**3GPP TSG-RAN WG3 Meeting #128R3-253865**

**Malta, MT, May 19th – 23rd, 2025**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.423** | **CR** | **1460** | **rev** | **2** | **Current version:** | **18.5.0** |  |
|  | | | | | | | | |
| *For* ***[HE](http://www.3gpp.org/3G_Specs/CRs.htm" \l "_blank)******[LP](http://www.3gpp.org/3G_Specs/CRs.htm" \l "_blank)*** *on using this form: comprehensive instructions can be found at  <http://www.3gpp.org/Change-Requests>.* | | | | | | | | |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **x** | Core Network | **x** |

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|  | | | | | | | | | | |
| ***Title:*** | Support Aerial UE Flight Information Reporting | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE Corporation, Ericsson, CATT, CMCC, Nokia, China Telecom, Huawei | | | | | | | | | |
| ***Source to TSG:*** | R3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | UAS\_Ph3 | | | | |  | ***Date:*** | | | 2025-04-22 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | ***B*** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Based on received SA2 reply LS R3-250022 and R3-253020, RAN3 is going to support the the altitude information reporting and configuration for aerial UE in Rel-19. RAN3 may support the altitude information reporting and configuration between NG-RAN node and CN without any further Uu impact. To support the altitude information reporting transmission during Xn-based handover, add new codepoint in the Location Reporting Request Type IE, and *Aerial UE flight information reporting control* IE.  Impact assessment towards the previous version of the specification (same release):  This CR has an isolated impact towards the previous version of the specification (same release). | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add new codepoint for the *Event Type* IE in *Location Reporting Request Type* IE.  Add new IE: *Aerial UE flight information reporting control* IE and *Altitude* IE for Aerial UE flight information reporting. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The altitude information reporting configuration can not be transmitted properly between NG-RAN nodes. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 9.2.3.47, 9.2.3.x, 9.2.3.y, 9.3.5, 9.3.7 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 38.413 CR 1259  TS 38.300 CR -  TS 38.410 CR 0054 | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev 1: Update based on SA2 LS S2-2504471  Rev 2: Update based on the agreements in RAN3#128. | | | | | | | | |

<<<<<<<<<<<<<<<<<<<< Start of Changes >>>>>>>>>>>>>>>>>>>>

#### 9.2.3.47 Location Reporting Information

This information element indicates how the location information should be reported.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| --- | --- | --- | --- | --- | --- | --- |
| Event Type | M |  | ENUMERATED (  report upon change of serving cell,  report UE moving presence into or out of the Area of Interest, …, report upon change of serving cell and Area of Interest, report aerial UE flight information) |  | – |  |
| Report Area | M |  | ENUMERATED (Cell, …) |  | – |  |
| Area of Interest Information | O |  | 9.2.3.48 |  | – |  |
| Additional Location Information | O |  | ENUMERATED (Include PSCell, ...) |  | YES | ignore |
| Aerial UE Flight Information Reporting Control | O |  | 9.2.3.x |  | YES | ignore |

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

#### 9.2.3.x Aerial UE Flight Information Reporting Control

This information element indicates aerial UE information reporting control as defined in TS 38.413[5].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| --- | --- | --- | --- | --- |
| Higher Altitude Threshold | M |  | Altitude  9.2.3.y | Indicates the higher altitude threshold information for the aerial UE reporting. |
| Lower Altitude Threshold | M |  | Altitude  9.2.3.y | Indicates the lower altitude threshold information for the aerial UE reporting. |
| Aerial UE Reporting Periodicity | O |  | ENUMERATED {ms120, ms240, ms480, ms640, ms1024, ms2048, ms5120, ms10240, ms20480, ms40960, min1, min6, min12, min30, …} | Indicates the periodicity of the aerial UE reporting. |

#### 9.2.3.y Altitude

This IE contains altitude information.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| Altitude | M |  | INTEGER  (-420..10000, ...) | Aerial UE altitude information as specified in TS 38.331[10]. The unit of this IE is meter |

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

### 9.3.5 Information Element definitions

-- ASN1START

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

--

-- Information Element Definitions

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

XnAP-IEs {

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

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

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

id-CNTypeRestrictionsForEquivalent,

id-CNTypeRestrictionsForServing,

id-Additional-UL-NG-U-TNLatUPF-List,

id-ConfiguredTACIndication,

id-AlternativeQoSParaSetList,

===== SKIP UNRELATED PART =====

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-AerialUEFlightInformationReportingControl,

id-Altitude,

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

-- A

AerialUEFlightInformationReportingControl ::= SEQUENCE {

higherAltitudeThreshold Altitude,

lowerAltitudeThreshold Altitude,

AerialUEReportingPeriodicity AerialUEReportingPeriodicity OPTIONAL,

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

...

}

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

...

}

AerialUEReportingPeriodicity ::= ENUMERATED {ms120, ms240, ms480, ms640, ms1024, ms2048, ms5120, ms10240, ms20480, ms40960, min1, min6, min12, min30, …}

Altitude ::= INTEGER (-420..10000, ...)

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

-- E

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

ECNMarkingorCongestionInformationReportingRequest ::= CHOICE {

eCNMarkingAtRANRequest ECNMarkingAtRANRequest,

eCNMarkingAtUPFRequest ECNMarkingAtUPFRequest,

congestionInformationRequest CongestionInformationRequest,

choice-Extensions ProtocolIE-Single-Container { {ECNMarkingorCongestionInformationReportingRequest-ExtIEs} }

}

ECNMarkingorCongestionInformationReportingRequest-ExtIEs XNAP-PROTOCOL-IES ::= {

...

}

===== SKIP UNRELATED PART =====

EventType ::= ENUMERATED {

report-upon-change-of-serving-cell,

report-UE-moving-presence-into-or-out-of-the-Area-of-Interest,

...,

report-upon-change-of-serving-cell-and-Area-of-Interest,

report-aerial-UE-flight-information

}

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

-- L

Local-NG-RAN-Node-Identifier ::= CHOICE {

full-I-RNTI-Profile-List Full-I-RNTI-Profile-List,

short-I-RNTI-Profile-List Short-I-RNTI-Profile-List,

choice-extension ProtocolIE-Single-Container { { Local-NG-RAN-Node-Identifier-ExtIEs} }

}

Local-NG-RAN-Node-Identifier-ExtIEs XNAP-PROTOCOL-IES ::= {

{ ID id-Full-and-Short-I-RNTI-Profile-List CRITICALITY ignore TYPE Full-and-Short-I-RNTI-Profile-List PRESENCE mandatory},

...

}

===== SKIP UNRELATED PART =====

LocationReportingInformation ::= SEQUENCE {

eventType EventType,

reportArea ReportArea,

areaOfInterest AreaOfInterestInformation OPTIONAL,

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

...

}

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

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

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

...

}

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

### 9.3.7 Constant definitions

-- ASN1START

===== SKIP UNRELATED PART =====

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

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-- IEs

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

id-ActivatedServedCells ProtocolIE-ID ::= 0

id-ActivationIDforCellActivation ProtocolIE-ID ::= 1

id-admittedSplitSRB ProtocolIE-ID ::= 2

===== SKIP UNRELATED PART =====

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-AerialUEInformationReportingControl ProtocolIE-ID ::= xxx

id-Altitude ProtocolIE-ID ::= yyy

END

-- ASN1STOP

<<<<<<<<<<<<<<<<<<<< End of Change >>>>>>>>>>>>>>>>>>>>