**3GPP T****SG-RAN WG3 Meeting #127bis R3-252376**

**Wuhan, China, 07 - 11 April, 2025**

**Agenda Item: 21.3**

**Source: Ericsson, Qualcomm, Huawei, CMCC, ZTE, Nokia, Nokia Shanghai Bell, CATT, China Telecom, Lenovo**

**Title: (TP for XR BL CR for TS38.423) Addition of MMSID**

**Document for: Other**

1 Introduction

The WID of R19 XR has been updated in [1] to add the following objective:

- Support and specify multi-modality awareness for QoS flows in both DL and UL RAN [RAN3]

This paper provides the XnAP TP for capturing the support for multi-modality awareness.

EN: FFS on applicability of MMSID in Dual connectivity procedures.

2 References

[1] RP-250107, Revised WID on XR (eXtended Reality) for NR Phase 3, Nokia (Rapporteur), 3GPP TSG RAN Meeting #107.

**Start of first change**

### 8.2.1 Handover Preparation

8.2.1.1 General

This procedure is used to establish necessary resources in an NG-RAN node for an incoming handover. If the procedure concerns a conditional handover, parallel transactions are allowed. Possible parallel requests are identified by the target cell ID when the source UE AP IDs are the same.

The procedure uses UE-associated signalling.

8.2.1.2 Successful Operation

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**Figure 8.2.1.2-1: Handover Preparation, successful operation**

The source NG-RAN node initiates the procedure by sending the HANDOVER REQUEST message to the target NG-RAN node. When the source NG-RAN node sends the HANDOVER REQUEST message, it shall start the timer TXnRELOCprep.

information of the UE in the target cell during handover.

**//omitted text unchanged//**

If the *Mobile* *IAB Authorization Status* IE is included in the HANDOVER REQUEST message, the target NG-RAN node shall, if supported, store the received Mobile IAB authorization status information in the UE context and consider that the handover is for a mobile IAB-node. If the *Mobile* *IAB Authorization* *Status* IE is set to "not authorized" for a mobile IAB-MT, the target NG-RAN node shall, if supported, store it and use it as defined in TS 38.401[2].

If the *DL LBT Failure Information Request* IE is included in the HANDOVER REQUEST message, the target NG-RAN node shall, if supported, consider that the source NG-RAN node has requested the DL LBT failure information of the UE in the target cell during handover.

For each QoS flow which has been successfully established in the target NG-RAN node, if the *MMSID* IE was included in the *QoS Flow Level QoS Parameters* IE contained in the HANDOVER REQUEST message, the target NG-RAN node shall, if supported, consider that the QoS flow is related to a multi-modal service, as described in TS 23.501[7].

**Next change**

8.2.4 Retrieve UE Context

8.2.4.1 General

The purpose of the Retrieve UE Context procedure is to either retrieve the UE context from the old NG-RAN node and transfer it to the NG-RAN node where the UE RRC Connection has been requested to be established, or to enable the old NG-RAN node to forward an RRC message to the UE via the new NG-RAN node without context transfer, or to request for small data transmission. The procedure can also be used to transfer the authorization status information of the mobile IAB-node.

The procedure uses UE-associated signalling.

8.2.4.2 Successful Operation

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**Figure 8.2.4.2-1: Retrieve UE Context, successful operation**

The new NG-RAN node initiates the procedure by sending the RETRIEVE UE CONTEXT REQUEST message to the old NG-RAN node.

**//omitted text unchanged//**

If the *PNI-NPN Area Scope of MDT* IE is included in the *MDT Configuration-NR* IE included in the RETRIEVE UE CONTEXT RESPONSE message, the new NG-RAN node shall, if supported, use it to derive the MDT area scope for MDT measurement collection in PNI-NPN. Upon reception of the *PNI-NPN Area Scope of MDT* IE, the new NG-RAN node shall consider that the area scope for MDT measurement collections of PNI-NPN areas is defined only by the areas included in the *PNI-NPN Area Scope of MDT* IE.

If the UE is a mobile IAB-node, the old NG-RAN node shall include the *Mobile* *IAB Authorization Status* IE in the RETRIEVE UE CONTEXT RESPONSE message. If the *Mobile* *IAB Authorization Status* IE is included in the RETRIEVE UE CONTEXT RESPONSE message, the new NG-RAN node shall, if supported, consider that the UE is a mobile IAB-node, then store it and use it accordingly as defined in TS 38.401 [2].

For each QoS flow in the RETRIEVE UE CONTEXT RESPONSE message, if the *MMSID* IE is included in the *QoS Flow Level QoS Parameters* IE in the *PDU Session Resources To Be Setup List* IE, the new NG-RAN node shall, if supported, consider that the QoS flow is related to a multi-modal service, as described in TS 23.501[7].

