**3GPP TSG-RAN WG3 Meeting #120 R3-233452**

**Incheon, Korea, 22 May – 26 May, 2023**

**Title:** (TP for MDT BL CR for TS 38.423): Remaining issues for MDT in NPN

**Source:** Huawei

**Agenda item:** 10.2.4

**Document Type:** Discussion

# 1. Introduction

This document contains the TP for XnAP BLCR for SNPN which is a mirror of the NGAP TP.

# Annex – TP of TS 38.423

9.2.3.126 MDT Configuration-NR

The 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-NR* | O |  |  |  | - |  |
| >*Cell based* |  |  |  | If *PNI-NPN Area Scope for 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-NR** |  | *1 .. <maxnoofCellIDforMDT>* |  |  |  |  |
| >>>NR CGI | M |  | 9.2.2.7 |  | - |  |
| >*TA based* |  |  |  | If *PNI-NPN Area Scope for 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 |  | OCTET STRING (SIZE (3)) | The TAI is derived using the current serving PLMN. | - |  |
| >*TAI based* |  |  |  | If *PNI-NPN Area Scope for 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 |  | 9.2.3.20 |  | - |  |
| *>PNI-NPN based* |  |  |  |  | YES | Ignore |
| >>CAG List for MDT |  | *1..<maxnoofCAGforMDT>* |  |  |  |  |
| >>>PLMN ID | M |  | 9.2.2.4 |  |  |  |
| >>>CAG ID | M |  | 9.2.2.66 |  |  |  |
| *>SNPN Cell Based MDT* |  |  |  |  | YES | ignore |
| >>SNPN Cell ID List for MDT |  | *1..<maxnoofCellIDforMDT>* |  |  |  |  |
| >>>NR CGI | M |  | 9.2.2.7 |  | - | - |
| >>>NID | M |  | 9.2.2.65 | Identifies an SNPN together with the PLMN Identity in the *NR CGI* IE. | - | - |
| *> SNPN TAI Based MDT* |  |  |  |  | YES | ignore |
| **>>SNPN TAI List** |  | *1..<maxnoofTAforMDT>* |  |  | - | - |
| >>>TAI | M |  | 9.2.2.7 |  | - | - |
| >>>NID | M |  | 9.2.2.65 | Identifies an SNPN together with the PLMN Identity in the *TAI* IE. | - | - |
| *> SNPN Based MDT* |  |  |  |  | - | - |
| **>>MDT SNPN List** |  | *1..<maxnoofMDTSNPNs>* |  |  | - | - |
| >>>PLMN Identity | M |  | 9.2.2.4 |  | - | - |
| >>>NID | M |  | 9.2.2.65 | Identifies an SNPN together with the *PLMN Identity* IE. | - | - |
| CHOICE *MDT Mode* | M |  |  |  | - |  |
| >*Immediate MDT-NR* |  |  |  |  | - |  |
| >>Measurements to Activate | M |  | BITSTRING  (SIZE(8)) | Each position in the bitmap indicates a MDT measurement, as defined in TS 37.320 [43].  First Bit = M1,  Second Bit= M2,  Fourth Bit = M4,  Fifth Bit = M5,  Sixth Bit = logging of M1 from event triggered measurement reports according to existing RRM configuration,  Seventh Bit = M6,  Eighth Bit = M7.  Value "1" indicates "activate" and value "0" indicates "do not activate".  This version of the specification does not use bits 3. | - |  |
| >>M1 Configuration | C-ifM1 |  | 9.2.3.128 |  | - |  |
| >>M4 Configuration | C-ifM4 |  | 9.2.3.129 |  | - |  |
| >>M5 Configuration | C-ifM5 |  | 9.2.3.130 |  | - |  |
| >>MDT Location Information | O |  | BITSTRING(SIZE(8)) | Each position in the bitmap represents requested location information as defined in TS 37.320 [43].  First Bit = GNSS  Other bits are reserved for future use and are ignored if received.  Value "1" indicates "activate" and value "0" indicates "do not activate".  The eNB shall ignore the first bit unless the *Measurements to Activate* IE has the first bit or the sixth bit set to "1". | - |  |
| >>M6 Configuration | C-ifM6 |  | 9.2.3.131 |  | - |  |
| >>M7 Configuration | C-ifM7 |  | 9.2.3.132 |  | - |  |
| >>Bluetooth Measurement Configuration | O |  | 9.2.3.11 |  | - |  |
| >>WLAN Measurement Configuration | O |  | 9.2.3.12 |  | - |  |
| >>Sensor Measurement Configuration | O |  | 9.2.3.136 |  | - |  |
| >*Logged MDT-NR* |  |  |  |  | - |  |
| >>Logging interval | M |  | ENUMERATED (ms320, ms640, ms1280, ms2560, ms5120, ms10240, ms20480, ms30720, ms40960 and ms61440, infinity) | This IE is defined in TS 38.331 [10]. The value "infinity" represents one shot logging, i.e., only one log per event in the logged MDT report. | - |  |
| >>Logging duration | M |  | ENUMERATED (10, 20, 40, 60, 90, 120) | This IE is defined in TS 38.331 [10]. Unit: [minute]. | - |  |
| >>CHOICE *Report Type* | M |  |  |  | - |  |
| >>>*Periodical* |  |  |  |  | - |  |
| >>>*Event Triggered* |  |  |  |  | - |  |
| >>>>Logged Event Trigger Config | M |  | 9.2.3.137 |  | - |  |
| >>Bluetooth Measurement Configuration | O |  | 9.2.3.134 |  | - |  |
| >>WLAN Measurement Configuration | O |  | 9.2.3.135 |  | - |  |
| >>Sensor Measurement Configuration | O |  | 9.2.3.136 |  | - |  |
| >>Area Scope of Neighbour Cells | O |  | 9.2.3.140 |  | - |  |
| >>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 [10]. | - |  |
| Signalling based MDT PLMN List | O |  | MDT PLMN List  9.2.3.133 |  |  |  |
| PNI-NPN Area Scope of MDT | O |  | 9.2.3.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** |
| ifM1 | This IE shall be present if the *Measurements to Activate* IE has the first bit set to "1". |
| ifM4 | This IE shall be present if the *Measurements to Activate* IE has the fourth bit set to "1". |
| ifM5 | This IE shall be present if the *Measurements to Activate* IE has the fifth bit set to "1". |
| ifM6 | This IE shall be present if the Measurements to Activate IE has the seventh bit set to "1". |
| ifM7 | This IE shall be present if the Measurements to Activate IE has the eighth bit set to "1". |

9.2.3.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 |  | 9.2.2.4 |  |
| >>CAG ID | M |  | 9.2.2.66 |  |

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

**End of Changes**