**3GPP TSG RAN3 meeting #124 R3-243849**

20th – 24th May, 2024 Fukuoka, Japan

Agenda Item: 10.3.2

Source: China Unicom

Title: Summary of Offline Discussion on SONMDT enhancements for network slicing

Document for: Discussion

# Introduction

Offline discussion on SONMDT enhancements for network slicing

# For chairman’s Notes

**Proposal 1: RAN3 to support immediate MDT measurements collection on specific area per slice(s). FFS on whether to support logged MDT.**

**Proposal 2: RAN3 to work on logged MDT enhancement for slice-based cell reselection.**

**For successful handover, FFS if solutions are needed to optimize handovers to target cell not supporting slice.**

# Discussion

## MDT enhancement

Enhancement on slice-specific immediate MDT measurements

As discussed in [2][5][9][10] and CR in [6], the main intension is to support per slice MDT collection for operators focusing on interested slice. It was proposed in the definition of MDT area scope in the MDT configuration can be extended by considering the slice-specific area limitation. While it was proposed in [3] that TS 28.552 already supports counters (for DL/UL delay/throughput) per supported S-NSSAI, whether if there any immediate MDT enhancements to consider beyond the counters.

**Proposal 1a: RAN3 to support immediate MDT measurements collection on specific area per slice(s).**

**FFS on whether to support logged MDT**

**Proposal 1b: RAN3 to extend the definition of MDT area scope in the MDT configuration.**

Skip it

**Q1a: Do you agree with proposal 1a?**

**Q1b: If yes, do you agree with proposal 1b?**

Logged MDT enhancements

There are a few proposals to illustrate that UE can takes the NSAG priority into account for cell reselection in [1][2] [3]. Differentiating from general reselection, A UE provided with slice-based cell reselection information may reselect different cells compared to the normal one, it can be helpful for NW to adjust the NW configuration if the UE logs and reports the NSAG information after performing cell reselection.

**Proposal 2: RAN3 to work on logged MDT enhancement for slice-based cell reselection.**

**Q2: Are there any comments on proposal 2?**

Introduce new MDT measurement

As discussed in [2][3][5][8][9], several new MDT measurements are proposed to introduce for slice, moderator tried to list all of them below:

* 1) the slice ID associated with the ongoing PDU session
* 2) slice specific L2 measurements at NG-RAN (e.g., Received RA Preambles per slice)
* 3) denied UEs slice service reason, e.g. 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.
* 4)unsupported and/or unavailable S-NSSAI

**Proposal 3:FFS on RAN3 to introduce new MDT measurement for slicing?**

**Q3: Are there any comments on proposal 3? And which one do you support?**

Skip it

## SON Enhancement

As could be seen in [1][3][4][8][11], it is addressed that UE may handover to a cell which doesn’t have full slice support for the UE services. To detect such scenarios and take correction action in the future, it might be useful to collect slice-related information during handovers.

A diagram of cell division

Description automatically generated

Several slice information UE can indicate to the network is listed below:

1) non-support of the slice at target cell

2) UE’s ongoing slice(s) in the source and target cell

3) slice-level user plane interruption times

4) the mapping of old S-NSSAI to alternative S-NSSAI

**Proposal 4a: For successful handover, FFS if solutions are needed to optimize handovers to target cell not supporting slice.**

**Proposal 4b: RAN3 to consider collecting slice related information during connection failure scenarios for observability purposes.**

Skip it

**Q4: Are there any comments on proposal 4a and 4b?**

UHI enhancement

As discussed in [1][8][9], UHI can be enhanced to contain slice information with each of the visited cells, with this information the selected target cell could analyse the history information to see if the UE had some service discontinuity for some of its slices and report back to the original source cells.

**Proposal 5: RAN3 considers to record slice related information in UHI/MHI for following track decision and optimization.**

**Q5: Are there any comments on proposal 5?**

Skip it

Partially Allowed NSSAI

As demonstrated in [10], source gNB could make a wrong mobility decision related to Partially Allowed NSSAI which can be considered as a slice aware MRO scenarios.

**Proposal 6: To take Partially Allowed NSSAI as one of Slice aware MRO scenarios.**

**Q6: Are there any comments on proposal 6?**

Skip it

# Reference

1. [R3-243146](file:///D:\\会议硬盘\\TSGR3_124\\Docs\\R3-243146.zip), Further discussion on SON enhancements for network slicing (Nokia)
2. [R3-243166](file:///D:\\会议硬盘\\TSGR3_124\\Docs\\R3-243166.zip), SON for Network Slicing (Huawei)
3. [R3-243196](file:///D:\\会议硬盘\\TSGR3_124\\Docs\\R3-243196.zip), SON MDT for network slicing (Qualcomm Incorporated)
4. [R3-243262](file:///D:\\会议硬盘\\TSGR3_124\\Docs\\R3-243262.zip), Discussion on Slice-aware MRO use cases (Ericsson)
5. [R3-243263](file:///D:\\会议硬盘\\TSGR3_124\\Docs\\R3-243263.zip), MDT enhancements for Network Slicing (Ericsson, InterDigital, Deutsche Telekom)
6. [R3-243264](file:///D:\\会议硬盘\\TSGR3_124\\Docs\\R3-243264.zip), (TP for SON BL CR for TS 38.413) MDT enhancements for Network Slicing (Ericsson, InterDigital, Deutsche Telekom)
7. [R3-243265](file:///D:\\会议硬盘\\TSGR3_124\\Docs\\R3-243265.zip), Draft LS on MDT enhancements for Network Slicing (Ericsson, InterDigital, Deutsche Telekom)
8. [R3-243639](file:///D:\\会议硬盘\\TSGR3_124\\Docs\\R3-243639.zip), Discussion on network slicing for SONMDT (CATT)
9. [R3-243664](file:///D:\\会议硬盘\\TSGR3_124\\Docs\\R3-243664.zip), Discussion on SONMDT enhancements for network slicing (China Unicom)
10. [R3-243709](file:///D:\\会议硬盘\\TSGR3_124\\Docs\\R3-243709.zip), Further consideration on SON/MDT for Slicing (ZTE)
11. [R3-243725](file:///D:\\会议硬盘\\TSGR3_124\\Docs\\R3-243725.zip), Discussion on SONMDT for network slicing (CMCC)