3GPP TSG-RAN WG3 Meeting #120 R3-233470

Incheon, Korea, 22 – 26 May, 2023

**Agenda item: 10.2.4**

**Source: Nokia, Nokia Shanghai Bell**

**Title: (TP for MDT BL CR to TS 38.413) Support of SNPN in MDT area scope**

**Document for: Text Proposal**

# 1 Introduction

The present TP reflects agreements taken at RAN3#120.

# References

[1] R3-232568, (BLCR to 38.413) for MDT

# Annex - TP for MDT BL CR to TS 38.413

This TP is based on [1].

<<< start of changes >>>

9.3.1.169 MDT Configuration-NR

This IE defines the MDT configuration parameters of NR.

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| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| MDT Activation | M |  | ENUMERATED (Immediate MDT only, Logged MDT only, Immediate MDT and Trace, …) |  | - |  |
| CHOICE *Area Scope of MDT* | M |  |  |  | - |  |
| >*Cell based* |  |  |  | If *PNI-NPN Area Scope of MDT* IE is present, it covers non-CAG cells only, where non-CAG cells refer to cells that only provide public access. |  |  |
| >>**Cell ID List for MDT** |  | *1..<maxnoofCellIDforMDT>* |  |  |  |  |
| >>>NR CGI | M |  | 9.3.1.7 |  | - |  |
| >*TA based* |  |  |  | If *PNI-NPN Area Scope of MDT* IE is present, it covers non-CAG cells only, where non-CAG cells refer to cells that only provide public access. |  |  |
| >>**TA List for MDT** |  | *1..<maxnoofTAforMDT>* |  |  |  |  |
| >>>TAC | M |  | 9.3.3.10 | The TAI is derived using the current serving PLMN. | - |  |
| >*PLMN wide* |  |  | NULL | If *PNI-NPN Area Scope of MDT* IE is present, it covers non-CAG cells only, where non-CAG cells refer to cells that only provide public access. |  |  |
| >*TAI based* |  |  |  | If *PNI-NPN Area Scope of MDT* IE is present, it covers non-CAG cells only, where non-CAG cells refer to cells that only provide public access. |  |  |
| >>**TAI List for MDT** |  | *1..<maxnoofTAforMDT>* |  |  |  |  |
| >>>TAI | M |  |  |  | - |  |
| *>PNI-NPN Based MDT* |  |  |  |  | YES | Ignore |
| >>CAG List for MDT |  | *1..<maxnoofCAGforMDT>* |  |  |  |  |
| >>>PLMN ID |  |  | 9.3.3.5 |  |  |  |
| >>>CAG ID | M |  | 9.3.3.43 |  |  |  |
| *>SNPN Cell Based MDT* |  |  |  |  | YES | ignore |
| >>SNPN Cell ID List for MDT |  | *1..<maxnoofCellIDforMDT>* |  |  |  |  |
| >>>NR CGI | M |  | 9.3.1.7 |  | - | - |
| >>>NID | M |  | 9.3.3.42 | Identifies an SNPN together with the PLMNIdentity in the *NR CGI* IE. | - | - |
| *> SNPN TAI Based MDT* |  |  |  |  | YES | ignore |
| **>>SNPN TAI List** |  | *1..<maxnoofTAforMDT>* |  |  | - | - |
| >>>TAI | M |  | 9.3.3.11 |  | - | - |
| >>>NID | M |  | 9.3.3.42 | Identifies an SNPN together with the PLMNIdentity in the *TAI* IE. | - | - |
| *> SNPN Based MDT* |  |  |  |  |  |  |
| **>>MDT SNPN List** |  | *1..<maxnoofMDTSNPNs>* |  |  |  |  |
| >>>PLMN Identity | M |  | 9.3.3.5 |  |  |  |
| >>>NID | M |  | 9.3.3.42 | Identifies an SNPN together with the *PLMN Identity* IE. |  |  |
| CHOICE *MDT Mode* | M |  |  |  | - |  |
| >*Immediate MDT* |  |  |  |  |  |  |
| >>Measurements to Activate | M |  | BITSTRING  (SIZE(8)) | Each position in the bitmap indicates a MDT measurement, as defined in TS 37.320 [41].  First Bit = M1,  Second Bit= M2,  Third Bit = M4,  Fourth Bit = M5,  Fifth Bit = M6,  Sixth Bit = M7,  Seventh Bit = logging of M1 from event triggered measurement reports according to existing RRM configuration,  other bits reserved for future use.  Value “1” indicates “activate” and value “0” indicates “do not activate”. | - |  |
| >>M1 Configuration | C-ifM1 |  | 9.3.1.171 |  | - |  |
| >>M4 Configuration | C-ifM4 |  | 9.3.1.172 |  | - |  |
| >>M5 Configuration | C-ifM5 |  | 9.3.1.173 |  | - |  |
| >>M6 Configuration | C-ifM6 |  | 9.3.1.174 |  | - |  |
| >>M7 Configuration | C-ifM7 |  | 9.3.1.175 |  | - |  |
| >>Bluetooth Measurement Configuration | O |  | 9.3.1.177 |  | - |  |
| >>WLAN Measurement Configuration | O |  | 9.3.1.178 |  | - |  |
| >>MDT Location Information | O |  | 9.3.1.176 |  | - |  |
| >>Sensor Measurement Configuration | O |  | 9.3.1.179 |  | - |  |
| *>Logged MDT* |  |  |  |  |  |  |
| >>Logging interval | M |  | ENUMERATED (320ms, 640ms, 1280ms, 2560ms, 5120ms, 10240ms, 20480ms, 30720ms, 40960ms, 61440ms, infinity, …) | This IE is defined in TS 38.331 [18]. | - |  |
| >>Logging duration | M |  | ENUMERATED (10, 20, 40, 60, 90,120, …) | This IE is defined in TS 38.331 [18]. Unit: [minute]. | - |  |
| >>CHOICE *Report Type* | M |  |  |  | - |  |
| *>>>Periodical* |  |  | NULL |  |  |  |
| *>>>Event Triggered* |  |  |  |  |  |  |
| >>>>Event Trigger Logged MDT Configuration | M |  | 9.3.1.180 |  | - |  |
| >>Bluetooth Measurement Configuration | O |  | 9.3.1.177 |  | - |  |
| >>WLAN Measurement Configuration | O |  | 9.3.1.178 |  | - |  |
| >>Sensor Measurement Configuration | O |  | 9.3.1.179 |  | - |  |
| >>Area Scope of Neighbour Cells | O |  | 9.3.1.182 |  | - |  |
| >>Early Measurement | O |  | ENUMERATED  (true, ...) | This IE indicates whether the UE is allowed to log measurements on early measurement related frequencies in logged MDT as specified in TS 38.331 [18]. | YES | ignore |
| Signalling Based MDT PLMN List | O |  | MDT PLMN List  9.3.1.168 |  | - |  |
| PNI-NPN Area Scope of MDT | O |  | 9.3.3.x |  | YES | Ignore |

