**3GPP TSG- Meeting#R3-24xxxx**

**Fukuoka City, Fukuoka, Japan, 20th - 24th May. 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.423** | **CR** | **1298** | **rev** | 1 | **Current version:** | **18.1.0** |  |
|  | | | | | | | | |
| *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:*** | Corrections on MDT for PNI-NPN | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | R3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_ENDC\_SON\_MDT\_enh2-Core | | | | |  | ***Date:*** | | | 2024-05-09 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | F |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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:*** | | RAN2 sent an LS in R3-243011on the maximum number of PNI NPNs in the Area Scope for MDT, stating that RAN2 supports a maximum of 12 (PLMN) X 12 (CAG) values for UE configuration whereas RAN3 alllows for 256 values of PLMN+CAG. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Changes to the semantics description for PNI-NPN based MDT area scope indicating that, for logged MDT, the area scope information should be configurable within the maximum of 12 CAGs per PLMN ID, with a maximum of 12 PLMN IDs, available for UE configuration, where, in such UE configuration, a PLMN ID may be repeated more than once. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Mismatch between the RAN3 specifications and the RAN2 specifications for PNI-NPN Area Scope for MDT use in logged MDT | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 9.2.3.126 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **x** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

Start of Changes

9.2.3.126 MDT Configuration-NR

The IE defines the MDT configuration parameters of NR.

| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| --- | --- | --- | --- | --- | --- | --- |
| MDT Activation | M |  | ENUMERATED  (Immediate MDT only, Immediate MDT and Trace, Logged MDT only, ...) |  | – |  |
| CHOICE *Area Scope of MDT-NR* | O |  |  |  | – |  |
| >*Cell based* |  |  |  | If *PNI-NPN Area Scope of MDT* IE is present, this IE 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 of MDT* IE is present, this IE 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 |  | 9.2.2.5 | The TAI is derived using the current serving PLMN. | – |  |
| >*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* |  |  | – |  |
| >>>**TAI List for MDT Item** |  | *1 .. <maxnoofTAforMDT>* |  |  | – |  |
| >>>>PLMN Identity | M |  | 9.2.2.4 |  | – |  |
| >>>>TAC | M |  | 9.2.2.5 |  | – |  |
| *>PNI-NPN Based MDT* |  |  |  |  | YES | ignore |
| >>CAG List for MDT |  |  | 9.2.3.191 | The PLMN IDs and CAGs listed in this IE have to be configurable within the maximum of 12 CAGs per PLMN ID, with a maximum of 12 PLMN IDs, available for UE configuration, where, in such UE configuration, a PLMN ID may be repeated more than once. | – |  |
| *>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 for MDT** |  | *1..<maxnoofTAforMDT>* |  |  | – | - |
| >>>PLMN Identity | M |  | 9.2.2.4 |  | – | - |
| >>>TAC | M |  | 9.2.2.5 |  | – | - |
| >>>NID | M |  | 9.2.2.65 | Identifies an SNPN together with the *PLMN Identity* IE. | – | - |
| *>SNPN Based MDT* |  |  |  |  | YES | ignore |
| **>>SNPNList for MDT** |  | *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 |  | 9.2.3.134 |  | – |  |
| >>WLAN Measurement Configuration | O |  | 9.2.3.135 |  | – |  |
| >>Sensor Measurement Configuration | O |  | 9.2.3.136 |  | – |  |
| >*Logged MDT-NR* |  |  |  |  |  |  |
| >>Logging interval | M |  | ENUMERATED (ms320, ms640, ms1280, ms2560, ms5120, ms10240, ms20480, ms30720, ms40960 , ms61440, infinity, ...) | Corresponds to information provided in the *LoggingInterval* IE as 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) | Corresponds to information provided in the *LoggingDuration* IE as 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** |  | *0..1* |  |  | YES | Ignore |
| >CAG List for MDT | M |  | 9.2.3.191 | The PLMN IDs and CAGs listed in this IE have to be configurable within the maximum of 12 CAGs per PLMN ID, with a maximum of 12 PLMN IDs, available for UE configuration, where, in such UE configuration, a PLMN ID may be repeated more than once. | – |  |

| **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. |
| maxnoofMDTSNPNs | Maximum no. of SNPNs in the MDT SNPN list. Value is 16. |

| **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". |

End of Changes