3GPP TSG-RAN WG3 Meeting #125 R3-24xxxx

Maasticht, The Netherlands, EU, 19 – 23 Aug 2024

**Agenda item: 10.3.2**

**Source: Nokia (moderator)**

**Title: Summary of unofficial offline discussion on SON for network slicing**

**Document for: Discussion**

# To be noted

After the online discussion, it is proposed to add to the notes:

**The slice ID will be added as a filter to the area scope (for the both, management- and signalling-based immediate MDT).**

**The gNB will use slice information in the area scope to select UEs active in the cells that support listed slice(s), irrespectively if the UE uses the slice(s) or not**

NGAP TP with enhanced area scope for signalling-based MDT:

**R3-244436 rev in R3-24xxxx** – agreed

LS to SA5 and RAN2 (RAN2 shall verify if their specification needs updates):

**R3-244067 rev in R3-24xxxx** – agreed

# 1 Introduction

At RAN3 #125, the official discussion on SON for network slicing was scheduled for Thursday, just before completing the discussions. Therefore, the rapporteur encouraged having unofficial discussion yet before the official one. This document summarises this unofficial discussion.

The discussion at the previous meeting #124, the discussion resulted in the following agreements (green) and reminders (blue):

**RAN3 to support immediate MDT measurements collection on specific area per slice(s).**

**FFS on which immediate MDT measurements can be collected per slice.**

**FFS on whether to support logged MDT on specific area per slice(s).**

**RAN3 to work on logged MDT enhancement for slice-based cell reselection.**

**For successful handover, FFS if solutions are needed to optimize handovers in the case of slicing discontinuity, e.g., target cell not supporting slice.**

# 2 Offline discussion

## 2.1 Immediate MDT enhancements

**Following proposals are made concerning immediate MDT enhancements:**

[4279], [4535]: Include the slice ID associated with the ongoing PDU session in the MDT report.

[4535]: Slice Aware Immediate MDT configuration/reporting.

[4616]: Immediate MDT can be used to collect event of RRCRelease for slice based cell reselection.

[4435]: Data Volume, Delay, Packet Loss and Throughput measurements (M4, M5, M6, M7) can be collected per slice.

[4435]: New events (slice not being supported in the cell from which UE is making the request, slice not being available in the cell from which UE is making the request, insufficient radio resource for the slice in the cell from which UE is making the request) to be triggers for reporting.

[4435]: Conditional immediate MDT configuration.

**Discussion:**

Proposed new measurements:

 - Access to the slice is denied (at NAS, at AS due to unavailability or due to lack of resources).

**It is not needed to add measurements related to the slice unavailability and the lack of resources.**

## 2.2 Logged MDT enhancements

**Following proposals are made concerning logged MDT enhancements:**

[4067]: Slice-specific logging trigger.

[4067]: Slice groups with frequency priorities, type of slice failure, indication of measurement overload to be logged.

[4279], [4573]: NSAG priorities to be logged.

[4432]: Define a slice scope for MDT.

[4616]: Event Trigger Logged MDT to collect slice based cell reselection event in the UE.

**Discussion:**

## 2.3 Area scope for MDT

**Following proposals are made concerning the area scope definition for MDT:**

[4616], [4432], [4436]: Area scope definition shall be enhanced (e.g. AMF or OAM can configure “slice scope for MDT”).

**Discussion:**

There are two options:

* We want to obtain reports from UEs using given slice(s);
* We want to obtain reports from all UEs in the cells supporting and making available the slice(s).

Another issue: shall the filtering apply to signalling-based MDT?

**The intention is to limit the number of reports sent to the OAM, thus the UE selection will not be amended.**

**The slice ID will be added as a filter to the area scope (for the both, management- and signalling-based immediate MDT for at least M4, M5, M7).**

**An LS to SA5 is needed.**

## 2.4 SHR

**Following proposals are made concerning SHR enhancements:**

[4067]: Enhance SHR trigger and cause to report short transfer via non-supporting cell.

[4257], [4435]: Add slice information to the SHR.

[4435]: Add interruption time to SHR for all type of HOs.

**Discussion:**

## 2.5 Others

**Following other proposals are made:**

[4257]: Add slice to UHI.

[4616]: Include slice information in MRO analysis.

[4573]: Slice Availability to be reported only in the area where the slice is expected to be available.

[4535]: The slices information associated with the PDU sessions of the UE can be reported to the network for slice optimization.

[4573]: UE to capture and report failure of slice initiation (at NAS level) to gNB.

**Discussion:**

# References

[4435] R3-244435, On slice specific MDT measurements and SON enhancements (Ericsson)

[4067] R3-244067, [TP to TS 38.300 BL CR, SON] MDT solution for slice support and slice-related mobility enhancements (Nokia)

[4257] R3-244257, Discussion on SON enhancements for network slicing (China Telecom)

[4266] R3-244266, Discussion on network slicing for SONMDT (CATT)

[4279] R3-244279, SON for Network Slicing (Huawei)

[4432] R3-244432, SON MDT for network slicing (Qualcomm Incorporated)

[4436] R3-244436, (TP for SON BL CR for TS 38.413) MDT Area Scope for Network Slicing (Ericsson, InterDigital, Deutsche Telekom, Telecom Italia, T-Mobile USA)

[4535] R3-244535, Discussion on SONMDT enhancements for network slicing (China Unicom)

[4573] R3-244573, Discussion on SONMDT for network slicing (CMCC)

[4616] R3-244616, Further consideration on SON/MDT for Slicing (ZTE Corporation)