**3GPP TSG-RAN WG4 Meeting #94-e R4-2002181**

**Electronic Meeting, Feb.24th – Mar.6th 2020**

**Agenda item:** 8.10

**Source:** Huawei, HiSilicon

**Title:** Email discussion summary for RAN4#94e\_#58\_SRVCC\_NR\_to\_UMTS\_RRM

**Document for:** Information

# Introduction

This email thread discusses the SRVCC core part and performance part in agenda 8.10.1 and 8.10.2.

List of candidate target of email discussion for 1st round and 2nd round:

* 1st round: Invite companies to review the recommended WF in each sub-topic, and provide comments. If no comment is received for a CR, it will be recommended to be agreed in the summary for the 1st round.
* 2nd round: TBA

# Topic #1: SRVCC core part

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2001673 | Huawei, HiSilicon | Main changes: Replace the IE name TBD to *MobilityfromNRCommand* |

## Open issues summary

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX | Sub topic 1-1: : OK to update the IE name to *MobilityfromNRCommand*  Sub topic 1-2:  ….  Others: |

### CRs/TPs comments collection

*Major close-to-finalize WIs and Rel-15 maintenance, comments collections can be arranged for TPs and CRs. For Rel-16 on-going WIs, suggest to focus on open issues discussion on 1st round.*

|  |  |
| --- | --- |
| **CR/TP number** | **Comments collection** |
| R4-2001673 | Nokia: The CR body is fine. For the cover sheet, the UE should also be marked.  Furthermore, in the reason for change and summary of change fields, in our understanding, “MobilityfromNRCommand” is not a name of an IE, rather than a name of a message (see TS 38.331), which should be corrected. |
| Company B |
|  |
| YYY | Company A |
| Company B |
|  |

## Summary for 1st round

### Open issues

*Moderator tries to summarize discussion status for 1st round, list all the identified open issues and tentative agreements or candidate options and suggestion for 2nd round i.e. WF assignment.*

|  |  |
| --- | --- |
|  | **Status summary** |
| **Sub-topic#1** | *Tentative agreements:*  CR body of R4-2001673 is ok, but the cover sheet needs to be modified.  *Candidate options:*  *Recommendations for 2nd round:* |

*Recommendations on WF/LS assignment*

|  |  |  |
| --- | --- | --- |
|  | **WF/LS t-doc Title** | **Assigned Company,**  **WF or LS lead** |
| #1 |  |  |

### CRs/TPs

*Moderator tries to summarize discussion status for 1st round and provides recommendation on CRs/TPs Status update*

|  |  |
| --- | --- |
| **CR/TP number** | **CRs/TPs Status update recommendation** |
| R4-2001673 | *to be revised* |

## Discussion on 2nd round (if applicable)

## Summary on 2nd round (if applicable)

*Moderator tries to summarize discussion status for 2nd round and provided recommendation on CRs/TPs/WFs/LSs Status update suggestion*

|  |  |
| --- | --- |
| **CR/TP/LS/WF number** | **T-doc Status update recommendation** |
| XXX | *Based on 2nd round of comments collection, moderator can recommend the next steps such as “agreeable”, “to be revised”* |

# Topic #2: SRVCC test case list

*Main technical topic overview. The structure can be done based on sub-agenda basis.*

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2001418 | Ericsson | Observation 1: Although SRVCC is supported in release 16, there is no corresponding rSRVCC procedure or other mobility directly from 3G to NR specified  Proposal 1: RRM tests are introduced to verify NR to 3G mobility.  Test cases are listed:   1. NR to UTRA FDD Inter-RAT measurement reporting 2. NR to UTRA FDD InterRAT handover |
| R4-2001672 | Huawei, HiSilicon | Proposal 1: The following three test cases shall be specified for SRVCC.  -NR − UTRAN FDD measurements when non-DRX is used  -NR − UTRAN FDD measurements when DRX is used  - Inter-RAT handover from NR to UTRAN |

## Open issues summary

### Sub-topic 2-1 Does it need to verify measure/handover from 3G to NR?

* Proposals
  + Option 1: NO.
* Recommended WF
  + no need to define the tests in the direction of 3G to NR mobility

### Sub-topic 2-2 RRM test case list

* Proposals
  + Option 1: two test cases are introduced for SRVCC

-NR to UTRA FDD Inter-RAT measurement reporting

-NR to UTRA FDD InterRAT handover

* + Option 2: Three test cases are introduced for SRVCC

-NR − UTRAN FDD measurements when non-DRX is used

-NR − UTRAN FDD measurements when DRX is used

- Inter-RAT handover from NR to UTRAN

* Recommended WF
  + The following test cases are introduced for SRVCC”

