RLC Status | O |  | 9.2.3.80 |  | – |  |
| DRBs To Be Released List | O |  | DRB List with Cause9.2.1.28 |  | – |  |
| Common Network Instance | O |  | 9.2.3.92 |  | YES | ignore |
| Default DRB Allowed | O |  | 9.2.3.93 |  | YES | Ignore |
| Security Indication | O |  | 9.2.3.52 |  | YES | ignore |

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| --- | --- |
| Range bound | Explanation |
| maxnoofQoSFlows | Maximum no. of QoS flows. Value is 64. |

#### 9.2.1.10 PDU Session Resource Modification Response Info – SN terminated

This IE contains the PDU session resource related result of an M-NG-RAN node initiated request to modify DRBs configured with an SN terminated bearer option.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| DL NG-U UP TNL Information at NG-RAN | O |  | UP Transport Layer Information 9.2.3.30 | S-NG-RAN node endpoint of the NG transport bearer. For delivery of DL PDUs. | – |  |
| **DRBs To Be Setup List** |  | *0..1* |  |  | – |  |
| **>DRBs to Be Setup Item** |  | *1 .. <maxnoofDRBs>* |  |  | – |  |
| >>DRB ID | M |  | 9.2.3.33 |  | – |  |
| >>SN UL PDCP UP TNL Information | M |  | UP Transport Parameters 9.2.3.76 | S-NG-RAN node endpoint(s) of a DRB’s Xn transport bearer at its PDCP resource. For delivery of UL PDUs. | – |  |
| >>DRB QoS | M |  | QoS Flow Level QoS Parameters9.2.3.5 |  | – |  |
| >>PDCP SN Length | O |  | 9.2.3.63 | Indicates the PDCP SN length of the DRB. | – |  |
| >>RLC Mode | M |  | 9.2.3.28 | Indicates the RLC mode to be used in the assisting node. | – |  |
| >>secondary SN UL PDCP UP TNL Information | O |  | UP Transport Parameters 9.2.3.76 | S-NG-RAN node endpoint(s) of a DRB’s Xn transport bearer at its PDCP resource. For delivery of UL PDUs in case of PDCP duplication. | – |  |
| >>Duplication Activation | O |  | 9.2.3.71 | Information on the initial state of UL PDCP duplication | – |  |
| >>UL Configuration | O |  | 9.2.3.75 | Information about UL usage in the S-NG-RAN node. This IE is used when the concerned DRB has both MCG resource and SCG resource configured i.e. the concerned DRB is configured as split bearer. | – |  |
| **>>QoS Flows Mapped To DRB List** |  | *1* |  |  | – |  |
| **>>>QoS Flows Mapped To DRB Item** |  | *1 .. <maxnoofQoSFlows>* |  |  | – |  |
| >>>>QoS Flow Identifier  | M |  | 9.2.3.10 |  | – |  |
| >>>>MCG requested GBR QoS Flow Information  | O |  | GBR QoS Flow Information9.2.3.6 | This IE contains GBR QoS Flow Information necessary for the MCG part.  | – |  |
| >>>>QoS Flow Mapping Indication | O |  | 9.2.3.79 |  | – |  |
| >>secondary SN UL PDCP UP TNL Information | O |  | UP Transport Parameters 9.2.3.76 | S-NG-RAN node endpoint(s) of a DRB’s Xn transport bearer at its PDCP resource. For delivery of UL PDUs in case of PDCP duplication. | YES | ignore |
| >>PDCP Duplication Configuration | O |  | 9.2.3.86 |  | YES | ignore |
| >>Duplication Activation | O |  | 9.2.3.71 |  | YES | ignore |
| Data Forwarding Info from target NG-RAN node | O |  | 9.2.1.16 | Applicable for the QoS flows in DRBs to be setup. | – |  |
| **DRBs To Be Modified List** |  | *0..1* |  |  | – |  |
| **>DRBs to Be Modified Item** |  | *1 .. <maxnoofDRBs>* |  |  | – |  |
| >>DRB ID | M |  | 9.2.3.33 |  | – |  |
| >>SN UL PDCP UP TNL Information | O |  | UP Transport Parameters 9.2.3.76 | S-NG-RAN node endpoint(s) of a DRB’s Xn transport bearer at its PDCP resource. For delivery of UL PDUs. | – |  |
| >>DRB QoS | O |  | QoS Flow Level QoS Parameters9.2.3.5 |  | – |  |
| **>>QoS Flows Mapped to DRB List** |  | *0..1* |  | Overwriting the existing QoS Flow List | – |  |
| **>>>QoS Flows Mapped to DRB Item** |  | *1 .. <maxnoofQoSFlows>* |  |  | – |  |
| >>>>QoS Flow Identifier  | M |  | 9.2.3.10 |  | – |  |
| >>>>MCG requested GBR QoS Flow Information  | O |  | GBR QoS Flow Information9.2.3.6 | This IE contains GBR QoS Flow Information necessary for the MCG part.  | – |  |
| >>>>QoS Flow Mapping Indication | O |  | 9.2.3.79 |  | – |  |
| **DRBs To Be Released List** |  | *0..1* |  |  | – |  |
| **>DRBs to Be Released Item** |  | *1 .. <maxnoofDRBs>* |  |  | – |  |
| >>DRB ID | M |  | 9.2.3.33 |  | – |  |
| >>Cause | O |  | 9.2.3.2 |  | – |  |
| Data Forwarding and Offloading Info from source NG-RAN node | O |  | 9.2.1.17 | Contains DL Data Forwarding indications for QoS Flows removed from the SDAP in the SN. | – |  |
| QoS Flows Not Admitted to be Added List | O |  | QoS Flow List with Cause9.2.1.4 |  | – |  |
| QoS Flows Released List | O |  | QoS Flow List with Cause9.2.1.4 |  | – |  |
| DRB IDs taken into use | O |  | DRB List 9.2.1.29 | Indicating the DRB IDs taken into use by the target NG-RAN node, as specified in TS 37.340 [8]. | YES | Reject |
| Security Result | O |  | 9.2.3.67 |  | Yes | ignore |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofDRBs | Maximum no. of DRBs allowed towards one UE. Value is 32.  |
| maxnoofQoSFlows | Maximum no. of QoS flows. Value is 64. |

