3GPP TSG-RAN WG3 Meeting #129 R3-255431

Bengaluru, India, 25th ~29th Aug, 2025

Title: (TP for MDT BLCR for TS37.320): MDT enhancement for NTN

Agenda Item: 10.3.1

Source: Huawei, CMCC, Jio Platforms, China Unicom

Document for: Other

# 1 Introduction

This document contains a TP for MDT BLCR for TS37.320 to implement the MDT enhancement for NTN.

# Annex Text Proposal

<<<<<<<<<<<<<<<<<<<< First Change >>>>>>>>>>>>>>>>>>>>

##### 5.1.1.1.1 Configuration parameters

The logged measurement configuration consists of:

- configuration of downlink pilot strength measurements logging for (E-)UTRA and NR.

- configuration of MBSFN measurement logging for E-UTRA.

- configuration of the triggering of logging events:

- for (E-)UTRAN:

- periodic measurement trigger is supported, for which the logging interval is configurable. The parameter specifies the periodicity for storing MDT measurement results. It should be configured in seconds in multiples of the applied IDLE mode DRX, i.e. multiples of 1.28s which is either a factor or multiple of the IDLE mode DRX. The UE behaviour is unspecified when the UE is configured with a DRX cycle larger than the logging interval.

- for NR:

- periodic measurement trigger is supported, for which the logging interval is configurable. The parameter specifies the periodicity for storing MDT measurement results.

- for E-UTRAN and NR:

- event-based trigger is supported, for which the logging interval is configurable, which determines periodical logging of available data (e.g. time stamp, location information), and the following two types of events are supported:

- measurement quantity-based event L1, for which the event threshold, hysteresis, and time to trigger are configurable. If the configured time to trigger is not a multiple of the DRX cycle, then the UE uses the next multiple of DRX cycle duration that is larger than the time to trigger for evaluating the event L1;

- out-of-coverage detection trigger.

NOTE: The logging configuration for event-based and periodical DL pilot strength logged measurements can be configured independently. Only one type of event can be configured to the UE.

- configuration of the logging duration. This configuration parameter defines a timer activated at the moment of configuration, that continues independent of state changes, RAT or RPLMN change. When the timer expires the logging is stopped and the configuration is cleared (except for the parameters that are required for further reporting e.g. network absolute time stamp, trace reference, trace recording session reference and TCE Id).

- network absolute time stamp to be used as a time reference to UE.

- Trace Reference parameter as indicated by the OAM configuration as specified in TS 32.422 [6].

- Trace Recording Session Reference as indicated by the OAM configuration as specified in TS 32.422 [6].

- TCE Id as indicated by the OAM configuration as specified in TS 32.422 [6].

- (optionally) MDT PLMN List, indicating the PLMNs where measurement collection and log reporting is allowed. It is either the Management Based MDT PLMN List or the Signalling Based MDT PLMN List, depending on how the Logged MDT task was initiated (see 5.1.3).

- (optionally) configuration of a logging area. A UE will log measurements as long as it is within the configured logging area. The scope of the logging area may consist of one of:

- a list of up to 32 global cell identities for PLMN, and, for NR, additionally a list of up to 144 PNI-NPNs with a maximum of 12 different PLMN identities. If one or both of these lists are configured, the UE will only log measurements when camping in any of the cells belonging to the list of global cell identities, or in any of the cells belonging to the listed PNI-NPNs.

- a list of up to 8 TAs or 8 LAs or 8 RAs for PLMN, and, for NR, additionally a list of up to 256 PNI-NPNs. If one or both of these lists are configured, the UE will only log measurements when camping in any cell belonging to the preconfigured TA/LA/RAs, or in any of the cells belonging to the listed PNI-NPNs.

- for NR, a list of inter-frequency neighbouring cells per frequency.

- for NR, a list of up to 144 PNI-NPNs with a maximum of 12 different PLMN identities.

- for NR, a list of up to 16 SNPNs.

- for NR, a list of up to 32 global cell identities for SNPN. If this list is configured, the UE will only log measurements when camping in any of these cells.

- for NR, a list of up to 8 TAs for SNPN. If this list is configured, the UE will only log measurements when camping in any cell belonging to the configured TAs.

- for NR, a list of up to 8 geographical area. If this list is configured, the UE will only log measurements when comping in any cell belongs to the configured geographical areas.

- The configured logging area can span one of:

- PLMNs in the MDT PLMN List. If no area is configured, the UE will log measurements throughout the PLMNs of the MDT PLMN list.

- Any configured SNPN area.

- (optionally) for NR, configuration of a list of neighbouring frequencies and/or cells, indicating the UE to include neighbouring cell's measurements as indicated in the list in the logged MDT report.

- (optionally) for E-UTRA, configuration of target MBSFN area(s) for MBSFN measurement logging. If target MBSFN area(s) is configured, UE applies it in addition to other restrictions such as the logging area. The UE will log measurements as long as it receives MBMS service from an indicated target MBSFN area and is within the configured logging area. The target MBSFN area(s) is defined by a list of up to 8 entries, where each entry indicates a carrier frequency and optionally indicates a specific MBSFN area on a carrier frequency.

- (optionally) configuration of the WLAN access point names, indicating the UE to attempt to obtain WLAN measurements associated to these access points.

- (optionally) configuration of the Bluetooth beacon names, indicating the UE to attempt to obtain Bluetooth measurements associated to these beacons.

- (optionally) for NR, configuration of the sensor names, indicating the UE to attempt to obtain sensor measurements.

- (optionally) for E-UTRA, configuration indicating the UE to attempt to obtain uncompensated barometric pressure measurements.

- (optionally) for NR, the network can use a flag to indicate if an early measurement/idle mode configuration has relevance for logged measurement purposes, indicating the UE is allowed to log the measurement results related to early measurement frequencies in the logged MDT report.

- (optionally) for NR and E-UTRA, logged MDT type flag, indicating the logged measurement configuration is the signalling based MDT (see 5.4.0).

<<<<<<<<<<<<<<<<<<<< End of Changes >>>>>>>>>>>>>>>>>>>>