3GPP TSG-RAN WG3 #117-e R3-225006

Online, 15. – 24.08 2022

Agenda Item: 10.2

Source: Nokia (moderator)

Title: Summary of Offline Discussion on SON corrections (CB #SONMDT1)

Document for: Approval

# Introduction

**CB: # SONMDT1\_SONMDT**

**- Identify the issues to be solved in RAN3 for each use case under the scope of R18 WID**

**- Capture agreements and open issues**

# For the Chairman’s Notes

Propose the following:

R3-20xxxa, R3-20xxxc merged

R3-20xxxc rev [in xxxg] – agreed

R3-20xxxd rev [in xxxh] – agreed

R3-20xxxe rev [in xxxi] – agreed

R3-20xxxf rev [in xxxj] – endorsed

Propose to capture the following:

**Agreement text…**

**Agreement text…**

**WA: carefully crafted text…**

Issue 1: no consensus

**Issue 2: issue is acknowledged; need to further check the impact on xxx. May be possible to address with a pure st2 change. To be continued…**

# Discussion (1st round)

## Successful HO Report (SHR)

Nearly all companies contributing to the meeting ([4396, 4412, 4548, 4605, 4744, 4824, 4922]) on this topic agree to address the intra-system inter-RAT SHR. Furthermore, [4548] proposes to wait with the work for RAN2 progress and [4824] proposes an LS to RAN2 to ask them to start it. In addition, [4922] indicates that only in case of a HO from NR to LTE the report is needed.

**Question 1: Please, confirm it is all right to work on the intra-system inter-RAT SHR and possibly comment on the scope of work on SHR (e.g. related to one-direction of the HO).**

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| Company | Comment |
| Nokia | Fine to work on the intra-system inter-RAT SHR.  Indeed, in case of a HO from LTE to NR, the existing SHR should be enough. |
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**Question 2: Please, indicate your preference, if RAN3 shall send an LS to RAN2 already at this meeting?**

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| --- | --- | --- |
| Company | Yes / No | If the answer is negative, please, explain why not. |
| Nokia | Yes | The sooner we ask RAN2 for help, the better. We may indicate scope limits. |
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## Successful PSCell change report (SPCR)

It seems that majority of the companies contributing to the discussion ([4397, 4411, 4548, 4605, 4744, 4824, 4922]) consider that CPA and CPC (both, MN- and SN-initiated) should be supported by the SPCR. Furthermore, in [4744] it is emphasized that both, EN-DC and MR-DC should be prioritised, while [4922] includes, in the CPC scope, also a HO with SN change and intra-SN PSCell change. In [4824], it is proposed to send an LS to RAN2.

**Question 3: Please, confirm that CPA, MN-initiated CPC and SN-initiated CPC shall be addressed; possibly, please, comment on the prioritization.**

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| Company | Comment |
| Nokia | Fine to address the 3 cases – if CPC is addressed, CPA is “for free”; if SN-initiated CPC is covered then MN-initiated is also included.  Regarding prioritisation, we think RAN2 should be involved in the decision. |
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**Question 4: Please, comment if the additional scenarios shall be included: HO with SN change and intra-SN PSCell change.**

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| Company | Comment |
| Nokia | HO with SN change: yes (as well as a HO with DC added at the target; this should be addressed similarly like CPA).  Intra-SN CPC: possibly yes, but is there any RAN3 impact? If not, RAN2 could decide. |
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**Question 5: Please, indicate your preference, if RAN3 shall send an LS to RAN2 already at this meeting?**

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| Company | Yes / No | If the answer is negative, please, explain why not. |
| Nokia | Yes | The sooner we ask RAN2 for help, the better. We may indicate scope limits.  The LS shall be combined with the one above (chapter 3.1). |
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## MRO enhancements

Two mobility scenarios are proposed to be included in MRO analysis:

In [4410, 4547, 4604, 4743, 4821, 4903] it is proposed to work on MRO for CPAC. However, while most proponents are interested in both, CPA and CPC (MN- and SN-initiated), in [4410] it is proposed to limit the scope to the CPC (at least as the first priority).

**Question 6: Please, comment on the scope of the MRO for CPAC**

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| Company | CPA, CPC, both | Possibly, please, explain why some option should be excluded. |
| Nokia | Both | Also, both cases of CPC should be addressed: SN- and MN-initiated, though the latter may be included in SN-initiated CPC MRO. |
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In [4413, 4547, 4604, 4745, 4823, 4922] it is proposed to work on MRO for fast MCG recovery. Among the detailed problems, following cases are mentioned:

1. the SCG fails or is deactivated soon after MCG
2. the signalling delay is longer than the time the UE waits for the response (T316)
3. the recovery HO fails
4. the resulting re-establishment fails.

