3GPP TSG-RAN WG2 Meeting #114 electronic [R2-2106471](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106471.zip)

Online, May, 2021

**Agenda item: 10.1**

**Source: Vice Chairman (Nokia)**

**Title:** **Report on LTE legacy, Mobility, DCCA, Multi-SIM and RAN slicing**

**Document for: Approval**

# Organizational

**List of offline email discussions:**

**NOTE: the email discussion deadlines are meant to allow at least all regions to have one day to comment (other than weekend) and also give rapporteurs time to update their proposals before the meeting)**

**Organizational**

* [AT114-e][200] Organizational – LTE legacy, Mobility, DCCA, Multi-SIM and RAN slicing (RAN2 VC)

Scope:

* + - Share plans for the meetings and list of ongoing email discussions for the sessions
    - Share meetings notes and agreements for review and endorsement
    - Flag LSs and in-principle agreed CRs for discussion

      Intended outcome (for LS discussion):

* + - General information sharing about the sessions

      Deadline for providing comments to LSs and IPA CRs:

* + - Deadline: 2nd week Mon, UTC 0900

**LTE Legacy** **(kicked off after 1st week online session)**

* [AT114-e][201][LTE] Miscellaneous LTE CRs (Samsung)

Scope:

* + - Finalize LTE CRs discussed online and marked for this discussion

Intended outcome:

* + - Agreeable CRs (if any)

Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Initial deadline (for company feedback): 2nd week Tue, UTC 0900
    - Deadline for CR finalization: 2nd week Wed, UTC 0900

**LTE Rel-17**

TBD

**LTE Legacy up to Rel-16 (kicked off after 1st week online session)**

TBD

**LTE/NR Mobility (to be kicked off on 1st week Wednesday)**

* [AT114-e][210][MOB] LTE/NR mobility corrections (Huawei)

Scope:

* + - Discuss whether NR/LTE mobility marked for this discussion are seen agreeable.

Intended outcome:

* + - Discussion summary in [R2-2106491](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106491.zip) (by email rapporteur).
    - Agreeable CRs (if any)

Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Initial deadline (for company feedback): 1st week Fri, UTC 0900
    - Initial deadline (for rapporteur summary): 2nd week Mon, UTC 1000
    - Deadline for CR finalization: 2nd week Wed, UTC 1000

**LTE/NR Mobility (kicked off after 1st week Wednesday online session)**

* [AT114-e][211][MOB] LTE/NR CR finalization (Samsung)

Scope:

* + - Finalize CR revision for [R2-2106063](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106063.zip) according to online discussion

Intended outcome:

* + - Agreeable CR in [R2-2106496](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106496.zip) (if any)

Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Initial deadline (for company feedback): 2nd week Tue, UTC 0900
    - Deadline for CR finalization: 2nd week Wed, UTC 0900

**LTE/NR Rel-16 DCCA (to be kicked off on 1st week Wednesday)**

* [AT114-e][220][DCCA] Miscellaneous DCCA corrections (Ericsson)

Scope:

* + - Discuss corrections under R16 DCCA WI marked for this discussion to see which CRs could be agreeable.

Intended outcome:

* + - Discussion summary in [R2-2106492](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106492.zip) (by email rapporteur).
    - Agreeable CRs (if any)

Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Initial deadline (for company feedback): 1st week Fri, UTC 0900
    - Initial deadline (for rapporteur summary): 2nd week Mon, UTC 1000
    - Deadline for CR finalization: 2nd week Wed, UTC 1000

**LTE/NR Rel-16 DCCA (to be kicked off after first week Wednesday session)**

* [AT114-e][221][DCCA] Cell grouping CR (Ericsson)

Scope:

* + - Discuss CRs for R16 NR-DC cell grouping based on online agreements.

Intended outcome:

* + - Discussion summary in [R2-2106493](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106493.zip) (by email rapporteur).
    - Agreeable CRs. Intermediate status of discussion will be checked during 2nd week Monday session.

Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Deadline for CR finalization: 2nd week Wed, UTC 1000

**NR Rel-17 DCCA (only started after online session)**

TBD

**NR Rel-17 Multi-SIM (only started after online session)**

* [AT114-e][240][MUSIM] UE assistance information of paging collision (vivo)

Scope:

* + - Discuss whether and which UE assistance information is needed for avoiding paging collision in MUSIM
    - Should explain what happens if 1) if no assistance information is provided and 2) if assistance information is provided

Intended outcome:

* + - Discussion summary in [R2-2106502](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106502.zip) (by email rapporteur).

Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Initial deadline (for company feedback): 2nd week Tue, UTC 1000
    - Initial deadline (for rapporteur summary): 2nd week Wed, UTC 1000
* [AT114-e][241][MUSIM] LS to SA2/CT1 on network switching for leaving RRC\_CONNECTED (Qualcomm)

Scope:

* + - Draft LS to SA2/CT1 to inform them of the RAN2 decision to support at least AS-based solution (with AS-based response) for network switching while leaving RRC\_Connected state in NW A (FFS if this may include NAS information).

Intended outcome:

* + - Discussion summary in [R2-2106503](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106503.zip) (by email rapporteur).
    - Draft LS to SA2/CT1 in [R2-2106504](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106504.zip) (by email rapporteur).

Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Initial deadline (for company feedback): 2nd week Tue, UTC 1000
    - Initial deadline (for rapporteur summary and final draft LS): 2nd week Wed, UTC 1000

**NR Rel-17 RAN Slicing (only started after online session)**

* [AT114-e][250][Slicing] Usage of slice priorities for cell reselection (Lenovo)

Scope:

* + - Attempt to formulate how the slice priorities could work (i.e. the entire approach, can have multiple options).
    - We will not try to consider Stage-3 details yet or e.g. where priorities come from. Stick to basic principles of slice prioritization

Intended outcome:

* + - Discussion summary in [R2-2106501](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106501.zip) (by email rapporteur).

Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Initial deadline (for company feedback): 2nd week Tue, UTC 1000
    - Initial deadline (for rapporteur summary): 2nd week Wed, UTC 1000

**Dates and deadlines**

May 10 23.59 PDT (May 11 06.59 UTC) Tdoc number allocation deadline for all tdocs.  
General Tdoc Submission Deadline, as usual. Kick off, summaries.   
Deadline long Post113bis-e email discussions (hopefully the report can be available at the deadline or not long after).

May 17 0700 UTC Tdocs submission deadline for Summaries.

May 19 0700 UTC e-Meeting Start (by email).

May 21 1000 UTC Suspend decision making in email discussions (= no deadlines etc). It should be possible for a delegate to take the weekend off, rejoin and not miss decisions. May 24 1000 UTC Resume decision making in email discussions.

May 26 1000 UTC For AT-meeting email discussions that doesn’t come back on-line: This is the Last Deadline for Technical/Functional Comments, non-agreeable parts are removed from proposed agreements. The last 24h until e-meeting Stop is for checking and during this time only minor wording changes, removals / simplifications are done.

May 27 1000 UTC e-Meeting Stop, no more email comments for AT-meeting email discussions. Decision confirmations announced within 24h. Session notes for email checking.

June 4 Deadline Short Post114-e email discussions.

**Web Conference Schedule**

Note that this schedule is indicative and can change. Changes to the schedule are announced with notice of 24h (except for days when detailed schedule is dependent on the conclusions the day before).

No Overtime, Hard stop at UTC 15.55 and UTC 05:10

|  |  |  |  |
| --- | --- | --- | --- |
| **Time Zone UTC** | **Web Conference R2 - Main** | **Web Conference R2 - BO1** | **Web Conference R2 - BO2** |
| **Wednesday May 19** | | | |
| 12:15-13:05 | NR17 eMIMO (Johan) | NR16 Pos (Nathan) | NR17 NTN (Sergio) |
| 13:05-14:25 | NR15 NR16 NR17 Main session early items (Johan) | NR17 SL Relay (Nathan) | NR17 NTN (Sergio) |
| 14:25-15:45 | NR17 Multicast (Johan) | NR16 DCCA (Tero)  *AI 6.5.2 (Other DCCA corrections)*  *- Outcome of [Post113bis-e][222]*  NRLTE16 MOB (Tero)  *AI 6.4.1 (CHO/CPC corrections)*  *: - Failure recovery via CHO (*[*R2-2105325*](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105325.zip)*,* [*R2-2105326*](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105326.zip)*)*  *- "Inability to comply with RRCReconfiguration" (*[*R2-2105003*](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105003.zip)*,* [*R2-2106063*](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106063.zip)*)*  *AI 6.4.1 and 6.4.2 (CHO and DAPS)*  *- CHO + DAPS co-existence (*[*R2-2105888*](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105888.zip)*,* [*R2-2105606*](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105606.zip)*)*  LTE16e (Tero)  *AI 4.5.1 (Other)*  *- Correction on T325 (*[*R2-2106288*](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106288.zip)*,* [*R2-2106292*](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106292.zip)*)*  *- Order of actions in PDCP procedural text (*[*R2-2106142*](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106142.zip)*,* [*R2-2106143*](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106143.zip)*)*  *- LTE RRC rapporteur CRs (*[*R2-2106317*](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106317.zip)*,* [*R2-2106318*](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106318.zip)*)*  NR17 DCCA (Tero) - if time allows  *AI 8.2.1 (Organizational)*  *- Making progress on further MRDC enhancements (*[*R2-2105986*](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105986.zip)*)* | LTE17 IoT (Brian) |
| **Thursday May 20** | | | |
| 12:15-13:05 | NR17 IoT NTN SI (Johan) | 12:15 – 13:25 NR17 eURLLC (Diana)  13:25-14:25 NR17 Small Data Enh (Diana) | NR17 RAN Slicing (Tero)  - UL SMBR enforcement ([R2-2105942](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105942.zip), [R2-2106418](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106418.zip))  - Cell reselection (at least [R2-2105203](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105203.zip))  - RACH (at least parts of [R2-2104741](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104741.zip)) |
| 13:05-14:25 | NR17 eIAB | NR17 Multi-SIM (Tero), *end early (~14:05)*  - Network switching for MUSIM ([R2-2105900](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105900.zip), [R2-2105257](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105257.zip) or  [R2-2104765](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104765.zip))  - Paging collision (assistance information: [R2-2106343](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106343.zip) and  [R2-2105227](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105227.zip))  NR17 SL enh (Kyeongin) |
| 14:25-15:45 | R17 Other (Johan) | NR17 RedCap (Sergio) | NR17 SL enh (Kyeongin) |
| **Friday May 21** | | | |
| 04:00-05:00 | NR17 Multicast (Johan) | NR17 SONMDT (HuNan) | NR17 Pos (Nathan) |

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| **Time Zone UTC** | **Web Conference R2 - Main** | **Web Conference R2 - BO1** | **Web Conference R2 - BO2** |
| **Monday May 24** | | | |
| 12:15-13:05 | NR17 QoE (Johan) | LTE17 (Tero)  - SLIC attack and discussion on reply LS to GSMA ([R2-2105268](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105268.zip))  - Inclusive language terminology ([R2-2105934](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105934.zip))  NR16 DCCA (Tero)  - Status check of [221] (and online discussion if needed)  - Outcome of [220] (if needed)  NRLTE16 MOB (Tero)  - Outcome of [210] (if needed)  Rel-16 LTE, NRLTE16, NR16 DCCA (Tero)  - IPA CR formal agreement | NR16 V2X (Kyeongin) |
| 13:05-14:25 | R17 Other Cont.(Johan) if needed | NR17 DCCA (Tero)  [8.2.1]: Making progress on further MRDC enhancements ([R2-2105986](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105986.zip))  [8.2.3.1]: Inter-node message design and reply to RAN3 LS ([R2-2105988](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105988.zip), [R2-2105061](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105061.zip)), T-SN-proposed PSCells ([R2-2104996](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104996.zip), [R2-2105202](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105202.zip)), Stage-2 call flows ([R2-2105830](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105830.zip), [R2-2106059](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106059.zip))  [8.2.3.2]: UE measurements ([R2-2105261](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105261.zip), email discussion likely needed), CPAC signalling towards UE | NR16 V2X (Kyeongin) |
| 14:25-15:45 | R15 R16 (Johan) | CB Sergio | NR17 Pos (Nathan) |
| **Tuesday May 25** | | | |
| 12:15-13:05 | CB Johan (IoT NTN if needed) | NR16 SONMDT (HuNan) | CB Kyeongin |
| 13:05-14:25 | NR17 eNPN (Johan)  CB Johan | NR17 Pos (Nathan)  CB Nathan | LTE16e IoT (Brian, Emre) |
| 14:25-15:45 | CB Johan | CB Diana | CB Brian Emre |
| **Wednesday May 26** | | | |
| 04:00-05:00 | CB TBD | CB Sergio | CB Kyeongin |
| **Thursday May 27** | | | |
| 04:00-05:00 | CB Johan | CB Tero  NR17 DCCA  - Outcome of any AT-meeting email discussions (TBD 2nd week Monday)  - Agreeing to post-meeting email discussions (CPAC and SCG deactivation)  NR17 Multi-SIM  - Outcome of [240]  - Outcome of [241]  - Agreeing to post-meeting email discussions  NR17 RAN slicing  - Outcome of [250]  - Agreeing to post-meeting email discussions  NR16 DCCA  - Outcome of [221] | CB Nathan |

# 4 EUTRA corrections Rel-15 and earlier

See Appendix A for reference to Work items, work item codes and WIDs.

