**3GPP TSG RAN3 meeting #125bis R3-245758**

14th – 18th Oct 2024 Hefei, China

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

*Both the logged MDT and immediate MDT enhancements based on scenarios to be worked.*

*Work on the Slice aware MRO scenarios.*

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

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

*RAN3#125:*

*For the immediate MDT, it is not needed to add measurements related to the slice unavailability and the lack of resources.*

*The slice ID will be added as a filter to the area scope (for the both, management- and signalling-based immediate MDT related to slice). The intention is to limit the number of reports sent to the OAM, thus the UE selection will not be amended.*

# For chairman’s Notes

Two use case for slice-based cell reselection

**The first one is about the optimizing mapping between the slice groups and frequency priority**

**The second one is informing the network that UE performs slice based re-selection instead of general reselection**

Network Slice Based MDT IE for MDT collection

RAN3 agree to keep Network Slice List for MDT IE only outside the Area Scope of MDT.Check the TP from HW for NGAP.

RAN3 agree to add the same change in XnAP based on CATT TP.

Logged MDT per slice

No support for logged MDT on specific area per slice(s).

# Discussion

##  Slice-based cell reselection

 Slice-based cell reselection information

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

In[2], if UE provides slice related information from UE side to network may help gNB to optimize NSAG and priorities setting

In[3], The NSAG supported by the highest ranked cell or best cell can be reported to the network.

In [4], report which of the NSAG the UE is able to camp on or which the NSAG the UE is not able to camp on and LS is needed to RAN2

In[5], UE should log Logging trigger, Slice Group(s), Frequency Priorities, Slice Access Problem, Measurement Overload and LS to RAN2 is needed.

In[6], a flag in logged MDT report that it collected logged MDT using the slice-based cell reselection parameters

In[7], it is benefit to use *Event Trigger Logged MDT* to collect slice based cell reselection reports, and whether Immediate MDT can be used to collect event of RRCRelease for slice based cell reselection.

**Q1: What information should be provided to the network in logged MDT report for Slice-based cell reselection?**

**Moderator summary:**

**Two use case:**

**The first one is about the optimizing mapping between the slice groups and frequency priority**

**The second one is informing the network that UE performs slice based re-selection instead of general reselection**

## Area scope for MDT

Network Slice Based MDT IE for Immediate MDT collection

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| --- |
| Editor’s note: it is FFS if the Network Slice List for MDT should be provided as a CHOICE of Area Scope of MDT and/or in the Network Slice Area Scope of MDT IE |

As discussed in the contributions, companies proposed several options of how to add network slice list in the the MDT configuration. Following option is listed.

Option：

1. Inside the Area Scope of MDT [6][10]
2. Outside the Area Scope of MDT [4]
3. Both inside and outside [2]

**Q2:Which option do you support for Network Slice Based MDT IE?**

**Moderator summary:**

~~FFS on whether it is enough to only keep Network Slice List for MDT IE outside?~~

RAN3 agree to keep Network Slice List for MDT IE only outside the Area Scope of MDT.

Check the TP from HW for NGAP

Meanwhile, in[4] mentioned that The *Network Slice List for MDT* IE should be updated by including the S-NSSAI list per PLMN Identity and align the ASN.1

In[2] propose to add the same change in XnAP

**Q3: Do you agree with above proposal?**

**Moderator summary:**

RAN3 agree to add the same change in XnAP based on CATT TP.

## Logged MDT enhancement per slice

Logged MDT per slice

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

In[6] ask whether there is a benefit in supporting this use case

In[4] propose it can be supported with new slice IE

**Q4: Whether to support logged MDT on specific area per slice?**

**Moderator summary:**

No support for logged MDT on specific area per slice(s).

## SON/MRO report enhancement

Enhancement for SON report

In[1][2][5] [7][8]Yes

In[4][6]No

**Q5: Whether there is a need to enhance SON report?**

**Moderator summary:**

Enhancement for SHR

In[1] propose to add slice ID of the source cell, the slice ID of the target cell, alternative slice ID

In[2]propose to add ongoing slice ID list for RLF case

In[5]propose to add a new trigger condition and SHR cause value

In[7]propose to add Partially Allowed NSSAI selection information

In[8]propose to add the per-slice user plane interruption time and a new trigger condition defined on the experienced user-plane interruption time measured on any of the slice in use at the UE while adding an additional cause value with ‘slice user-plane interruption time’.

**Q6: If Q5 is yes, then what information should be added in SHR for further enhancement?**

**Moderator summary:**

ZTE: Partially Allowed NSSAI selection scenario

Nok:Scenario for slice unavailability

E///: user plane interruption scenario

## others

slice coverage observability

In [3],report the slice unavailability after HO only if the UE is still inside the geographical area where the slice is intended to provide coverage.

In [9], propose to add support of new MDT measurements to log the rejected slice service access requests of a UE due to slice not being supported in the cell from which UE is making the request.

Enhance UHI report

In [1]propose to record the visited slice information

In [2]propose to record slice related information for following track decision and optimization.

In [10]propose to record the slices information associated with the PDU sessions of the UE

# Reference

1. R3-245146 Discussion on SON enhancements for network slicing China Telecom
2. R3-245185 (TP for 38.413 and 38.423) Network slicing for SONMDT CATT
3. R3-245199 Discussion on SONMDT for network slicing CMCC
4. R3-245231 (TP for BLCR for MDT for 38.413) SON and MDT for Network Slicing Huawei
5. R3-245312 [TP to BL CR to 38.300, MDT] MDT solution for slice support and slice-related mobility enhancements Nokia
6. R3-245336 SON MDT for network slicing Qualcomm Incorporated
7. R3-245345 Further consideration on SON/MDT for Slicing ZTE Corporation
8. R3-245396 Discussion on SON enhancements for network slicing Ericsson, AT&T, Jio
9. R3-245397 On MDT enhancements for Network Slicing Ericsson, AT&T, Jio
10. R3-245619 Discussion on SONMDT enhancements for network slicing China Unicom