3GPP TSG-RAN WG3 Meeting #127bis R3-252375

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

Agenda Item: 21.3

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

Title: (TP to BL CR for TS38.413) Addition of MMSID

Document for: Approval

# 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 NGAP TP for capturing the support for multi-modality awareness.

# 2 References

[1] RP-240107, Revised WID on XR (eXtended Reality) for NR Phase 3, Nokia (Rapporteur), 3GPP TSG RAN Meeting #107.

# Annex ——TP for BL CR for TS 38.413

*CHANGES START*

8.2.1 PDU Session Resource Setup

8.2.1.1 General

The purpose of the PDU Session Resource Setup procedure is to assign resources on Uu and NG-U for one or several PDU sessions and the corresponding QoS flows, and to setup corresponding DRBs for a given UE. The procedure uses UE-associated signalling.

8.2.1.2 Successful Operation

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**Figure 8.2.1.2-1: PDU session resource setup: successful operation**

The AMF initiates the procedure by sending a PDU SESSION RESOURCE SETUP REQUEST message to the NG-RAN node.

**//omitted text unchanged//**

If the *PDU Set QoS Parameters* IE is included in the PDU SESSION RESOURCE SETUP REQUEST message, the NG-RAN node shall, if supported, report in the PDU SESSION RESOURCE SETUP RESPONSE message the *PDU Set based Handling Indicator* IE in the *PDU Session Resource Setup Response Transfer* IE. If the *PDU Set based Handling Indicator* IE is included in the *PDU Session Resource Setup Response Transfer* IE in the PDU SESSION RESOURCE SETUP RESPONSE message, the SMF shall, if supported, handle this information as specified in TS 23.501 [9].

If the *MBS Support Indicator* IE is included in the *PDU Session Resource Setup Response Transfer* IE in the PDU SESSION RESOURCE SETUP RESPONSE message, the SMF shall, if supported, handle this information as specified in TS 23.247 [44].

For each QoS flow requested to be setup, if the *MMSID* IE is included in the *QoS Flow Level QoS Parameters* IE contained in the PDU SESSION RESOURCE SETUP REQUEST message, the NG-RAN node shall, if supported, consider that the QoS flow is related to a multi-modal service, as described in TS 23.501 [9] and TS38.300 [8].

*NEXT CHANGE*

### 8.2.3 PDU Session Resource Modify

#### 8.2.3.1 General

The purpose of the PDU Session Resource Modify procedure is to enable configuration modifications of already established PDU session(s) for a given UE. It is also to enable the setup, modification and release of the QoS flow for already established PDU session(s). The procedure uses UE-associated signalling.

#### 8.2.3.2 Successful Operation



Figure 8.2.3.2-1: PDU session resource modify: successful operation

The AMF initiates the procedure by sending a PDU SESSION RESOURCE MODIFY REQUEST message to the NG-RAN node.

**//omitted text unchanged//**

If the *PDU Set QoS Parameters* IE is included in the PDU SESSION RESOURCE MODIFY REQUEST message, the NG-RAN node shall, if supported, report in the PDU SESSION RESOURCE MODIFY RESPONSE message the *PDU Set based Handling Indicator* IE in the *PDU Session Resource Modify Response Transfer* IE. If the *PDU Set based Handling Indicator* IE is included in the *PDU Session Resource Modify Response Transfer* IE in the PDU SESSION RESOURCE MODIFY RESPONSE message, the SMF shall, if supported, handle this information as specified in TS 23.501 [9].

If the *MBS Support Indicator* IE is included in the *PDU Session Resource Modify Response Transfer* IE in the PDU SESSION RESOURCE MODIFY RESPONSE message, the SMF shall, if supported, handle this information as specified in TS 23.247 [44].

For each QoS flow to be added or modified,if the *MMSID* IE was included in the *QoS Flow Level QoS Parameters* IE contained in the PDU SESSION RESOURCE MODIFY REQUEST message, the NG-RAN node shall, if supported, consider that the QoS flow is related to a multi-modal service, as described in TS 23.501 [9] and TS38.300 [8].