Only essential corrections. No documents should be submitted to 4. Please submit to 4.x

## 4.5 Other LTE corrections Rel-15 and earlier

Documents in this agenda item will be handled in a break out session.

Purely editorial corrections should be avoided, text enhancements may be deprioritized. Corrections should be taken up with the specification editor before submitting to avoid CR duplication. If this is not done, the contribution may not be treated.

### 4.5.0 In-principle agreed CRs

Web Conf (Monday 2nd week) (1)

Including CRs that were in-principle agreed in RAN2#113bis-e (which do not count towards the Tdoc limit)

[R2-2106137](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106137.zip) Correction on category dependency for DL Category 13 Huawei, HiSilicon CR Rel-16 36.306 16.4.0 1806 2 F TEI16 [R2-2104341](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104341.zip)

* Flagging required to re-discuss a CR, to be done until end of 1st week. After that, all non-flagged IPA CRs will be marked as agreed.
* CB 2nd week

### 4.5.1 Other

Web Conf (Wednesday 1st week) (2+2+2)

Including CRs for T325 handling for inter-RAT HO (postponed in RAN2#113bis-e, see [R2-2104248](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104248.zip) and [R2-2104253](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104253.zip))

[R2-2106288](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106288.zip) Correction on T325 Google Inc. CR Rel-15 36.331 15.13.0 4640 1 F NR\_newRAT-Core [R2-2104248](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104248.zip)

*(moved from 4.5.0)*

- Lenovo thinks the cover page reason for change should be elaborated. Should clarify that this is specified elsewhere but not in RRC so that's why this was agreed.

- Lenovo thinks impact analysis shouldn't use "cell selection".

- Lenovo thinks consequences if not approved are not correct, should say "UE may stop" and not "UE stops". Huawei thinks this should raise the system issue and this is not clear.

* Improve cover page.
* CR is revised in [R2-2106497](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106497.zip) according to above (CB 2nd week).
* Discuss revised CR By Email [201] (Samsung)

[R2-2106292](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106292.zip) Correction on T325 Google Inc. CR Rel-16 36.331 16.4.0 4641 1 A NR\_newRAT-Core [R2-2104253](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104253.zip)

*(moved from 4.5.0)*

* CR is revised in [R2-2106498](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106498.zip) according to above (CB 2nd week).
* Discuss revised CR By Email [201] (Samsung)

Order of actions in PDCP procedural text:

[R2-2106142](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106142.zip) Correction on integrity verification failure Samsung CR Rel-15 36.323 15.6.0 0294 - F TEI15

- Ericsson thinks this is not necessary. QC agrees. Samsung clarifies this is inconsistency between LTE and NR specifications. LGE thinks this is not needed. Nokia agrees.

* Not pursued

[R2-2106143](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106143.zip) Correction on integrity verification failure Samsung CR Rel-16 36.323 16.3.0 0295 - A TEI15

* Not pursued

Editorial corrections from RRC rapporteur:

[R2-2106317](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106317.zip) Minor changes collected by Rapporteur for Rel-15 Samsung CR Rel-15 36.331 15.13.0 4683 - F SPIA\_IDC\_LTE-Core, LTE\_5GCN\_connect-Core

- QC thinks the SIB25 issue is change so it's not editorial. Samsung agrees. Huawei is not sure about the motivation. If these align with NR, we should update cover page. Lenovo is OK with changes. This was agreed in NR last time and the SIB25 value is used in a formula so it makes sense in the formula. Nokia thinks that this change is relevant and this is not just alignment but a correction. UE implementation in LTE and NR may be different. Lenovo clarifies the same formula is used in both. QC thinks average is stil more correct.

* CR is revised in [R2-2106499](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106499.zip) (should consider what the last change means and whether "average" is correct and correct cover page).
* Discuss revised CR By Email [201] (Samsung)

[R2-2106318](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106318.zip) Minor changes collected by Rapporteur for Rel-16 Samsung CR Rel-16 36.331 16.4.0 4684 - F SPIA\_IDC\_LTE-Core, LTE\_5GCN\_connect-Core, TEI16

* CR is revised in [R2-2106500](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106500.zip) (should consider what the last change means and whether "average" is correct and correct cover page).
* Discuss revised CR By Email [201] (Samsung)

Email discussions ([201])

* [AT114-e][201][LTE] Miscellaneous LTE CRs (Samsung)

Scope:

* + - Finalize LTE CRs discussed online and marked for this discussion

Intended outcome:

* + - Agreeable CRs (if any)

Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Initial deadline (for company feedback): 2nd week Tue, UTC 0900
    - Deadline for CR finalization: 2nd week Wed, UTC 0900

# 6 Rel-16 NR Work Items

Essential corrections. While high maintenance intensity is expected, Rel-16 corrections are treated separately per WI.

Tdoc Limitation: 30 tdocs in total for all sub agenda items, or the restriction for each sub-AI, whichever is more restrictive.

## 6.4 NR and LTE mobility enhancements

(NR\_Mob\_enh-Core; leading WG: RAN2; REL-16; started: Jun 18; Completed June 20; WID: RP-192277).

(LTE\_feMob-Core; leading WG: RAN2; REL-16; started: Jun 18; Completed: June 20; WID: RP-190921)

Documents in this agenda item will be handled in a break out session).

No documents should be submitted to 6.4. Please submit to 6.4.x

Purely editorial corrections should be taken up with the specification editor before submitting to avoid CR duplication. If this is not done, the contribution may not be treated.

Tdoc Limitation: 8 tdocs, See also tdoc limitation for Agenda Item 6

### 6.4.0 In-principle agreed CRs

Web Conf (Monday 2nd week) (13)

Including CRs that were in-principle agreed in RAN2#113bis-e (which do not count towards the Tdoc limit)

[R2-2105001](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105001.zip) 38.300 CR: removing ambiguous HO naming Nokia, Nokia Shanghai Bell CR Rel-16 38.300 16.5.0 0354 1 F NR\_Mob\_enh-Core [R2-2103337](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103337.zip)

[R2-2105002](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105002.zip) 36.300 CR: removing ambiguous HO naming Nokia, Nokia Shanghai Bell CR Rel-16 36.300 16.5.0 1336 1 F NR\_Mob\_enh-Core [R2-2103338](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103338.zip)

[R2-2105004](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105004.zip) Transmissions to the source that continue upon DAPS UL switching Nokia, Nokia Shanghai Bell CR Rel-16 38.300 16.5.0 0353 2 F NR\_Mob\_enh-Core [R2-2104336](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104336.zip)

[R2-2105016](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105016.zip) Transmission of InDeviceCoexistence, UEAssistanceInformation, MBMSInterestIndication, or SidelinkUEInformation after conditional handover MediaTek, Ericsson CR Rel-16 36.331 16.4.0 4644 1 F LTE\_feMob-Core, 5G\_V2X\_NRSL-Core [R2-2104327](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104327.zip)

[R2-2105017](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105017.zip) Transmission of UEAssistanceInformation or SidelinkUEInformationNR after conditional handover MediaTek, Ericsson, Sharp, LG Electronics, Qualcomm Incorporated CR Rel-16 38.331 16.4.1 2569 1 F LTE\_feMob-Core, 5G\_V2X\_NRSL-Core [R2-2104328](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104328.zip)

[R2-2105206](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105206.zip) Full configuration for CHO Google Inc. CR Rel-16 38.331 16.4.1 2565 2 F NR\_Mob\_enh-Core [R2-2104347](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104347.zip)

[R2-2105500](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105500.zip) CR on T312 handling in DAPS HO ZTE Corporation, Sanechips CR Rel-16 36.331 16.4.0 4627 1 F LTE\_feMob-Core [R2-2104075](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104075.zip)

[R2-2105501](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105501.zip) Miscellaneous corrections to 37.340 on mobility enhancement ZTE Corporation (Rapporteur), Sanechips, Ericsson CR Rel-16 37.340 16.5.0 0262 2 F NR\_Mob\_enh-Core [R2-2104339](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104339.zip)

[R2-2105502](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105502.zip) CR on configuration release in DAPS HO ZTE Corporation, Sanechips CR Rel-16 36.331 16.4.0 4628 2 F LTE\_feMob-Core [R2-2104350](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104350.zip)

[R2-2105608](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105608.zip) Clarification on RLF detection of source Pcell Huawei, HiSilicon CR Rel-16 36.300 16.5.0 1339 1 F LTE\_feMob-Core [R2-2104337](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104337.zip)

[R2-2105609](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105609.zip) Clarification on RLF detection of source Pcell Huawei, HiSilicon CR Rel-16 38.300 16.5.0 0368 1 F NR\_Mob\_enh-Core [R2-2104338](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104338.zip)

[R2-2106290](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106290.zip) CR on LCP of the source MAC entity Samsung Electronics Polska CR Rel-16 38.321 16.4.0 1117 - F NR\_Mob\_enh-Core

[R2-2106301](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106301.zip) CR on LCP of the source MAC entity Samsung Electronics Polska CR Rel-16 36.321 16.4.0 1525 - F NR\_Mob\_enh-Core

* Flagging required to re-discuss a CR, to be done until end of 1st week. After that, all non-flagged IPA CRs will be marked as agreed.
* CB 2nd week

### 6.4.1 CHO/CPC Corrections

Including incoming LSs related to CHO/CPC (if any).

This AI addresses NR CPC and corrections to NR/LTE CHO (i.e. both NR and LTE-specific corrections for CHO should be submitted here).

Including corrections to control and user plane specifications (e.g. 3x.331, 3x.323, 3x.321) for CHO and CPC.

Including CRs for conditional evaluation upon fallback to source cell after DAPS handover (postponed in RAN2#113bis-e, see [R2-2103046](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103046.zip) and [R2-2103047](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103047.zip)).

Including CR for procedural text for section on" Inability to comply with RRCReconfiguration": (postponed in RAN2#113bis-e, see [R2-2103331](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103331.zip)).

Including CR for applicable cases for failure recovery via CHO (postponed in RAN2#113bis-e, see [R2-2103114](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103114.zip) option 1).

Web Conf (Wednesday 1st week) or By Email (2+2+3)

CRs for applicable cases for failure recovery via CHO (postponed in RAN2#113bis-e, see [R2-2103114](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103114.zip) option 1).