**Question 7: Please, comment on the scope of the MRO for fast MSC recovery**

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| Company | Preferred option | Possibly, please, explain why some option should be excluded. |
| Nokia | (a) and (b) | (c) and (d) are part of the classic MRO, aren’t they? |
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## RACH enhancements

The papers [4698, 4745, 4848, 4901, 4923, 4929] contain proposals related to Rel-18 RACH enhancements in the following areas:

1. RACH optimization for feature or feature combinations involving RACH partitioning (SDT, RedCap, Coverage Enhancement, network slicing, …)
2. Random Access for SDT
3. RACH report retrieval
4. SN RACH report in MR-DC
5. RACH configuration conflicts between public networks and SNPN (may also be commented under section 3.5)

**Question 8: Please comment on the scope of Rel-18 RACH optimisation - is it OK to start working on the topics listed in RAN3, or e.g. should an LS be sent to RAN2 at this meeting? Are any additional topics needed?**

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| Company | Comment |
| Nokia | We agree with the listed topics for further work in Rel-18. RAN3 could further work on problem statements for these topics, and depending on this analysis, solutions for some problems could be asked from RAN2. |
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## SON/MDT enhancements for Non-Public Networks

In [4606, 4697, 4744, 4924, 4928] it is proposed to work on SON-MDT enhancements for Non-Public Networks (NPN). Rel-18 support is proposed for the following areas:

1. support of Signaling based MDT and Management based MDT for NPNs
2. support both immediate MDT and logged MDT for NPN
3. user consent handling for NPNs, in particular SNPNs
4. area scope for NPNs
5. support of NPNs in RLF Report and other UE reports used for SON and MDT
6. mitigation of mobility issues and RACH configuration conflicts between public networks and non-public networks

**Question 9: Please, comment on the scope of SON-MDT support for NPNs - is it OK to handle the topics listed? Are any additional topics needed?**

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| Company | Comment |
| Nokia | we agree with the listed topics for further work in Rel-18. |
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# Conclusion, Recommendations [if needed]

If needed

# References

[4396] R3-224396, Discussion on inter-RAT Successful Handover Report (China Telecommunication)

[4397] R3-224397, Discussion on Successful PScell change report (China Telecommunication)

[4410] R3-224410, SON enhancements for CPC (Lenovo)

[4411] R3-224411, SON enhancements for successful PSCell change report (Lenovo)

[4412] R3-224412, Successful Handover Report for inter-RAT HO (Lenovo)

[4413] R3-224413, MRO for fast MCG link recovery (Lenovo)

[4461] R3-224461, Discussion related to RACH Report retrieval methods (Nokia, Nokia Shanghai Bell)

[4463] R3-224463, Initial discussion on performing MDT in NPN networks (Nokia, Nokia Shanghai Bell)

[4547] R3-224547, MR-DC CPAC and Fast MCG recovery (Huawei)

[4548] R3-224548, Successful PScell change report and Successful Handover Report (Huawei)

[4604] R3-224604, MRO enhancements for CPAC and fast MCG recovery (Qualcomm Incorporated)

[4605] R3-224605, Successful PSCell change and successful handover scenarios (Qualcomm Incorporated)

[4606] R3-224606, SON MDT for Non-Public networks (Qualcomm Incorporated)

[4698] R3-224698, Further enhancement for RACH optimisation (Huawei)

[4743] R3-224743, Discussion on SON enhancements for MR-DC CPAC (CATT)

[4744] R3-224744, Discussion on SON Enhancements for Successful PScell change report, SHR, NPN and NR-U (CATT)

[4745] R3-224745, Discussion on SON enhancements for RACH report and fast MCG recovery (CATT)

[4746] R3-224746, LS on SON enhancement for RA report and fast MCG recovery (CATT)

[4821] R3-224821, SON enhancements for CPAC (Samsung)

[4823] R3-224823, SON enhancement for MCG failure recovery (Samsung)

[4824] R3-224824, SON enhancement for Successful Handover Report (Samsung)

[4848] R3-224848, Discussion on SON for RACH (Samsung)

[4900] R3-224900, SONMDT enhancement for fast MCG recovery (CMCC)

[4901] R3-224901, SONMDT enhancement for RACH report (CMCC)

[4903] R3-224903, SONMDT enhancement for MR-DC CPAC (CMCC)

[4922] R3-224922, Initial consideration on SON related features (ZTE)

[4923] R3-224923, Initial consideration on RACH enhancement (ZTE)

[4924] R3-224924, Initial consideration on MDT support in NPN (ZTE)

[4928] R3-224928, SON enhancements for Non-public networks (Ericsson)

[4929] R3-224929, SON enhancements for RACH Optimization (Ericsson)

[4931] R3-224931, SON enhancements for Mobility Robustness (Ericsson)