**<Unchanged Text Omitted>**

### 9.3.5 Information Element definitions

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-- Information Element Definitions

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**<Unchanged Text Omitted>**

 id-secondary-SN-UL-PDCP-UP-TNLInfo,

 id-pdcpDuplicationConfiguration,

 id-duplicationActivation,

 id-AdditionLocationInformation,

 id-SecurityIndication,

 maxEARFCN,

 maxnoofAllowedAreas,

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

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-- PDU Session Resource Modification Info - SN terminated

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

PDUSessionResourceModificationInfo-SNterminated ::= SEQUENCE {

 uL-NG-U-TNLatUPF UPTransportLayerInformation OPTIONAL,

 pduSessionNetworkInstance PDUSessionNetworkInstance OPTIONAL,

 qosFlowsToBeSetup-List QoSFlowsToBeSetup-List-Setup-SNterminated OPTIONAL,

 dataforwardinginfofromSource DataforwardingandOffloadingInfofromSource OPTIONAL,

 qosFlowsToBeModified-List QoSFlowsToBeSetup-List-Modified-SNterminated OPTIONAL,

 qoSFlowsToBeReleased-List QoSFlows-List-withCause OPTIONAL,

 drbsToBeModifiedList DRBsToBeModified-List-Modified-SNterminated OPTIONAL,

 dRBsToBeReleased DRB-List-withCause OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { {PDUSessionResourceModificationInfo-SNterminated-ExtIEs} } OPTIONAL,

 ...

}

PDUSessionResourceModificationInfo-SNterminated-ExtIEs XNAP-PROTOCOL-EXTENSION ::= {

 { ID id-PDUSessionCommonNetworkInstance CRITICALITY ignore EXTENSION PDUSessionCommonNetworkInstance PRESENCE optional}|

 {ID id-DefaultDRB-Allowed CRITICALITY ignore EXTENSION DefaultDRB-Allowed PRESENCE optional}|

 {ID id-SecurityIndication CRITICALITY ignore EXTENSION SecurityIndication PRESENCE optional},

 ...

}

**<Unchanged Text Omitted>**

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

--

-- PDU Session Resource Modification Response Info - SN terminated

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

PDUSessionResourceModificationResponseInfo-SNterminated ::= SEQUENCE {

 dL-NG-U-TNLatNG-RAN UPTransportLayerInformation OPTIONAL,

 dRBsToBeSetup DRBsToBeSetupList-SetupResponse-SNterminated OPTIONAL,

 dataforwardinginfoTarget DataForwardingInfoFromTargetNGRANnode OPTIONAL,

 dRBsToBeModified DRBsToBeModifiedList-ModificationResponse-SNterminated OPTIONAL,

 dRBsToBeReleased DRB-List-withCause OPTIONAL,

 dataforwardinginfofromSource DataforwardingandOffloadingInfofromSource OPTIONAL,

 qosFlowsNotAdmittedTBAdded QoSFlows-List-withCause OPTIONAL,

 qosFlowsReleased QoSFlows-List-withCause OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { {PDUSessionResourceModificationResponseInfo-SNterminated-ExtIEs} } OPTIONAL,

 ...

}

PDUSessionResourceModificationResponseInfo-SNterminated-ExtIEs XNAP-PROTOCOL-EXTENSION ::= {

 { ID id-DRB-IDs-takenintouse CRITICALITY reject EXTENSION DRB-List PRESENCE optional}|

 {ID id-SecurityResult CRITICALITY ignore EXTENSION SecurityResult PRESENCE optional},

 ...

}

**<Unchanged Text Omitted>**

### 9.3.7 Constant definitions

-- ASN1START

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

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-- Constant definitions

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**<Unchanged Text Omitted>**

id-UESpecificDRX ProtocolIE-ID ::= 248

id-AdditionLocationInformation ProtocolIE-ID ::= 251

id-SecurityIndication ProtocolIE-ID ::= bbb

*CHANGE END*