[R2-2105325](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105325.zip) 36.331 Correction on Failure Recovery via CHO for Inter-RAT Handover Failure CATT CR Rel-16 36.331 16.4.0 4658 - F LTE\_feMob-Core

- LGE wants to clarify the inter-operability: Thinks network triggering CHO configuration after IRAT HO is not correct. Should have no inter-operability. Intel agrees and thinks NW can trigger the CHO release if it chooses to, and that's not inter-operability problem. QC thinks that if network sends HO cancel, then CHO recovery fails.

* Use "network may trigger the "HO cancel" for the target CHO cell upon inter-RAT handover" in inter-operability analysis
* Use "intra-E-UTRA" in the change (instead of "intra-EUTRA")
* Correct " incosistent" to " inconsistent" in cover page
* With these changes, the CR is agreed in [R2-2106494](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106494.zip)

[R2-2105326](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105326.zip) 38.331 Correction on Failure Recovery via CHO for Inter-RAT Handover Failure CATT CR Rel-16 38.331 16.4.1 2616 - F NR\_Mob\_enh-Core

* Use "network may trigger the "HO cancel" for the target CHO cell upon inter-RAT handover" in inter-operability analysis
* Correct " incosistent" to " inconsistent" in cover page
* With these changes, the CR is agreed in [R2-2106495](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106495.zip)

CR for procedural text for section on" Inability to comply with RRCReconfiguration": (postponed in RAN2#113bis-e, see [R2-2103331](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103331.zip)).

[R2-2105003](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105003.zip) 38.331 CR: Even further revised inability to comply with conditional reconfiguration Nokia, Nokia Shanghai Bell CR Rel-16 38.331 16.4.1 2507 1 F NR\_Mob\_enh-Core [R2-2103331](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103331.zip)

- Nokia indicates there is one change based on offline comment from last meeting

[R2-2106063](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106063.zip) Clarification regarding inability to comply with conditional reconfiguration Samsung Telecommunications CR Rel-16 38.331 16.4.1 2664 - F NR\_Mob\_enh-Core

- Samsung clarifies this is cleaning up the procedure even more than Nokia CR.

* Revised in [R2-2106496](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106496.zip) (By Email [211])

**Discussion**

- Huawei thinks many companies didn't agree to this in last meeting. Thinks Nokia CR changes functionality. Thinks neither CR is OK. Ericsson agrees. LGE and QC also agrees. Samsung clarifies this was introduced in Rel-16 so it's not really "legacy text". vivo thinks Nokia CR is not needed.

- Apple thinks that for B, what does delayed compliance check do? Samsung clarifies that UE just doesn't apply the configuration that is being processed. If you don't, then nothing happens.

- QC thinks existing text may not be the best but it's sufficient.

- vivo thinks Samsung CR may be correct but is not sure if there is a problem? Samsung clarifies the intent is to make it clear which configuration to apply. If you process the configuration immediately, then the specification is not correct.

* Only consider the proposed change on delayed compliance check and not the procedural clean-up
* Discuss revised CR in email discussion [211] (Samsung)

By Email [211]

[R2-2106496](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106496.zip) Clarification regarding inability to comply with conditional reconfiguration Samsung Telecommunications CR Rel-16 38.331 16.4.1 2664 1 F NR\_Mob\_enh-Core [R2-2106063](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106063.zip)

* RAN2 confirms this correctly covers previous wording
* No support to change existing text (the change is only editorial and should only be done in case problems are found with the existing text)
* Not pursued

By Email [210] (3)

Handling of CHO + DAPS co-existence:

[R2-2105888](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105888.zip) Conditional reconfigurations and DAPS handover Ericsson discussion NR\_Mob\_enh-Core

*Observation 1 It is clear in specifications that it is not possible to have a conditional reconfiguration that contains a DAPS HO configuration.*

*Observation 2 It is clear in 38.331 and 36.331 that it is possible to configure a DAPS HO when the UE has a conditional reconfiguration.*

*Observation 3 The specific meaning of the note “CHO cannot be configured simultaneously with DAPS handover” in 38.300 is not clear. 38.300 however indicates that CHO or CPC do not need to be released before configuring DAPS HO.*

*Observation 4 The UE stops evaluation of execution condition(s) for conditional reconfigurations, if any, when a handover execution (normal or conditional) is started. The stored conditional reconfigurations are removed at successful handover or, otherwise, as part of the RRC reestablishment procedure. They are however not removed in case the UE performs fallback to the source cell at a DAPS handover.*

*Observation 5 The handling of conditional reconfigurations at fallback to the source cell at a DAPS handover is not specified and therefore unclear. According to the current specifications, the UE will then not perform evaluation of the conditions for the conditional econfiguration that are included in VarConditionalReconfig in the source cell, which is not the intended behaviour.*

*Proposal 1 The UE should restart the evaluation of execution condition(s) for stored conditional reconfiguration(s), if any, in the procedure to perform fallback to the source cell during a DAPS HO. The CRs in [2] and [3] that capture this in 38.331 and 36.331, respectively, should therefore be agreed.*

*Proposal 2 If Proposal 1 is not agreed, the Text Proposals in section 3 should instead be included in 38.331, 36.331 and 38.300.*

CRs for conditional evaluation upon fallback to source cell after DAPS handover (postponed in RAN2#113bis-e, see [R2-2103046](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103046.zip) and [R2-2103047](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103047.zip)).

[R2-2105901](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105901.zip) Conditional evaluation upon fallback to source cell after DAPS handover Ericsson CR Rel-16 36.331 16.4.0 4613 1 F LTE\_feMob-Core [R2-2103046](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103046.zip)

[R2-2105903](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105903.zip) Conditional evaluation upon fallback to source cell after DAPS handover Ericsson CR Rel-16 38.331 16.4.1 2497 1 F NR\_Mob\_enh-Core [R2-2103047](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103047.zip)

Web Conf (Monday 2nd week) or Postponed (1)

Related to LS sent to RAN3 in RAN2#113bis-e:

[R2-2106153](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106153.zip) Discussion on CHO and SCG configuration Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core

* CB 2nd week: Postponed unless RAN3 LS reply is received.

By Email [210] (1)

Timing of MAC reset for CHO:

[R2-2106154](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106154.zip) Discussion on MAC reset for CHO Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core

Email discussions ([210], [211])

* [AT114-e][210][MOB] LTE/NR mobility corrections (Huawei)

Scope:

* + - Discuss whether NR/LTE mobility marked for this discussion are seen agreeable.

Intended outcome:

* + - Discussion summary in [R2-2106491](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106491.zip) (by email rapporteur).
    - Agreeable CRs (if any)

Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Initial deadline (for company feedback): 1st week Fri, UTC 0900
    - Initial deadline (for rapporteur summary): 2nd week Mon, UTC 1000
    - Deadline for CR finalization: 2nd week Wed, UTC 1000
* [AT114-e][211][MOB] LTE/NR CR finalization (Samsung)

Scope:

* + - Finalize CR revision for [R2-2106063](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106063.zip) according to online discussion

Intended outcome:

* + - Agreeable CR in [R2-2106496](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106496.zip) (if any)

Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Initial deadline (for company feedback): 2nd week Tue, UTC 0900
    - Deadline for CR finalization: 2nd week Wed, UTC 0900

Web Conf 2nd week (summary of [210])

[R2-2106491](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106491.zip) Summary of [AT114-e][210][MOB] LTE/NR mobility corrections (Huawei) Huawei discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core

*Proposal 1: the proposal in R2-2106154 is not agreed.*

*Proposal 2: merge R2-2105005 into LTE R16 stage-2 rapporteur CR.*

*Proposal 3: CR R2-2105504 and R2-2105505 are not pursued.*

*Proposal 4: Void NOTE 2 in 9.2.3.1 of NR R16 RRC spec, and this change is merged to NR RRC rapporteur CR.*

*Proposal 5: Void NOTE in 10.1.2.1.0 of LTE R16 RRC spec, and this change is merged to LTE RRC rapporteur CR.*

*Proposal 6: CR R2-2105207 and R2-2105208 are not pursued.*

*Proposal 7: CR R2-2105607 is not pursued.*

*Proposal 8: CR R2-2106138 and R2-2106139 are not pursued.*

*Proposal 9: merge R2-2106141 to LTE R16 RRC rapporteur CR.*

*Proposal 10: To capture the clarification for releasing CHO before DAPS HO command is sent to UE, the draft RRC CRs in Annex of R2-2105606 are the baseline.*

*Proposal 11: R2-2104934 can be agreed with the following revisions:*

*1. The current change in 10.1.2.1.0 is not needed as it can be covered by 10.1.2.1.1;*

*2. For the change in 10.1.2.1.1, add the wording “earliest”, i.e. Features that cannot be configured simultaneously with DAPS Handover (CA, DC, EHC, UDC and CHO) can be configured earliest in the same RRCConnectionReconfiguration message that releases the source cell;*

*3. Capture the clarification for releasing CHO before DAPS HO command is sent to UE.*

*Proposal 12: R2-2104935 can be agreed with the following revisions:*

*1. The change of 9.2.3.2.1 is not needed as it can be covered by 9.2.3.1;*

*2. Capture the clarification for releasing CHO before DAPS HO command is sent to UE, e.g. CA, DC, CHO, SUL, multi-TRP, EHC, NR sidelink configurations and V2X sidelink configurations are released by the source gNB before the handover command is sent to the UE.*

Withdrawn:

[R2-2105889](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105889.zip) Conditional evaluation upon fallback to source cell after DAPS handover Ericsson CR Rel-16 36.331 16.4.0 4667 - F LTE\_feMob-Core Withdrawn

[R2-2105890](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105890.zip) Conditional evaluation upon fallback to source cell after DAPS handover Ericsson CR Rel-16 38.331 16.4.1 2650 - F NR\_Mob\_enh-Core Withdrawn

### 6.4.2 DAPS handover Corrections

Including incoming LSs related to DAPS handover (if any).

This AI jointly addresses corrections to NR and LTE DAPS (i.e. both NR and LTE corrections for DAPS should be submitted here).

Including corrections to LTE/NR control and user plane specifications (e.g. 3x.331, 3x.323, 3x.321) for DAPS HO.

Including CR for clarifying which features can be configured together with DAPS (postponed in RAN2#113bis-e, see [R2-2104330](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104330.zip)).

By Email [210] (3)

Handling of CHO + DAPS co-existence:

[R2-2105606](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105606.zip) Clarification on non-coexistence of CHO+DAPS Huawei, HiSilicon, China Telecom discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core

*(moved from 6.4.3)*

*Proposal 1: RAN2 to confirm that there is no co-existing CHO and DAPS configurations in one UE.*

*Proposal 2: Clarify network releases CHO configuration before sending DAPS handover command to UE in TS 38.300 and TS 36.300.*

*Proposal 3: Clarify DAPS handover can be configured only when CHO is not configured in TS 38.331 and TS 36.331.*

Stage-2 CRs for DAPS inter-operability (postponed in RAN2#113bis-e):

[R2-2104934](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104934.zip) Reconfiguration during DAPS HO Ericsson, Nokia (Rapporteur) CR Rel-16 36.300 16.5.0 1341 - F LTE\_feMob-Core

[R2-2104935](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104935.zip) Reconfiguration during DAPS HO Ericsson, Nokia (Rapporteur) CR Rel-16 38.300 16.5.0 0370 - F NR\_Mob\_enh-Core

By Email [210] (1+2+2+4)

DAPS UL switching:

[R2-2105005](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105005.zip) Transmissions to the source that continue upon DAPS UL switching in LTE Nokia, Nokia Shanghai Bell CR Rel-16 36.300 16.5.0 1342 - F LTE\_feMob-Core

MAC establishment for DAPS:

[R2-2105207](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105207.zip) Correction to DAPS handover Google Inc. CR Rel-16 36.331 16.4.0 4655 - F LTE\_feMob-Core

[R2-2105208](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105208.zip) Correction to DAPS handover Google Inc. CR Rel-16 38.331 16.4.1 2608 - F NR\_Mob\_enh-Core

Bearer and UP handling:

[R2-2105504](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105504.zip) CR on non-DAPS DRB handling ZTE Corporation, Sanechips CR Rel-16 38.300 16.5.0 0376 - F NR\_Mob\_enh-Core

[R2-2105505](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105505.zip) CR on non-DAPS DRB handling ZTE Corporation, Sanechips CR Rel-16 36.300 16.5.0 1343 - F LTE\_feMob-Core

UE reconfiguration details for DAPS HO:

[R2-2105607](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105607.zip) Correction on reference signal reconfiguration for RLM Huawei, HiSilicon CR Rel-16 38.331 16.4.1 2633 - F NR\_Mob\_enh-Core

[R2-2106138](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106138.zip) Clarification on UE configuration at DAPS fallback Samsung CR Rel-16 38.331 16.4.1 2669 - F NR\_Mob\_enh-Core

[R2-2106139](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106139.zip) Clarification on UE configuration at DAPS fallback Samsung CR Rel-16 36.331 16.4.0 4675 - F NR\_Mob\_enh-Core

[R2-2106141](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106141.zip) Correction on headerCompression field for DAPS DRB Samsung CR Rel-16 36.331 16.4.0 4676 - F NR\_Mob\_enh-Core

### 6.4.3 Other corrections

Including incoming LSs related to LTE/NR mobility capabilities (if any). Corrections related to CHO/CPC/DAPS inter-operability with other features should be submitted to 6.1.4.3.