-NR − UTRAN FDD measurements when non-DRX is used

-NR − UTRAN FDD measurements when DRX is used

- Inter-RAT handover from NR to UTRAN

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX | Sub topic 2-1:  Sub topic 2-2:  ….  Others: |
| Qualcomm | Sub topic 2-1: we agree there is no need for 3G to NR testing  Sub topic 2-2: we disagree with the WF proposed by the moderator, we support option 1. The main use case is measurements without DRX. There is no clear for test with DRX, this would only increase the number of tests. |
| Ericsson | Sub topic 2-1: The main point we wanted to get across in our contribution was not a discussion on whether we need to verify measurements of NR on 3G, or handover from 3G to NR., That we agree is not possible since it was agreed in RAN2 there was no update of 3G signaling and the UE gets back to NR operation when it comes back into NR coverage by cell selection or other procedure outside the scope of RAN4 specs. Rather our point was that to repeat multiple iterations of the NR-.3G test, it is necessary to get back to NR somehow. There are various ways that could be achieved, for instance one example would be to power down the UE, set 3G cell off and NR cell on and power on UE. We think the exact means can be left to RAN5 in the end, so perhaps our contribution should not have mentioned this at all, although it came up in our internal discussions of SRVCC for NR testing. We are fine with the recommended WF (no other WF would be possible).  Sub topic 2-2: Our reason for not proposing DRX measurement test was that SRVCC can only be used with voice call which is a real time service. So in the actual usage, long DRX is not possible as a real time speech frame needs to be encoded/decoded every 10ms or so. It may be possible to use a relatively short DRX such as 10 or 20ms in a test, but the requirement for event triggered reporting would be the same as non DRX. Hence, we do not see that the test “NR − UTRAN FDD measurements when DRX is used” adds any value and we would propose the recommended WF to be modified to reflect  -NR − UTRAN FDD measurements when non-DRX is used  - Inter-RAT handover from NR to UTRAN |
| Nokia | Sub topic 2-1: We agree with the recommended WF.  Sub topic 2-2: We support option 1. We also think the non-DRX case is the main use case and this aligns to SRVCC from E-UTRAN to UTRAN. Furthermore, we think that both gap patterns should be tested for the TC on NR - UTRAN FDD measurements. |
| Apple | Sub-topic 2-1: agree to only consider NR to 3G  Sub-topic 2-2: support option 1:  -NR to UTRA FDD Inter-RAT measurement reporting when non-DRX is used  -NR to UTRA FDD InterRAT handover |
| Huawei, Hisilicon | Sub-topic 2-1: agree to only consider NR to 3G mobility.  Sub-topic 2-2: ok with option 1.  Comment to Nokia, in general only one gap pattern is tested for inter-RAT measurement, herein we suggest one gap pattern is verified in the TC as well. |
| Intel | Sub-topic 2-1: we support the recommended WF.  Sub-topic 2-2: we support option 1, i.e. test inter-RAT measurement in non-DRX and inter-RAT handover. |
| Mediatek | Sub-topic 2-1: agree the recommended WF.  Sub-topic 2-2: we support option 1. |

### CRs/TPs comments collection

*Major close to finalize WIs and Rel-15 maintenance, comments collections can be arranged for TPs and CRs. For Rel-16 on-going WIs, suggest to focus on open issues discussion on 1st round.*

|  |  |
| --- | --- |
| **CR/TP number** | **Comments collection** |
| XXX | Company A |
| Company B |
|  |
| YYY | Company A |
| Company B |
|  |

## Summary for 1st round

### Open issues

*Moderator tries to summarize discussion status for 1st round, list all the identified open issues and tentative agreements or candidate options and suggestion for 2nd round i.e. WF assignment.*

|  |  |
| --- | --- |
|  | **Status summary** |
| **Sub-topic#1** | *Tentative agreements:*  *No need to define the tests in the direction of 3G to NR mobility.*  *Candidate options:*  *Recommendations for 2nd round:* |
| **Sub-topic#2** | *Tentative agreements:*   * + The following test cases are introduced for SRVCC   -NR to UTRA FDD Inter-RAT measurement reporting when non-DRX is used  -NR to UTRA FDD Inter-RAT handover  *Candidate options:*  In the TC of NR to UTRA FDD inter-RAT measurement, whether both gap patterns shall be tested?   * Option1: one gap pattern is tested * Option2: both gap patterns (#0,#1) are tested   *Recommendations for 2nd round:* further discussion |

*Suggestion on WF/LS assignment*

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| --- | --- | --- |
|  | **WF/LS t-doc Title** | **Assigned Company,**  **WF or LS lead** |
| #1 | WF on SRVCC RRM test cases | Huawei, HiSilicon |

### CRs/TPs

*Moderator tries to summarize discussion status for 1st round and provided recommendation on CRs/TPs Status update suggestion*

|  |  |
| --- | --- |
| **CR/TP number** | **CRs/TPs Status update recommendation** |
| XXX | *Based on 1st round of comments collection, moderator can recommend the next steps such as “agreeable”, “to be revised”* |

## Discussion on 2nd round (if applicable)

|  |  |
| --- | --- |
| **Company** | **Comments** |
| Nokia | Sub topic#2: We agree with option 1 (only one gap pattern is tested). In our view gap pattern #0 should be used as proposed in the draft WF on SRVCC RRM test cases. |

## Summary on 2nd round (if applicable)

*Moderator tries to summarize discussion status for 2nd round and provided recommendation on CRs/TPs/WFs/LSs Status update suggestion*

|  |  |
| --- | --- |
| **CR/TP/LS/WF number** | **T-doc Status update recommendation** |
| XXX | *Based on 2nd round of comments collection, moderator can recommend the next steps such as “agreeable”, “to be revised”* |