**Next change**

8.3.1 S-NG-RAN node Addition Preparation

8.3.1.1 General

The purpose of the S-NG-RAN node Addition Preparation procedure is to request the S-NG-RAN node to allocate resources for dual connectivity operation for a specific UE. Possible parallel requests are identified by the PCell ID when the initiating NG-RAN node UE AP IDs are the same.

The procedure uses UE-associated signalling.

8.3.1.2 Successful Operation

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**Figure 8.3.1.2-1: S-NG-RAN node Addition Preparation, successful operation**

The M-NG-RAN node initiates the procedure by sending the S-NODE ADDITION REQUEST message to the S-NG-RAN node.

**//omitted text unchanged//**

If the *Source M-NG-RAN node ID* IE is included in the S-NODE ADDITION REQUEST message, the S-NG-RAN node may use it to deduce direct data path availability with the source M-NG-RAN node, and if the direct data forwarding path is available, may include the *Direct Forwarding Path Availability with source M-NG-RAN node* IE in the S-NODE ADDITION REQUEST ACKNOWLEDGE message.

If the S-NODE ADDITION REQUEST message contains the *IAB Authorization status* IE, the S-NG-RAN node shall, if supported, store it and use it as defined in TS 38.401[2].

For each QoS flow which has been successfully established in the S-NG-RAN node, if the *MMSID* IE was included in the *QoS Flow Level QoS Parameters* IE contained in the *PDU Session Resource Setup Info – SN terminated* IE, the S-NG-RAN node shall, if supported, consider that the QoS flow is related to a multi-modal service, as described in TS 23.501[7].

EN: FFS on applicability of MMSID on Dual connectivity procedures.

**Next change**

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

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

The M-NG-RAN node initiates the procedure by sending the S-NODE MODIFICATION REQUEST message to the S-NG-RAN node.

**//omitted text unchanged//**

If the *Source SN to Target SN QMC Information Inquiry* IE set to "true" is contained in the S-NODE MODIFICATION REQUEST message, the S-NG-RAN node shall, if supported, include the *Source SN to Target SN QMC Information* IE in the S-NODE MODIFICATION REQUEST ACKNOWLEDGE message.

If the S-NODE MODIFICATION REQUEST message contains the *IAB Authorization status* IE, the S-NG-RAN node shall, if supported, store it and use it as defined in TS 38.401[2].

For each QoS flow which has been successfully added or modified in the S-NG-RAN node, if the *MMSID* IE was included in the *QoS Flow Level QoS Parameters* IE contained in the *PDU Session Resource Setup Info – SN terminated* IE or the *PDU Session Resource Modification Info – SN terminated* IE, the S-NG-RAN node shall, if supported, consider that the QoS flow is related to a multi-modal service, as described in TS 23.501[7].

EN: FFS on applicability of MMSID on Dual connectivity procedures.

**Next change**

9.2.3.5 QoS Flow Level QoS Parameters

This IE defines the QoS Parameters to be applied to a QoS flow.

| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| --- | --- | --- | --- | --- | --- | --- |
| CHOICE *QoS Characteristics* | M |  |  |  | – |  |
| >*Non Dynamic 5QI* |  |  |  |  |  |  |
| >>Non dynamic 5QI Descriptor | M |  | 9.2.3.8 |  | – |  |
| >*Dynamic 5QI* |  |  |  |  |  |  |
| >>Dynamic 5QI Descriptor | M |  | 9.2.3.9 |  | – |  |
| Allocation and Retention Priority | M |  | 9.2.3.7 |  | – |  |
| GBR QoS Flow Information | O |  | 9.2.3.6 | This IE shall be present for GBR QoS flows and is ignored otherwise. | – |  |
| Reflective QoS Attribute | O |  | ENUMERATED (subject to, ...) | Reflective QoS is specified in TS 23.501 [7]. This IE applies to Non-GBR bearers only and is ignored otherwise. | – |  |
| Additional QoS flow Information | O |  | ENUMERATED (more likely, …) | If this IE is set to "more likely", this indicates that traffic for this QoS flow is likely to appear more often than traffic for other flows established for the PDU session. This IE may be present in case of Non-GBR flows only and is ignored otherwise. | – |  |
| QoS Monitoring Request | O |  | ENUMERATED (UL, DL, Both, …) | Indicates to measure UL, or DL, or both UL/DL delays for the associated QoS flow. | YES | ignore |
| QoS Monitoring Reporting Frequency | O |  | INTEGER (1.. 1800, …) | Indicates the Reporting Frequency for RAN part delay for Qos monitoring.  Unit: second | YES | ignore |
| QoS Monitoring Disabled | O |  | ENUMERATED(true, ...) | Indicates to stop the QoS monitoring. | YES | ignore |
| **PDU Set QoS Parameters** |  | *0..1* |  | Indicates the PDU Set QoS Parameters. | YES | ignore |
| >UL PDU Set QoS Information | O |  | PDU Set QoS Information  9.2.3.203 |  | – |  |
| >DL PDU Set QoS Information | O |  | PDU Set QoS Information  9.2.3.203 |  | – |  |
| MMSID | O |  | OCTET STRING (SIZE (FFS)) | Multi-modal service ID from the application, used to indicate QoS flows are related to a multi-modal service, as specified in TS 23.501 [7]. | YES | ignore |