Including corrections to UE capability aspects of LTE/NR mobility WI (i.e. corrections to 3x.331 and 3x.306).

## 6.5 DC and CA enhancements

(LTE\_NR\_DC\_CA\_enh-Core; leading WG: RAN2; REL-16; started: Jun 18; Target Aug 20; WI RP-200791)

No documents should be submitted to 6.5. Please submit to 6.5.x

Editorial corrections should be taken up with the specification editor before submitting to avoid CR duplication. If this is not done, the contribution may not be treated.

Tdoc Limitation: 8 tdocs, See also tdoc limitation for Agenda Item 6

### 6.5.0 In-principle agreed CRs

Web Conf (Monday 2nd week) (6)

Including CRs that were in-principle agreed in RAN2#113bis-e (which do not count towards the Tdoc limit)

[R2-2105145](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105145.zip) CR on SCG release and suspend in EN-DC ZTE Corporation, Sanechips CR Rel-16 37.340 16.5.0 0257 2 F LTE\_NR\_DC\_CA\_enh-Core [R2-2104344](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104344.zip)

[R2-2105146](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105146.zip) CR on SCG release in EN-DC ZTE Corporation, Sanechips CR Rel-15 37.340 15.12.0 0263 1 F NR\_newRAT-Core [R2-2104345](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104345.zip)

[R2-2105147](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105147.zip) CR on SCG release in EN-DC ZTE Corporation, Sanechips CR Rel-16 37.340 16.5.0 0264 1 A NR\_newRAT-Core [R2-2104346](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104346.zip)

[R2-2106018](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106018.zip) Misc corrections for Rel-16 DCCA Ericsson CR Rel-16 38.331 16.4.1 2534 2 F LTE\_NR\_DC\_CA\_enh-Core [R2-2104342](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104342.zip)

[R2-2106019](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106019.zip) Misc corrections for Rel-16 DCCA Ericsson CR Rel-16 36.331 16.4.0 4622 2 F LTE\_NR\_DC\_CA\_enh-Core [R2-2104343](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104343.zip)

[R2-2106333](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106333.zip) Clarification on NR SCG configuration within RRC Resume MediaTek Inc. CR Rel-16 38.331 16.4.1 2543 1 F LTE\_NR\_DC\_CA\_enh-Core [R2-2104044](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104044.zip)

* Flagging required to re-discuss a CR, to be done until end of 1st week. After that, all non-flagged IPA CRs will be marked as agreed.

### 6.5.1 Corrections to Fast Scell activation and Early measurement reporting

Including corrections to TS38.331, 36.331, 38.306, 36.306 and 38.321 related to Fast SCell activation and Early measurement reporting.

By Email [220] (2)

UE capability corrections:

[R2-2105057](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105057.zip) Corrections on the capability of eutra-IdleInactiveMeasurements CATT CR Rel-16 36.306 16.4.0 1810 - F LTE\_NR\_DC\_CA\_enh-Core

[R2-2105058](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105058.zip) Corrections on the capability of direct SCG SCell activation CATT CR Rel-16 38.306 16.4.0 0576 - F LTE\_NR\_DC\_CA\_enh-Core

Email discussions ([220])

* [AT114-e][220][DCCA] Miscellaneous DCCA corrections (Ericsson)

Scope:

* + - Discuss corrections under R16 DCCA WI marked for this discussion to see which CRs could be agreeable.

Intended outcome:

* + - Discussion summary in [R2-2106492](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106492.zip) (by email rapporteur).
    - Agreeable CRs (if any)

Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Initial deadline (for company feedback): 1st week Fri, UTC 0900
    - Initial deadline (for rapporteur summary): 2nd week Mon, UTC 1000
    - Deadline for CR finalization: 2nd week Wed, UTC 1000

Web Conf 2nd week (summary of [220])

[R2-2106492](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106492.zip) Summary of [AT114-e][220][DCCA] Miscellaneous DCCA corrections (Ericsson) Ericsson discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

*Proposal 1 Changes in R2-2105057 can be merged into 38.306 rapporteur miscellaneous corrections CR.*

*Proposal 2 Changes in R2-2105058 can be merged into 38.306 rapporteur miscellaneous corrections CR, after updating according to discussion conclusion.*

*Proposal 3 Changes to 38.331 regarding FR2 power control are postponed until RAN4 input is received.*

*Proposal 4 Changes to 38.306 regarding FR2 power control are postponed until RAN1 input is received.*

*Proposal 5 No changes needed in 37.340 to reflect support or no support of FR2 power control in Rel-16.*

*Proposal 6 Changes in R2-2105322 are merged into 38.331 DCCA rapporteur CR.*

*Proposal 7 R2-2106065 is not agreed.*

*Proposal 8 R2-2104957 is not agreed.*

*Proposal 9 Merge the changes in R2-2106022 into IPA CR R2-2106333.*

### 6.5.2 Other DCCA corrections

Including corrections to NR-NR DC, MCG SCell and SCG configuration with RRC resume, Fast MCG link recovery on all specifications.

Including outcome of [Post113bis-e][222][R16 DCCA] Cell grouping for NR-DC (Nokia)

Including discussion on NR-DC power control signalling (based on received RAN1 feedback)

Web Conf (Wednesday 1st week) (1+1)

LSs from other groups:

[R2-2104723](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104723.zip) Reply LS on Introduction of Cell Grouping UE capability for NR-DC (R4-2105333; contact: Qualcomm) RAN4 LS in Rel-16 LTE\_NR\_DC\_CA\_enh-Core To:RAN2 Cc:RAN1

* Noted (already handled in RAN2#113bis-e post-meeting email discussion [222])

[R2-2104708](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104708.zip) Further Reply LS on power control for NR-DC (R1-2104018; contact: Apple, vivo) RAN1 LS in Rel-17 LTE\_NR\_DC\_CA\_enh-Core To:RAN4 Cc:RAN2

* Noted (handled together with input contributions under [220])

Web Conf (Wednesday 1st week) (2+7)

Outcome of [Post113bis-e][222][R16 DCCA] Cell grouping for NR-DC (Nokia)

[R2-2105665](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105665.zip) Summary of of [Post113bis-e][222][R16 DCCA] Cell grouping for NR-DC (Nokia) Nokia, Nokia Shanghai Bell discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

*Observation 1: Generally band related capabilities are release independent and in case RAN4 introduces >5bands NR DC cases there is no way with endorsed CRs to support capability signaling for that*

*Proposal 1: No need for separate for intra-band NR-DC capability. If later needed, a capability can be added.*

*Proposal 2: Send LS to RAN4 about their concerns on PUCCH cell grouping approach and whether this means that FG 22-7 capability signaling does not work*

*Proposal 3: Ensure that agreeable CRs allow in release 16 to introduce possibility to support more than 5 bands NR DC cell grouping capability signaling.*

Discussion

- AT&T thinks we need to ensure support for >5 bands in release-independent manner done now and not postpone it. Thinks the endorsed CRs are not the way to go. Qualcomm agrees and is open to any solution. If we go for NW filtering, we don't even need LS to RAN4 since it's pure RAN2 solution. Nokia also agrees that we should do some solution now to avoid issues. Could be fine with PUCCH group or NW filtering.

- MediaTek has concern on pure network filtering: might not reduce signalling if NW asks this for large number of bands or band combinations. There is limitation in how many bands.

- Softbank wonders what proposal 1 means: RAN4 indicated this is supported by default so what is needed? Could check with RAN4. Nokia agrees and thinks P1 may not be correct: No explicit capability is needed. MediaTek disagrees and thinks this is not always supported. Apple agrees.

- Apple thinks doing >5 band support in this meeting may not be possible but could endorse the CRs for 5 bands now and extend later.

*Proposal 1: No need for separate for intra-band NR-DC capability.*

*Proposal 2: Send LS to RAN4 about their concerns on PUCCH cell grouping approach and whether this means that FG 22-7 capability signaling does not work*

*Proposal 3: Ensure that agreeable CRs allow in release 16 to introduce possibility to support more than 5 bands NR DC cell grouping capability signaling.*

Detailed proposals for NR-DC cell grouping: Network-requested filtering of NR-DC cell grouping:

[R2-2106017](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106017.zip) Cell grouping for NR-DC Ericsson discussion LTE\_NR\_DC\_CA\_enh-Core

*Observation 1 LTE-DC style signalling does not scale well for large band combinations due to exponentially increasing overhead.*

*Observation 2 Current RAN2 CRs were endorsed under the assumption of a max 5 band limitation.*

*Observation 3 The RAN4 LS clearly states that the 5 band limitation in current RAN2 endorsed CRs is not future proof.*

*Observation 4 NR-DC cell grouping capability signaling needs to support also band combinations with more than 5 bands.*

*Observation 5 Extending LTE-DC style cell grouping in the future to support more than 5 bands may result in standardising two solutions for the same thing, which is not acceptable now that we know that the 5 band limitation is not future proof.*

*Observation 6 Cell group filtering has the potential to reduce signalling overhead per signalled band combination in the UE capability information.*

*Observation 7 Cell group filtering has the potential to reduce the number of band combinations reported by the UE, since UE would only report BCs network is interested in.*

*Observation 8 Cell group filtering has the potential to reduce network processing for parsing the UE capabilities.*

*Observation 9 Cell group filtering is not limited to max 5 bands per BC.*

*Observation 10 A list of requested cell groupings can be used to cover network deployments where the NR-DC configuration may change in different areas of the network.*

*Proposal 1 RAN2 to revisit the decision to apply LTE-DC style cell group signaling for NR-DC and not agree the endorsed CRs (*[*R2-2102210*](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2102210.zip) *and* [*R2-2102211*](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2102211.zip)*).*

*Proposal 2 TP in Annex A is taken as baseline for NR-DC cell group signalling.*

*Proposal 3 If proposal 2 cannot be agreed, send LS to RAN4 to confirm feasibility of carrier type cell grouping and ask about their concern regarding PUCCH grouping.*

Discussion

- ZTE thinks capabilities are not comprehended by target cell in HO. So the requested cell grouping needs to be known. Also in inter-frequency HO there might be need to re-acquire cell grouping capabilities. Thinks we could use LTE-style signalling for <=5 bands and NW filtering for more than that. QC thinks we shouldn't have two solutions.

- TMO thinks we should have >5 as early as possible.

- Apple thinks we can do NCEs later on. We can work on extending LTE solution for next meeting. If we go for filtering, network should always provide the filter or UE will assume FR1-FR2 DC config of Rel-15.

