**3GPP TSG-RAN WG3 Meeting #114-eR3-216027**

**Online, 1-11 Nov 2021**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.463** | **CR** | **0654** | **rev** | **1** | **Current version:** | **16.7.0** |  |
|  | | | | | | | | |
| *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:*** | Introduction of the Report Amount in MDT measurement configurations | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | R3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_ENDC\_SON\_MDT\_enh | | | | |  | ***Date:*** | | | 2021-10-21 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Adding the Report Amount to the M4, M6 and M7 measurement configurations enables to configure the network and the UE with exact instructions on how many reports to collect for each measurement, hence optimising the UE RRC state transition process and resource and battery consumption. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Introduction the “Report amount” as an optional IE to M4, M6, M7 measurement configurations.  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. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Without the introduction of the Report Amount IE to M4, M5, M6 and M7 measurement configurations it would be difficult to control the number of measurement samples to be collected. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 9.3.1.86, 9.3.1.87, 9.3.1.88, 9.4.5, 9.4.7 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS38.413CR0695, | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | | 30 | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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9.3.1.86 M4 Configuration

This IE defines the parameters for M4 measurement collection.

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| --- | --- | --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| M4 Collection Period | M |  | ENUMERATED (ms1024, ms2048, ms5120, ms10240, min1, …) |  |  |  |
| M4 Links to Log | M |  | ENUMERATED (uplink, downlink, both-uplink-and-downlink, …) |  |  |  |
| M4 Report Amount | O |  | ENUMERATED (1, 2, 4, 8, 16, 32, 64, infinity, …) | Number of reports. The absence of this IE indicates reporting to infinity. | Yes | Ignore |

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9.3.1.87 M6 Configuration

This IE defines the parameters for M6 measurement collection.

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| --- | --- | --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| M6 Report Interval | M |  | ENUMERATED (ms120, ms240, ms480, ms640, ms1024, ms2048, ms5120, ms10240, ms20480, ms40960, min1, min6, min12, min30, …) |  |  |  |
| M6 Links to Log | M |  | ENUMERATED (uplink, downlink, both-uplink-and-downlink, …) |  |  |  |
| M6 Report Amount | O |  | ENUMERATED (1, 2, 4, 8, 16, 32, 64, infinity,…) | Number of reports. The absence of this IE indicates reporting to infinity. | Yes | Ignore |

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9.3.1.88 M7 Configuration

This IE defines the parameters for M7 measurement collection.

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| --- | --- | --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| M7 Collection Period | M |  | INTEGER (1..60, …) | Unit: minutes |  |  |
| M7 Links to Log | M |  | ENUMERATED (uplink, downlink, both-uplink-and-downlink, …) |  |  |  |
| M7 Report Amount | O |  | ENUMERATED (1, 2, 4, 8, 16, 32, 64, infinity,…) | Number of reports. The absence of this IE indicates reporting to infinity. | Yes | Ignore |

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9.4.5 Information Element Definitions

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M4Configuration ::= SEQUENCE {

m4period M4period,

m4-links-to-log Links-to-log,

iE-Extensions ProtocolExtensionContainer { { M4Configuration-ExtIEs} } OPTIONAL,

...

}

M4Configuration-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

{ ID id-M4ReportAmount CRITICALITY ignore EXTENSION ReportAmountMDT PRESENCE optional },

...

}

M4period ::= ENUMERATED {ms1024, ms2048, ms5120, ms10240, min1, ... }

M6Configuration ::= SEQUENCE {

m6report-Interval M6report-Interval,

m6-links-to-log Links-to-log,

iE-Extensions ProtocolExtensionContainer { { M6Configuration-ExtIEs} } OPTIONAL,

...

}

M6Configuration-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

{ ID id-M6ReportAmount CRITICALITY ignore EXTENSION ReportAmountMDT PRESENCE optional },

...

}

M6report-Interval ::= ENUMERATED {

ms120, ms240, ms480, ms640, ms1024, ms2048, ms5120, ms10240, ms20480, ms40960, min1, min6, min12, min30,

...

}

M7Configuration ::= SEQUENCE {

m7period M7period,

m7-links-to-log Links-to-log,

iE-Extensions ProtocolExtensionContainer { { M7Configuration-ExtIEs} } OPTIONAL,

...

}

M7Configuration-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

{ ID id-M7ReportAmount CRITICALITY ignore EXTENSION ReportAmountMDT PRESENCE optional },

...

}

M7period ::= INTEGER(1..60, ...)

**-- TEXT OMITTED –**

RegistrationRequest ::= ENUMERATED {

start,

stop,

...

}

ReportAmountMDT ::= ENUMERATED {

r1, r2, r4, r8, r16, r32, r64, infinity,…

}

ReportCharacteristics ::= BIT STRING (SIZE(36))

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9.4.7 Constant Definitions

-- ASN1START

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--

-- Constant definitions

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-- IEs

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id-Cause ProtocolIE-ID ::= 0

**-- TEXT OMITTED –**

id-M4ReportAmount ProtocolIE-ID ::= xxx

id-M6ReportAmount ProtocolIE-ID ::= xxy

id-M7ReportAmount ProtocolIE-ID ::= xxz

END

-- ASN1STOP

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