**Next change**

### 9.3.5 Information Element definitions

-- ASN1START

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

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-- Information Element Definitions

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

**//omitted text unchanged//**

id-PDUSetQoSParameters,

id-N6JitterInformation,

id-ECNMarkingorCongestionInformationReportingRequest,

id-TAISliceUnavailableCellList,

id-MobileIABCell,

id-XR-Bcast-Information,

id-MaximumDataBurstVolume,

id-CPAC-Preparation-Type,

id-MN-only-MDT-collection,

id-BarringExemptionforEmerCallInfo,

id-Transmission-Bandwidth-asymmetric,

id-NRPPaPositioningInformation,

id-MMSID,

**Next change**

-- M

**//omitted text unchanged//**

MobilityRestrictionList ::= SEQUENCE {

serving-PLMN PLMN-Identity,

equivalent-PLMNs SEQUENCE (SIZE(1..maxnoofEPLMNs)) OF PLMN-Identity OPTIONAL,

rat-Restrictions RAT-RestrictionsList OPTIONAL,

forbiddenAreaInformation ForbiddenAreaList OPTIONAL,

serviceAreaInformation ServiceAreaList OPTIONAL,

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

...

}

MobilityRestrictionList-ExtIEs XNAP-PROTOCOL-EXTENSION ::={

{ ID id-LastE-UTRANPLMNIdentity CRITICALITY ignore EXTENSION PLMN-Identity PRESENCE optional }|

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

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

{ ID id-NPNMobilityInformation CRITICALITY reject EXTENSION NPNMobilityInformation PRESENCE optional },

...

}

MMSID ::= OCTET STRING (SIZE (FFS))

**//omitted text unchanged//**

QoSFlowLevelQoSParameters ::= SEQUENCE {

qos-characteristics QoSCharacteristics,

allocationAndRetentionPrio AllocationandRetentionPriority,

gBRQoSFlowInfo GBRQoSFlowInfo OPTIONAL,

reflectiveQoS ReflectiveQoSAttribute OPTIONAL,

additionalQoSflowInfo ENUMERATED {more-likely, ...} OPTIONAL,

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

...

}

QoSFlowLevelQoSParameters-ExtIEs XNAP-PROTOCOL-EXTENSION ::= {

{ID id-QoSMonitoringRequest CRITICALITY ignore EXTENSION QosMonitoringRequest PRESENCE optional}|

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

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

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

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

...

}

**Next change**

### 9.3.7 Constant definitions

-- ASN1START

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-- Constant definitions

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**//omitted text unchanged//**

id-RegistrationRequestForDataCollection ProtocolIE-ID ::= 460

id-ReportCharacteristicsForDataCollection ProtocolIE-ID ::= 461

id-ReportingPeriodicityForDataCollection ProtocolIE-ID ::= 462

id-NodeAssociatedInfoResult ProtocolIE-ID ::= 463

id-SLPositioning-Ranging-Services-Info ProtocolIE-ID ::= 464

id-XR-Bcast-Information ProtocolIE-ID ::= 465

id-PDUSessionsListToBeReleased-UPError ProtocolIE-ID ::= 466

id-MaximumDataBurstVolume  ProtocolIE-ID ::= 467

id-CPAC-Preparation-Type ProtocolIE-ID ::= 468

id-UserPlaneFailureIndication ProtocolIE-ID ::= 469

id-MN-only-MDT-collection ProtocolIE-ID ::= 470

id-BarringExemptionforEmerCallInfo ProtocolIE-ID ::= 471

id-Transmission-Bandwidth-asymmetric ProtocolIE-ID ::= 472

id-SRSPositioningConfigOrActivationRequest ProtocolIE-ID ::= 473

id-NRPPaPositioningInformation ProtocolIE-ID ::= 474

id-MMSID ProtocolIE-ID ::= XXX

**End of change**