- Intel is fine with the general principle but is not clear how it works. Each BC may have different cell grouping, does that work? Also DL-only bands can affect this so UL+DL bands can be used for the cell group.

- Samsung has strong concern on NW filtering as it increases signalling between UE and network. Thinks endorsed CRs support FR1-FR2 DC for more than 5 bands.

- AT&T thinks NW-filtering could solve the problem and supports this. Will need >5 bands within 6 months or so.

* Work offline to provide CRs for the NW-filtering solution.
* Email discussion [221] (Ericsson)
* Checkpoint Monday 2nd week. If several possibilities, can have show of hands to see which direction has most support.

Web Conf 2nd week Monday (checkpoint for [221])

**Potential questions for online discussion :**

Q1: How does the signalling work for fallback band combinations?

Q2: How to handle sync and async cases?

Q3: What is the maximum size for the maxCellGroupings?

Discussion:

- AT&T wonders how many bands can be combined? How 2.1.2 "target should not exceed overhead" should be interpreted?Ericsson clarifies there is no limit to number of bands as such. The limit is in number of cell groupings and each cell grouping is limited to some number which is not yet clear.

- AT&T wonders if there will be limitations to intra-band FR1 combinations? Ericsson thinks this depends on RAN4 input.

Q3:

- Nokia wonders if it's critical that we need to limit this a lot? It's anyway request-response so overhead is limited. Ericsson agrees this may be the case if we use flexible bitmap size. Apple thinks the size is critical and NW can then just request all possible combinations. Would like to limit the number of cell groupings to 4. MediaTek thinks the number of possible combinations is big. Something like 32 would be sufficient.

- QC thinks if we have too large a value, it's just better to let UE report what it supports. Could be fine with something like 16. Samsung thinks we need some limitations so a definite value is fine. Intel thinks maximum size is useful for keeping size of capabilities smaller.

- ZTE thinks larger number is needed for inter/intra-gNB and inter/intra-DU as well. Agrees with Samsung that full reporting could also be allowed. Huawei agrees and thinks full reporting is still needed. Should not limit network deployments which can support lot of grouping options.

* Try to select reasonable number for cell groupings (not too small, not too large).

[R2-2105667](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105667.zip) NR DC Cell Grouping Nokia, Nokia Shanghai Bell discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

*Observation: Increasing number of bands in the endorsed CR style of signaling is not feasible*

*Observation: From signaling point of view it is feasible to support more than 5 bands with carrier type of signaling (i.e. one used for two PUCCH group capability signaling)*

*Observation: From signaling point of view it is feasible to support more than 5 bands with NW filtering type of signaling*

*Based on the paper it is proposed to realize more than 5 bands support for capability signaling either by PUCCH group style signaling of NW filtering approach*

*Proposal: It is proposed to discuss from RAN2 point of view how to realize more than 5 bands support for capability signaling in release 16*

[R2-2105666](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105666.zip) Draft LS to RAN4 on NR DC cell grouping Nokia, Nokia Shanghai Bell LS out Rel-16 LTE\_NR\_DC\_CA\_enh-Core To:RAN4 Cc:RAN1

Operator requirements:

[R2-2106337](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106337.zip) Views on NR-DC cell grouping UE capability SoftBank Corp. discussion Rel-16 LTE\_NR\_DC\_enh2-Core

Detailed proposals for NR-DC cell grouping: PUCCH-grouping style

[R2-2104918](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104918.zip) NR-DC cell grouping UE capability signalling Qualcomm Incorporated discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

*Proposal 1: Reuse the PUCCH grouping signalling for NR-DC cell grouping with the following logical replacements.*

*1. PUCCH primary group is replaced by MCG.*

*2. PUCCH secondary group is replaced by SCG.*

*3. PUCCH TX placement is replaced by spCell placement.*

*Proposal 2: Specify that the UE capability parameter spCellPlacement is disregarded by the network for NR-DC band combinations where the new NR-DC cell grouping UE capability is provided.*

*Proposal 3: Introduce NR-DC cell grouping signalling separately for synchronous and asynchronous NR-DC.*

Detailed proposals for NR-DC cell grouping: LTE-style signalling:

[R2-2105141](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105141.zip) Options for future-proof NR-DC cell-grouping signaling Apple Inc discussion

*Proposal 1: Endorse the current RAN2 NR-DC cell grouping CRs and future-proof NR-DC cell grouping capability signaling can be added as non-critical extensions which the UE reports only when the NW explicitly asks for >5 band and/or intra-band non-contiguous NR-DC with same band across CG.*

*Proposal 2: RAN2 to re-confirm that the UE can report a lower order CA combination with the intention of reporting a DC combination capability on this lower order CA combination.*

*Proposal 3: In future-proof NR-DC cell grouping signaling, as part of the NW filtering, the NW shall always provide the set of bands the NW intends to use in NR-DC.*

*Proposal 4: The NW can optionally provide the set of bands that are belong of a specific cell-group.*

*Proposal 5: In future-proof NR-DC cell grouping signaling, as part of the NW filtering, the NW shall provide the set of bands that NW intends to configure in asynchronous NR-DC and in synchronous NR-DC. The UE assumes that the NW does not support Sync NR-DC if the NW filter does not include any bands in a sync DC and that the NW does not support Async NR-DC if the NW filter does not include any bands in async DC.*

*Proposal 6: As part of NR-DC cell-grouping capabilities, the UE can signal the band relation to the NW (For eg: band X in a CG implies that band Y has to be in other CG, and/or band X and band Z have to be in the same CG, in a particular DC combination).*

*Proposal 7: The UE is allowed to reports the cell-grouping combinations it cannot support and inform the NW that it supports all cell-grouping combinations except for the reports ‘not-supported’ cell-grouping combinations.*

[R2-2105025](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105025.zip) Cell grouping for NR-DC Intel Corporation discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

[R2-2106062](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106062.zip) UE NR-DC cell grouping capability, future extensibility Samsung Telecommunications discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

By Email [220] (3+4)

NR-DC power control signalling (based on received RAN1 feedback):

[R2-2106162](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106162.zip) Clarification on intra-FR2 NR-DC power control Huawei, HiSilicon discussion Rel-16 LTE\_NR\_DC\_CA\_enh

[R2-2106262](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106262.zip) Furthur discussion on FR2 NR-DC power control vivo discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

[R2-2106263](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106263.zip) Correction on FR2 NR-DC power control parameter vivo, MediaTek Inc CR Rel-16 38.331 16.4.1 2684 - F LTE\_NR\_DC\_CA\_enh-Core

Miscellaneous corrections:

[R2-2105322](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105322.zip) Correction on pdsch-HARQ-ACK-Codebook-secondaryPUCCHgroup 38 331 CATT CR Rel-16 38.331 16.4.1 2613 - F LTE\_NR\_DC\_CA\_enh-Core

[R2-2106065](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106065.zip) Clarification on coordination of UE measurement capabilities for CHO and MDT in MRDC Samsung Telecommunications CR Rel-16 38.331 16.4.1 2665 - F LTE\_NR\_DC\_CA\_enh-Core

[R2-2104957](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104957.zip) Clarification reconfigurationWithSync IE reception due to fast MCG recovery OPPO CR Rel-16 38.331 16.4.1 2595 - F LTE\_NR\_DC\_CA\_enh-Core

[R2-2106022](C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_114-e\\R2-2106022.zip) Correction on field condition for MCG recovery Ericsson CR Rel-16 38.331 16.4.1 2663 - F LTE\_NR\_DC\_CA\_enh-Core

Email discussions ([221])

* [AT114-e][221][DCCA] Cell grouping CR (Ericsson)

Scope:

* + - Discuss CRs for R16 NR-DC cell grouping based on online agreements.

Intended outcome:

* + - Discussion summary in [R2-2106493](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106493.zip) (by email rapporteur).
    - Agreeable CRs. Intermediate status of discussion will be checked during 2nd week Monday session.

Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Deadline for CR finalization: 2nd week Wed, UTC 1000

Web Conf 2nd week (summary of [221])

[R2-2106493](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106493.zip) Summary of [AT114-e][221][ DCCA] Cell grouping CR (Ericsson) Ericsson discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

# 7 Rel-16 EUTRA Work Items

Essential corrections

## 7.4 LTE Other WIs

(LTE\_terr\_bcast-Core, LTE\_DL\_MIMO\_EE-Core, LTE\_high\_speed\_enh2-Core; LTE TEI16 Non-positioning)

(Documents relating to Rel-16 LTE but for which there is no existing RAN WI/SI, e.g. LSs from CT/SA requesting RAN2 action)

Purely editorial corrections should be taken up with the specification editor before submitting to avoid CR duplication. If this is not done, the contribution may not be treated.

### 7.4.0 In-principle agreed CRs

Web Conf (Monday 2nd week) (1)

Including CRs that were in-principle agreed in RAN2#113bis-e

[R2-2105473](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105473.zip) Clarification to Fallback band combination definition Nokia, Nokia Shanghai Bell CR Rel-16 36.306 16.4.0 1782 5 F TEI16 [R2-2104329](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104329.zip)

* Flagging required to re-discuss a CR, to be done until end of 1st week. After that, all non-flagged IPA CRs will be marked as agreed.
* CB 2nd week

### 7.4.1 Other

Including TEI16 corrections and issues that do not fit under any other topic.

# 8 Rel-17 NR Work Items

## 8.2 MR DC/CA further enhancements

(LTE\_NR\_DC\_enh2-Core; leading WG: RAN2; REL-17; WID: RP-201040)

Time budget: 0.5 TU

Tdoc Limitation: 3 tdocs

Email max expectation: 3 threads

No documents should be submitted to 8.2. Please submit to.8.2.x

### 8.2.1 Organizational, Requirements and Scope

Including LSs and any rapporteur inputs (which do not count against Tdoc limits).

Web Conf (Monday 2nd week)

[R2-2105062](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105062.zip) TS 37.340 CR for CPA and inter-SN CPC CATT draftCR Rel-17 37.340 16.5.0 B LTE\_NR\_DC\_enh2-Core

* [To be] Endorsed as running CR?

Web Conf (Wednesday 1st week if time allows, otherwise Monday 2nd week)

[R2-2105986](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105986.zip) Making progress on further MRDC enhancements Huawei, HiSilicon discussion Rel-17 LTE\_NR\_DC\_enh2-Core

*UE behaviour upon SCG activation indication (Two candidate solutions)*

*1. Initiate RACH and then resume L1/L2 activities*

*2. Directly start all L1/L2 activities (listen to PDCCH, transmit SR/BSR, etc.)*

***Way forward could be:***

*1. work on option 1 details, keep option 2 FFS*

*2. agree to support option 2 and select the method how to use it or not:*

*a.based on UE evaluation*

*›upon reception of the activation indication without reconfigurationWithSyncwhile TA timer is running, the UE decides whether to resume L1/L2 operation without RACH*

*›FFS if any UE requirements are specified to ensure beams are good enough*

*›FFS RACH resources if the UE decides to use RACH*

*b.based on network indication*

*› the UE shall resume L1/L2 operation without RACH if instructed to do so in the activation indication*

*› FFS if any optimisation to help the network decide which option to chose*

*3. other?*

***Rapporteur suggestion***

*deprioritise option 2 if 2a or 2b (possibly reworded) cannot be agreed at next meeting*

*UE-triggered SCG activation Cases*

*-This is needed for uplink data arrival on SCG bearers*

*-There are proposals to use it for other cases, but this is debatable*

*Two candidate solutions*

*1. Indication to the MCG, then MN initiates activation*

*2. Direct access via the SCG*

***Making progress***

*-Agree to support UE-triggered SCG activation for UL data arrival on an SCG bearer and, if option 2 is agreeable, fast MCG link recovery, FFS other triggers*

*-Agree option(s) that have significant support for UL data arrival on an SCG bearer and then work on details*

* [Post114-e][230][R17 DCCA] SCG activation/deactivation options (Huawei)

Scope: Discuss options based on [R2-2105986](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105986.zip)

Intended outcome: Report

Deadline: Long

### 8.2.2 Efficient activation / deactivation mechanism for one SCG and SCells

No documents should be submitted to 8.2.2. Please submit to.8.2.2.x

#### 8.2.2.1 Deactivation of SCG

This agenda item will not be treated in this meeting.