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| **Range bound** | **Explanation** |
| maxnoofCellIDforMDT | Maximum no. of Cell ID subject for MDT scope. Value is 32. |
| maxnoofTAforMDT | Maximum no. of TA subject for MDT scope. Value is 8. |
| maxnoofCAGforMDT | Maximum no. of CAG IDs for MDT scope. Value is 256. |
| maxnoofMDTSNPNs | Maximum no. of SNPNs in the MDT SNPN list. Value is FFS. |

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| **Condition** | **Explanation** |
| C-ifM1 | This IE shall be present if the *Measurements to Activate* IE has the first bit set to “1”. |
| C-ifM4 | This IE shall be present if the *Measurements to Activate* IE has the third bit set to “1”. |
| C-ifM5 | This IE shall be present if the *Measurements to Activate* IE has the fourth bit set to “1”. |
| C-ifM6 | This IE shall be present if the Measurements to Activate IE has the fitth bit set to “1”. |
| C-ifM7 | This IE shall be present if the Measurements to Activate IE has the sixth bit set to “1”. |

**Next Change**

9.3.3.x PNI-NPN Area Scope of MDT

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| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** |
| CAG List for MDT |  | *1..< maxnoofCAGforMDT >* |  |  |
| >PLMN Identity | M |  | 9.3.3.5 |  |
| >CAG ID | M |  | 9.3.3.43 |  |

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| **Range bound** | **Explanation** |
| maxnoofCAGforMDT | Maximum no. of CAG IDs for MDT area scope. Value is 256. |

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