*NEXT CHANGE*

#### 9.3.1.12 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 |  | 9.3.1.28 |  | - |  |
| *>Dynamic 5QI* |  |  |  |  |  |  |
| >>Dynamic 5QI Descriptor | M |  | 9.3.1.18 |  | - |  |
| Allocation and Retention Priority | M |  | 9.3.1.19 |  | - |  |
| GBR QoS Flow Information | O |  | 9.3.1.10 | This IE shall be present for GBR QoS flows and is ignored otherwise. | - |  |
| Reflective QoS Attribute | O |  | ENUMERATED (subject to, …) | Details in TS 23.501 [9]. This IE may be present in case of Non-GBR QoS flows and is ignored otherwise. | - |  |
| Additional QoS Flow Information | O |  | ENUMERATED (more likely, …) | This IE 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 QoS flows and is ignored otherwise. | - |  |
| QoS Monitoring Request | O |  | ENUMERATED (UL, DL, Both, …, stop) | Indicates to measure UL, or DL, or both UL/DL delays for the associated QoS flow or stop the corresponding QoS monitoring. | YES | ignore |
| QoS Monitoring Reporting Frequency | O |  | INTEGER (1.. 1800, …) | Indicates the reporting frequency for RAN part delay for QoS monitoring.Units: second | YES | ignore |
| **PDU Set QoS Parameters** |  | *0..1* |  |  | YES | ignore |
| >UL PDU Set QoS Information | O |  | PDU Set QoS Information9.3.1.264 |  | - |  |
| >DL PDU Set QoS Information | O |  | PDU Set QoS Information9.3.1.264 |  | - |  |
| 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 [9] and TS38.300 [8]. | YES | ignore |

*NEXT CHANGE*

9.4.5 Information Element Definitions

-- ASN1START

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-- Information Element Definitions

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

*---------------- unchanged part skipped ---------------------*

 id-MaximumDataBurstVolume,

 id-MBS-NGUFailureIndication,

 id-UserPlaneFailureIndication,

 id-UserPlaneFailureIndicationReport,

 id-QoERVQoEReportingPaths,

 id-UserLocationInformationN3IWF-without-PortNumber,

 id-MMSID,

 maxnoofAllowedAreas,

 maxnoofAllowedCAGsperPLMN,

 maxnoofAllowedS-NSSAIs,

 maxnoofAoIMinusOne,

 maxnoofBluetoothName,

 maxnoofBPLMNs,

*NEXT CHANGE*

-- M

*---------------- unchanged part skipped ---------------------*

MDT-Location-Info-ExtIEs NGAP-PROTOCOL-EXTENSION ::= {

 ...

}

MDT-Location-Information::= BIT STRING (SIZE (8))

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

*---------------- unchanged part skipped ---------------------*

-- Q

*---------------- unchanged part skipped ---------------------*

QosFlowLevelQosParameters ::= SEQUENCE {

 qosCharacteristics QosCharacteristics,

 allocationAndRetentionPriority AllocationAndRetentionPriority,

 gBR-QosInformation GBR-QosInformation OPTIONAL,

 reflectiveQosAttribute ReflectiveQosAttribute OPTIONAL,

 additionalQosFlowInformation AdditionalQosFlowInformation OPTIONAL,

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

 ...

}

QosFlowLevelQosParameters-ExtIEs NGAP-PROTOCOL-EXTENSION ::= {

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

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

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

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

 ...

}

*NEXT CHANGE*

### 9.4.7 Constant Definitions

-- ASN1START

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

--

-- Constant definitions

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

NGAP-Constants {

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

ngran-Access (22) modules (3) ngap (1) version1 (1) ngap-Constants (4) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

*---------------- unchanged part skipped ---------------------*

 id-UserPlaneFailureIndication ProtocolIE-ID ::= 435

 id-UserPlaneFailureIndicationReport ProtocolIE-ID ::= 436

 id-SourceSN-to-TargetSN-QMCInfo ProtocolIE-ID ::= 437

 id-QoERVQoEReportingPaths ProtocolIE-ID ::= 438

 id-UserLocationInformationN3IWF-without-PortNumber ProtocolIE-ID ::= 439

 id-AUN3DeviceAccessInfo ProtocolIE-ID ::= 440

 id-MMSID ProtocolIE-ID ::= xxx

END

-- ASN1STOP

*CHANGES END*