Including discussion on how MN/SN request for SCG deactivation works and whether the request can be rejected.

[R2-2105279](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105279.zip) Discussion on deactivation of SCG China Telecom Corporation Ltd. discussion

[R2-2105453](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105453.zip) UE initiated SCG deactivation NTT DOCOMO INC. discussion Rel-17 LTE\_NR\_DC\_enh2-Core Late

[R2-2105797](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105797.zip) Activation and Deactivation of SCG InterDigital discussion Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2106039](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106039.zip) Comparison of SCG deactivation solutions Convida Wireless other Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2106106](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106106.zip) Deactivation of SCG LG Electronics discussion Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2106140](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106140.zip) DC power sharing for deactivated SCG Samsung discussion Rel-17 LTE\_NR\_DC\_enh2-Core

#### 8.2.2.2 UE measurements and reporting in deactivated SCG

This agenda item will be deprioritized in this meeting.

Including discussion on how/whether RRM/RLM/BFD measurements are done for deactivated SCG

Including discussion on TAT timer handling for deactivated SCG

Including discussion on RRM/CSI/BM measurement reporting for deactivated SCG

[R2-2104941](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104941.zip) Summary of AI 8.2.2.2 UE measurements and reporting in deactivated SCG OPPO discussion Rel-17 LTE\_NR\_DC\_enh2-Core [R2-2104316](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104316.zip)

[R2-2104942](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104942.zip) UE measurements and reporting in deactivated SCG OPPO discussion Rel-17 LTE\_NR\_DC\_enh2-Core [R2-2102897](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2102897.zip)

[R2-2104944](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104944.zip) Considerations on Considerations on UE measurements and reporting in deactivated SCG KDDI Corporation discussion

[R2-2105011](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105011.zip) RRM and RLM/RLF handling for deactivated SCG Futurewei discussion Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2105059](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105059.zip) UE Behavior in Deactivated SCG CATT discussion Rel-17 LTE\_NR\_DC\_enh2-Core [R2-2103107](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103107.zip)

[R2-2105064](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105064.zip) Mobility for deactivated SCG NTT DOCOMO INC. discussion Rel-17

[R2-2105139](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105139.zip) TA Maintenance and other UE actions in SCG deactivated state Apple Inc discussion Rel-17 LTE\_NR\_DC\_enh2-Core [R2-2103885](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103885.zip)

[R2-2105158](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105158.zip) Discussion on UE behaviour when SCG is deactivated ZTE Corporation, Sanechips discussion Rel-17 LTE\_NR\_DC\_enh2-Core [R2-2103036](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103036.zip)

[R2-2105441](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105441.zip) UE behaviour in deactivated SCG NTT DOCOMO INC. discussion Rel-17 LTE\_NR\_DC\_enh2-Core Late

[R2-2105628](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105628.zip) UE behavior when SCG is deactivated vivo discussion Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2105791](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105791.zip) Further considerations on SCG deactivation NEC discussion Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2105798](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105798.zip) Measurements and maintenance of UL synch with a deactivated SCG InterDigital discussion Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2105829](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105829.zip) UE behaviour in deactivated SCG Lenovo, Motorola Mobility discussion Rel-17

[R2-2105987](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105987.zip) UE behaviour while the SCG is deactivated Huawei, HiSilicon other Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2106023](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106023.zip) Efficient SCG (de)activation Ericsson discussion LTE\_NR\_DC\_enh2-Core

[R2-2106107](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106107.zip) UE Measurement Aspects in SCG Deactivation LG Electronics discussion Rel-17 LTE\_NR\_DC\_enh2-Core [R2-2103569](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103569.zip)

[R2-2106287](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106287.zip) Discussion for UE behaviour in deactivated SCG SHARP Corporation discussion Rel-17 LTE\_NR\_DC\_enh2-Core [R2-2104124](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104124.zip)

[R2-2106336](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106336.zip) UE behavior during SCG deactivation MediaTek Inc. discussion LTE\_NR\_DC\_enh2-Core [R2-2104160](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104160.zip)

#### 8.2.2.3 Activation of deactivated SCG

This agenda item will not be treated in this meeting.

Including discussion on SCG activation details: How does MN/SN/UE request SCG activation and can the request be rejected? Is usage of random access at SCG activation UE or network decision?

[R2-2105010](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105010.zip) Discussion on random access in SCG fast activation Futurewei discussion Rel-17 LTE\_NR\_DC\_enh2-Core [R2-2103153](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103153.zip)

[R2-2105140](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105140.zip) UE initiation of SCG re-activation request Apple Inc discussion Rel-17 LTE\_NR\_DC\_enh2-Core [R2-2103886](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103886.zip)

[R2-2105440](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105440.zip) Activation of deactivated SCG NTT DOCOMO INC. discussion Rel-17 LTE\_NR\_DC\_enh2-Core Late

[R2-2105548](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105548.zip) Discussion on UE behaviour when SCG is deactivated Spreadtrum Communications discussion Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2106058](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106058.zip) Remaining aspects concerning SCG activation procedure Samsung Telecommunications discussion Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2106108](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106108.zip) Activation of SCG LG Electronics discussion Rel-17 LTE\_NR\_DC\_enh2-Core [R2-2103570](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103570.zip)

[R2-2106258](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106258.zip) Discussions on activation of deactivated SCG CMCC discussion Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2106312](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106312.zip) Discussion on SCG activation SHARP Corporation discussion Rel-17 LTE\_NR\_DC\_enh2-Core [R2-2104170](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104170.zip)

#### 8.2.2.4 Other aspects of SCG activation/deactivation

This agenda item will be deprioritized during this meeting .

[R2-2104943](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104943.zip) Discussion on TRS activation for fast SCell activation OPPO discussion Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2106259](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106259.zip) Considerations for fast MCG link recovery with deactivated SCG CMCC discussion Rel-17 LTE\_NR\_DC\_enh2-Core

### 8.2.3 Conditional PSCell change / addition

No documents should be submitted to 8.2.3. Please submit to.8.2.3.x

#### 8.2.3.1 CPAC procedures from network perspective

Including discussion on CPAC configuration and execution details and Stage-2 signalling flows.

Including discussion on the design of inter-node messages (to answer RAN3 LS questions).

Including discussion on whether T-SN can add PSCell not proposed by S-SN.

Inter-node message design (to answer RAN3 LS questions).

[R2-2105988](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105988.zip) Inter-node message design (with draft reply LS to RAN3) Huawei, HiSilicon other Rel-17 LTE\_NR\_DC\_enh2-Core

*Proposal 1: In order to exchange per-PSCell parameter by reusing existing inter-node RRC message for CPAC, a list of CG-Config associated to each candidate PSCell should be sent from candidate SN to MN.*

*FFS if a list of CG-ConfigInfo from MN to candidate SN is needed. FFS if a list of CG-Config from source SN to MN is needed.*

*Proposal 2: RAN2 to specify a new inter-node message to include a list of CG-Config with each associated to one candidate PSCell for CPAC.*

*Proposal 3: If proposal 1 and 2 are agreed, RAN2 to inform RAN3 that one inter-node RRC container is to be needed for CPAC.*

*Proposal 4: Answer RAN3 that RAN2 would like execution conditions to be forwarded to the candidate target SN, as it can be useful for the candidate target SN to select candidate target PSCell. In such a case, alternative 2 would just require one additional parameter per candidate target PSCell.*

[R2-2105061](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105061.zip) Discussion on the inter-node message design CATT discussion Rel-17 LTE\_NR\_DC\_enh2-Core

*Observation 1: Extra signalling overhead would be introduced to exchange the execution condition received from the S-SN between the MN and the T-SN.*

*Observation 2: Considering the agreement that the MN generates the conditional reconfiguration message and the final RRC message containing the CPAC configuration, the complexity of the MN will not be decreased, even the association between the execution condition and the RRC configuration is performed by the T-SN.*

*Proposal 1: Alternative 1 should be used, i.e., MN performs the association between the execution condition received from the source SN and the RRC configuration of the candidate PSCell received from the candidate SN.*

*Proposal 2: From RAN2 point, one RRC container (CG-Config) for one PSCell should be used for inter-SN CPC initiated by MN or SN, and CPA.*

[R2-2104998](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104998.zip) Discussion on RAN3 LS on CPAC Nokia, Nokia Shanghai Bell discussion Rel-17 LTE\_NR\_DC\_enh2-Core

*Observation 1: Using separate containers for each CPC configuration is more flexible and follows the legacy conditional reconfiguration principles, where identifier links the condition and the container with the configuration to be applied if the condition is fulfilled.*

*Proposal 1: RAN2 concludes that in case multiple PSCells are prepared in one CPAC procedure, a separate RRC container is used for each PSCell configuration.*

*Observation 2: Alternative 2 from R3-211338 allows to avoid the case where the UE is provided with execution conditions for cells which are not accepted by the target SN.*

*Proposal 2: RAN2 is asked to discuss and confirm if Alternative 1 from R3-211338 is equivalent to ‘’…the MN generates the conditional reconfiguration message including the execution condition(s) provided by the source SN and RRCReconfiguration provided by the candidate PSCell…’’.*

*Proposal 3: For CPAC the MN performs the association between the execution condition received from the source SN and the RRC configuration of the candidate PSCell received from the candidate target SN.*

[R2-2105897](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105897.zip) Conditional PSCell Addition Change Ericsson discussion LTE\_NR\_DC\_enh2-Core

*Proposal 1 In MN-initiated CPC the MN determines the CPC execution conditions.*

*Proposal 2 For SN-initiated inter-SN CPC, SN provides to MN an SCG measConfig for CPC related measurements.*

*Proposal 3 As in legacy PSCell Change, target SN chooses the candidate target cells for CPC, e.g. based on measurements received from source SN. The selected cells may be the same cells or different cells than the source SN selected.*

*Proposal 4 Send an LS to RAN3 asking them about preferred solution for SN initiated inter-SN CPC.*

*Proposal 5 Multiple PSCell candidates are included in a single container in the inter-node signalling during CPAC procedures.*

*Proposal 6 The existing CG-Config message is extended to support configuration for multiple PSCell candidates in the S-NODE ADDITION REQUEST ACKNOWLEDGE message from target SN to MN at CPAC procedures.*

*Proposal 7 RAN2 to confirm that the MN is not required to forward the execution condition(s) to the target SN also in the SN initiated inter-SN CPC procedure.*

*Proposal 8 An LS should be sent to RAN3 to inform about the RAN2 decisions on inter-node RRC container design and handling of execution conditions at SN initiated inter-SN CPC procedure. A draft LS is provided in the Annex.*

* [Post114-e][231][R17 DCCA] Reply LS to RAN3 on CPAC (NN)

Scope: Provide reply to RAN3 LS [R2-2102642](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2102642.zip) based on decisions in this meeting.

Intended outcome: Approved LS

Deadline: Short

Can T-SN add PSCell not proposed by S-SN?

[R2-2104996](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104996.zip) SN-initiated Conditional PSCell Change – clarifications Nokia, Nokia Shanghai Bell discussion Rel-17 LTE\_NR\_DC\_enh2-Core

*Proposal 1: RAN2 confirms the source SN configuration needs to be updated in EN-DC case when UE uses per FR measurement gap and is to be configured with CPC.*

*Proposal 2: The source SN provides the execution conditions to the MN upon obtaining the information which cells have been ultimately prepared by the target SN.*

*Observation 1: There is no need for the network to update the measurement IDs if Solution 2 [2] is adopted, as the UE will receive the CPAC execution conditions only for the candidate cells that are prepared by target SN.*

*Observation 2: The target SN may consider more factors than just raw measurements (available at the source SN), such as admission control, load information, etc. in selecting the final candidate target cells.*

*Observation 3: Forcing the target SN to select from the list of suggested PSCells only may be especially problematic in inter-vendor deployment scenarios.*

*Observation 4: Forcing the target SN to select from the list of suggested PSCells is not optimal in intra-band contiguous spectrum deployment, where the UE might have been configured to measure just selected carriers while other are relevant from the load perspective.*

*Proposal 3: Target SN is allowed to select any candidate target PSCell for CPC, i.e. is not forced to choose from the list of cells and/or measurements provided by the source SN/MN.*

*Observation 5: Limiting the choice of the candidate target PSCells to the list of cells provided by the source SN/MN partially precludes the use of blind inter-SN CPC and can be against the RAN2#113bis agreement.*

[R2-2105202](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105202.zip) Remaining issues for source SN configuration update China Telecommunication discussion Rel-17 LTE\_NR\_DC\_enh2-Core

*Proposal 1: For candidate PSCell generation, T-SN can reject some of or all candidates received from MN which are suggested by MN or SN in CPAC, but shall not come up with alternative candidates.*

*Proposal 2: No need to introduce additional internode signalling between MN and S-SN to update the measurement configuration when the T-SN only accepts some of the candidate PSCells.*

[R2-2105792](C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_114-e\\R2-2105792.zip) Signaling aspects for SN-initiated CPC NEC discussion Rel-17 LTE\_NR\_DC\_enh2-Core

*Proposal 1: Target SN should select one of candidate cells provided by the source SN and is not allowed to propose alternative candidate cell in Rel-17.*

*Proposal 1a: If target SN does not find any suitable candidate cell within the candidate cells provided by the source SN, the target SN should reject the inter-SN CPC in Rel-17.*

*Proposal 2: RAN2 to take the solution 2 [2] as baseline for SN-initiated inter-SN CPC except for exact Xn messages which is up to RAN3.*

*Proposal 2a: MN provides the accepted candidate cells to the source SN upon receiving acknowledge for CPC from the target SN.*

*Proposal 3: RAN2 to discuss at Stage 3 whether the step 5 of Fig.1 is necessary, e.g. for the source SN to explicitly remove the execution condition for unselected candidate cell.*

*Proposal 4: Source SN provides the execution condition for each candidate cell when the source SN requests the inter-SN CPC to the MN.*

*Proposal 5: MN sends the SN Change Confirm (name is up to RAN3) to the source SN upon receiving the RRCReconfigurationComplete for inter-SN CPC.*

*Proposal 5a: RAN2 to leave it to RAN3 when/how to send a message to request the source SN to stop providing the data to the UE.*

[R2-2105989](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105989.zip) Source SN configuration update at or after SN-initiated CPC Huawei, HiSilicon discussion Rel-17 LTE\_NR\_DC\_enh2-Core

* Revised in [R2-2106436](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106436.zip)

[R2-2106436](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106436.zip) Source SN configuration update at or after SN-initiated CPC Huawei, HiSilicon discussion Rel-17 LTE\_NR\_DC\_enh2-Core [R2-2105989](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105989.zip) Late

*Observation 1: For CHO,*

*- the source configuration sent to target from the source does not include the measurement configuration specific to execution conditions, so that the target does not need to handle this part of configuration;*

*- the UE applies every source reconfiguration before CHO execution, but upon CHO execution, the UE removes the measurement configuration specific to execution condition from current source configuration and then applies target configuration.*

*Proposal 1: Source SN configuration update at SN-initiated inter-SN CPC configuration may requires UE capability/measurement coordination between the MN and the source SN, for which the legacy UE capability/measurement coordination mechanism is reused (and the MN can initiate an SN modification).*

*Observation 2: For CPC, the target SN cannot know the UE measurement results at the time of PSCell change, so the legacy SN method to select the target PSCell based on UE measurement results cannot work.*

*Observation 3: In SN-initiated CPC, the candidate target SN can understand the source SN configuration and the execution conditions, which can provide information on the candidate target PSCell measurement results at the time of CP execution.*

*Proposal 2: For SN-initiated CPC, the source SN provides the full measurement configuration, including execution conditions, to the candidate target SN, to help the candidate target SN decide which PSCell to admit and prepare.*

*Proposal 3: RAN2 to discuss which option to adopt for the UE handling of the measurement configuration specific to CPC execution conditions upon CPC execution:*

*- Option 1: the UE removes it autonomously like for CHO.*

*- Option 2: the target SN explicitly releases it in the target SN configuration (i.e. as part of the CPC configuration).*

*Proposal 4: Before CPC execution:*

*- The MN and S-SN can perform an RRC reconfiguration to update the UE (non-conditional) configuration (e.g. establish new radio bearers or RLC bearers in SN side) or the CPC configuration (e.g. remove currently configured candidate PSCells or add additional candidate PSCells).*

*- The MN should request the MN and the T-SN to update the target MN/SN configuration according to the new source MN/SN configuration.*

*Proposal 5: Only PSCells suggested by the source SN can be prepared for CPC. If a need is identified (FFS), the target SN could indicate to the source SN other PSCells that the source SN could ask to prepare in a later procedure.*

*Proposal 6: The UE does not need to perform measurements for conditional measId for which no PSCell is applicable as per the configured conditional configurations.*

*Proposal 7: The source SN can be informed of which of the proposed PSCells are prepared but any further modification of the source MN/SN configuration requires a later SN modification procedure (and possibly an update of the conditional configurations).*

[R2-2105506](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105506.zip) Further consideration on CPAC ZTE Corporation, Sanechips discussion Rel-17 LTE\_NR\_DC\_enh2-Core

CPAC configuration/execution and Stage-2 signalling flows:

[R2-2105830](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105830.zip) Discussion on CPAC procedures Lenovo, Motorola Mobility discussion Rel-17

*Observation 1 In the legacy, candidateCellInfoListSN IE is used to suggest cells for target SN to consider configuring.*

*Observation 2 For SN initiated inter-SN CPC, after receiving from target SN the list of candidate PSCells and their SN RRC configurations, by NW implementation, MN is able to determine if a prepared PSCell has execution condition provided by the source SN or not, and handles the relevant SN RRC configuration accordingly*

*a. For those prepared PSCells that have corresponding execution conditions, MN generates the MN RRC reconfiguration message including CPC execution condition and SN RRC reconfiguration.*

*b. For those prepared PSCells that do not have corresponding execution conditions (e.g. not suggested by the source SN), MN can buffer the relevant SN RRC reconfigurations and wait for possible execution condition update from source SN.*

*Observation 3 After being informed about the list of prepared PSCells, source SN may decide to provide additional execution condition or modify previously configured execution condition. Source SN may then trigger a SN modification required procedure.*

*Observation 4 Current inter-node RRC container design follows one PSCell one RRC container principle.*

*Proposal 1 As a baseline, for SN initiated inter-SN CPC, candidateCellInfoListSN IE is used to suggest cells for target SN to consider configuring.*

*Proposal 2 In SN initiated inter-SN CPC, target SN is allowed to prepare candidate PSCells that are not included in the cell list suggested by the source SN.*

*Proposal 3 Source SN triggers a SN modification required procedure if source SN decides to provide additional execution condition or modify previously configured execution condition.*

*Proposal 4 In SN initiated inter-SN CPC, MN is not mandated to wait for CPC execution condition update from source SN before sending CPC configuration to UE.*

*Proposal 5 RAN2 tries to agree that each RRC container only conveys configuration related to one PSCell.*

*Proposal 6 MN performs the association between the execution condition received from the source SN and the RRC configuration of the candidate PSCell received from the candidate SN.*

[R2-2106059](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106059.zip) CPAC stage 2 flow, progressing remaining issues Samsung Telecommunications discussion Rel-17 LTE\_NR\_DC\_enh2-Core

*Proposal 1: Adopt solution 1 as the baseline for R17 SN initiated inter SN CPC*

*Proposal 2: As baseline, assume a single value of the RRC information (as in CG-Config/ CG-ConfigInfo) i.e. one value common for all candidates*

*o Accept the limitation this imposes for capability coordination and radio bearer configuration*

*o Except for the execution conditions and the T-SN generated RRCReconfiguration messages i.e. these are per CPC candidate*

*Proposal 3: T-SN cannot suggest alternative CPC candidates i.e. outside list provided by S-SN*

*Proposal 4: Agree the following proposals remaining from* [*R2-2103109*](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103109.zip)*:*

*• P2: Do not introduce specification changes to facilitate or restrict support of blind CPAC*

*• P3: T-SN may not accept some of the candidates suggested by S-SN*

*• P5: Do not introduce specification changes to address cleanup of S-SN configuration related to CHO candidates not admitted by T-SN (i.e. can be left to network implementation, no need to specify UE behaviour)*

*Proposal 5: Agree the following somewhat modified proposals remaining from* [*R2-2103109*](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103109.zip)*:*

*• P6: MN sends SN change confirm after receiving ReconfigurationComplete from the UE. I.e. Further details regarding data forwarding aspects are left to RAN3*

*• P7: Baseline for RRC inter-node information needed in Xn messages*

*o SN Change Required*

* Existing content (i.e. as in single CG-Config RRC INM)*

* Add execution condition per candidate cell,*

*o SN Addition Request*

* Existing content (i.e. as in single CG-ConfigInfo RRC INM)*

*o SN Addition Request Acknowledge:*

* Existing content (i.e. as in single CG-Config RRC INM)*

* Add target cell configuration per accepted candidate cell*

*o SN change confirm*

* List of (not) accepted CPC candidates.*

[R2-2105060](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105060.zip) Discussion on the remaining issues for SN initiated inter-SN CPC CATT discussion Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2105012](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105012.zip) Discussion on the procedure of SN initiated CPC Futurewei discussion Rel-17 LTE\_NR\_DC\_enh2-Core [R2-2103155](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103155.zip)

[R2-2104997](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104997.zip) On CPAC Procedures and Further Functionalities Nokia, Nokia Shanghai Bell discussion Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2105260](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105260.zip) CPAC procedures from network perspective Qualcomm Incorporated discussion Rel-17

[R2-2105519](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105519.zip) Procedures in CPAC and conventional PSCell change ITRI discussion LTE\_NR\_DC\_enh2-Core [R2-2103354](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103354.zip)

#### 8.2.3.2 CPAC procedures from UE perspective

Including discussion on UE measurements for CPAC purposes.

Including discussion on signalling towards UE.

[R2-2105261](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105261.zip) CPAC procedures from UE perspective Qualcomm Incorporated discussion Rel-17

*Observation 1. In SN initiated Inter-SN CPC preparation, if MN does not forward to the source SN the PSCells accepted by target SN, the source SCG measurement configuration may have measIDs that are not in the CPC configuration.*

*Observation 2. In SN initiated Inter-SN CPC preparation, if MN forwards to the source SN the PSCells accepted by target SN, source SCG measurement configuration can be updated by the source SN so that the measIDs and measurement gaps in the source SCG configuration are the same as in the CPC configuration.*

*Proposal 1. In SN initiated Inter-SN CPC, UE performs measurements only according to the received CPC configuration.*

*Observation 3. A consequence of Proposal 1 and Observation 1 is that, if MN does not forward to the source SN PSCells accepted by target SN, the measIDs in source SCG configuration that are not present in the CPC configuration are ignored by the UE, i.e., UE does not perform measurements on them.*

*Proposal 2. Upon CPAC triggering, UE transmits an RRCReconfigurationComplete message to the MN over SRB1, including in the message:*

* A target PSCell identifier;*

* SN Reconfiguration Complete message for the target SN.*

[R2-2105990](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105990.zip) Uu RRC message design in CPAC Huawei, HiSilicon discussion Rel-17 LTE\_NR\_DC\_enh2-Core

*Observation 1 : For CPAC, the MN RRC(Connection)Reconfiguration message includes a list (execution condition, SN RRCReconfiguration message). For inter-SN CPC, the MN RRC(Connecton)Reconfiguration message may also include a source SN RRCReconfiguration message.*

*Proposal 1: For CPA and MN-initiated CPC, the MN RRC(Connection)Reconfiguration message includes a list of (execution condition, MN RRC(Connection)Reconfiguration message with an embedded SN RRCReconfiguration message). The UE will apply the MN RRC(Connection)Reconfiguration message (with the embedded SN RRCReconfiguration message) when CPAC is to be executed.*

*Proposal 2: For CPA and MN-initiated CPC, reuse the ConditionalReconfiguration Rel-16 IE in which condReconfigurationToApply/condRRCReconfig contains an MN RRC(Connection)Reconfiguration message with an embedded SN RRCRreconfiguration message.*

*Proposal 3: Discuss whether the Rel-16 conditionalReconfiguration parameter, which is used for CHO, can be reused for CPA and MN-initiated inter-SN CPC.*

*Proposal 4: For SN-initiated inter-SN CPC, each conditional reconfiguration is also an MN RRC(Connection)Reconfiguration message with an embedded SN RRCReconfiguration message (and upon execution the UE will apply the MN RRC(Connection)Reconfiguration message with the embedded SN RRCReconfiguration message) but the corresponding SN execution condition is provided in SN format not visible to the SN.*

*Proposal 5: Discuss whether to include the list of SN execution conditions in the source SN RRC message or as containers placed by the MN together with the corresponding conditional configuration.*

*Proposal 6: Upon execution of CPAC, ‎the UE sends the condReconfigId or the target PSCell ID to the MN.*

[R2-2105111](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105111.zip) Details in conditional PSCell change and addition Apple discussion Rel-17 LTE\_NR\_DC\_enh2-Core

*Proposal 1: To have one to one mapping between SCG and MCG configuration in CPC configuration.*

*Proposal 2: It’s preferred that NW indicates UE whether to store or release CPAC configuration in legacy HO CMD message.*

*Proposal 3: For data loss due to the different time point between UE and NW on applying the new configuration, we can rely on PDCP recovery and no new mechanism is needed.*

*Proposal 4: Explicitly indicates the physical cell ID associated with each set of condExecutionCond and condRRCReconfig.*

*Proposal 5: The CHO and CPAC configurations are independent and UE monitors the triggering conditions for the CHO and CPAC independently.*

[R2-2104914](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104914.zip) Discussion on the configuration of CPAC vivo discussion Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2105507](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105507.zip) Further discussion on CPAC ZTE Corporation, Sanechips discussion Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2105898](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105898.zip) UE procedures and signalling for CPAC Ericsson discussion LTE\_NR\_DC\_enh2-Core

#### 8.2.3.3 Other CPAC aspects

This agenda item may be deprioritized in this meeting.

Including discussion on CPAC failure handling.

Including discussion on CPAC co-existence with CHO.

[R2-2104915](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104915.zip) Discussion on CAPC simultaneous with CHO vivo discussion Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2105262](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105262.zip) Other CPAC aspects Qualcomm Incorporated discussion Rel-17

[R2-2105444](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105444.zip) Failure handling of Conditional PSCell Addition DENSO CORPORATION discussion Rel-17 LTE\_NR\_DC\_enh2-Core [R2-2102950](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2102950.zip)

[R2-2105518](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105518.zip) SCG RLF recovery in case CPC is configured ITRI discussion LTE\_NR\_DC\_enh2-Core [R2-2103355](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103355.zip)

[R2-2105799](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105799.zip) Coexistence of CHO and CPC InterDigital, Nokia, Nokia Shanghai Bell, ZTE Corporation, Sanechips discussion Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2105831](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105831.zip) Miscellaneous issues on CPAC Lenovo, Motorola Mobility discussion Rel-17

[R2-2106260](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106260.zip) Combination of CPAC and CHO CMCC discussion Rel-17 LTE\_NR\_DC\_enh2-Core

## 8.3 Multi SIM

(LTE\_NR\_MUSIM-Core; leading WG: RAN2; REL-17; WID: RP-210316)

Time budget: 0.5 TU

Tdoc Limitation: 3 tdocs

Email max expectation: 3 threads

### 8.3.1 Organizational, Requirements and Scope

Including LSs and any rapporteur input.

### 8.3.2 Paging collision avoidance

Including discussion on whether UE assistance information is needed for paging collision avoidance

Including discussion on whether RAN2 can make the UE behaviour predictable for paging collision avoidance

Web Conf (Thursday 1st week) (20)

[R2-2106343](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106343.zip) Paging collision avoidance for MUSIM device MediaTek Inc. discussion LTE\_NR\_MUSIM-Core [R2-2104151](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104151.zip)

*Observation 1: The probability of paging collision in current network is low and there is UE implementation method to solve it.*

*Proposal 1: RAN2 confirms that 5G-GUTI reassignment (solution 1) could be used for paging collision avoidance and no additional assistant information is needed.*

*Proposal 2: RAN2 confirms selecting which networks to trigger paging collision avoidance is up to UE implementation. Specific rule to make predictable UE behavior is not necessary.*

[R2-2105227](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105227.zip) RAN Impacts for paging collision avoidance solutions for Multi-SIM Nokia, Nokia Shanghai Bells discussion Rel-17

*Proposal 1: NAS Signalling message reporting paging collision should also include assistance information for Network action to avoid paging collision.*

*Proposal 2: UE behaviour on collision handling from the time of collision detection until it is resolved by network should be specified.*

*Observation 1: Paging collision situation is different for RRC\_IDLE and RRC\_INACTIVE as the paging configuration is different for each of the states.*

*Proposal 3: RAN2 to consider supporting assistance information in RRC signalling to avoid paging collision on transition to RRC\_INACTIVE state.*

Discussion

- Lenovo wonders if we agreed already to UE informing NW? QC clarifies we did.

**Show of hands: Do we have (AS or NAS) UE assistance information (in addition to informing NW of need for coordination) for paging collision?**

1) Yes: QC, Lenovo, OPPO, LGE, Nokia, ASUSTek, NEC, Samsung , Apple, APT, DENSO, Sharp vivo (NAS), CMCC, Charter (15)

2) No: Xiaomi, Huawei, Intel, CATT, Vdf, ZTE, MTK, CT, Spreadtrum (9)

* **CB 2nd week Thu: Decide which way to go.**
* Email [240] (vivo): Discuss whether and which assistance information is needed

[R2-2105258](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105258.zip) Options for paging collision avoidance Qualcomm Incorporated discussion

*Observation 1: Only reporting the existence of a paging collision will not be sufficient to find a robust and optimum solution for the problem.*

*Observation 2: The UE has the best knowledge of the collision details and accordingly can have preference for the new target PO locations.*

*Observation 3: A simple re-allocation of GUTI may not be an efficient solution in all scenarios.*

*Observation 4: A paging instance on one USIM which triggers a new GUTI can cause a paging collision problem.*

*Observation 5: One option to make GUTI re-allocation based solutions is for the UE to request a range of GUTI(s) based on the desired last 10 bits.*

*Proposal 1: In the NAS report of paging collision problem, the UE can include additional information for the resolution, such as suggested PO or GUTI offset, to help determine a new PO for the UE.*

*Proposal 2: For NAS based solutions, RAN2 to consider a new ID offset parameter which is added to 5G-S-TMSI in PO calculation. The AMF allocates this along with GUTI and the UE can request a range for the value of this parameter.*

*Proposal 3: For NAS/AS based solutions, AMF informs the paging collision problem and any additional information to the gNB.*

*Proposal 4: RAN2 to consider introducing different PF/PO offset(s) which are used by UE(s) that report paging collision problem to the NW.*

[R2-2104764](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104764.zip) Paging Collision Avoidance OPPO discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2104970](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104970.zip) Paging collision avoidance for MUSIM device Asia Pacific Telecom, FGI discussion

[R2-2104991](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104991.zip) On Paging Collision Avoidance Solution Samsung discussion

[R2-2105075](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105075.zip) Definition and solution for paging collision, RRC Inactive, SI change Lenovo, Motorola Mobility discussion LTE\_NR\_MUSIM-Core

[R2-2105084](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105084.zip) MUSIM Page Collision Avoidance Apple discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105164](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105164.zip) Consideration on the Paging Collision ZTE Corporation, Sanechips discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105194](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105194.zip) Further Consideration on Paging Collision Avoidance CATT discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105269](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105269.zip) Paging Collision avoidance vivo discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105374](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105374.zip) UE indication of paging collision for Multi-SIM ASUSTeK discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105682](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105682.zip) Discussion on paging collision avoidance in Multi-SIM Sony discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105899](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105899.zip) Paging Collision Avoidance for Multi-SIM Charter Communications, Inc discussion

[R2-2105917](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105917.zip) Paging Collision Avoidance Open Issues Huawei, HiSilicon discussion Rel-17

[R2-2105978](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105978.zip) Paging collision avoidance Ericsson discussion

[R2-2106101](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106101.zip) 36.304 change for SA2 agreed NAS based IMSI offset signaling in EPS Intel Corporation discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2106102](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106102.zip) 5G-S-TMSI re-assignment is “enough” for paging collision avoidance in 5GS Intel Corporation discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2106109](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106109.zip) Considerations on Paging Collision LG Electronics discussion Rel-17 LTE\_NR\_MUSIM-Core [R2-2103572](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103572.zip)

[R2-2106398](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106398.zip) Discussion of the paging collision problem in 5GS Xiaomi Communications discussion

Email discussions ([240])

* [AT114-e][240][MUSIM] UE assistance information of paging collision (vivo)

Scope:

* + - Discuss whether and which UE assistance information is needed for avoiding paging collision in MUSIM
    - Should explain what happens if 1) if no assistance information is provided and 2) if assistance information is provided

Intended outcome:

* + - Discussion summary in [R2-2106502](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106502.zip) (by email rapporteur).

Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Initial deadline (for company feedback): 2nd week Tue, UTC 1000
    - Initial deadline (for rapporteur summary): 2nd week Wed, UTC 1000

Web Conf 2nd week (summary of [240])

[R2-2106502](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106502.zip) Summary of [240][MUSIM] UE assistance information of paging collision (vivo) vivo discussion Rel-17 LTE\_NR\_MUSIM-Core

### 8.3.3 UE notification on network switching for multi-SIM

Including discussion on whether we use AS or NAS signalling for the network switching for MUSIM purpose

Including discussion on whether we can have one unified mechanism for all network switching cases (and e.g. which messages are required in which case)

[R2-2105257](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105257.zip) Network switching procedures for Multi-SIM Qualcomm Incorporated discussion

*Observation 1: NR/5GC is the main focus for specification efforst for network switching solutions.*

*Observation 2: Switching while staying in Connected state is more suitable for short duration events such as paging reception or RNAU on the other USIM.*

*Observation 3: Switching by leaving Connected state is more suitable for long duration events, such as a voice call, on the other USIM.*

*Observation 4: Both AS and NAS based solutions are feasible for network switching while leaving Connected state.*

*Proposal 1: RRC signaling for network switching in Connected state should allow multiple configurations of periodic and aperiodic “gaps” with different parameters (e.g. periodicities and durations).*

- Xiaomi supports P1. LGE thinks UE doesn't know the service so network may not provide good enough gap configurations if it has multiple gaps. DualSIM UE only supports service in one network so only one gap is needed. Lenovo thinks multiple gaps are not active at the same time. QC clarifies that we need multiple for both periodic and aperiodic. Whether they are activated at the same time depends on use case.

- OPPO has sympathy but network has to configure gaps correctly and one gap could be enough and all should be active at the same time. Huawei agrees. Samsung agrees wtih OPPO and think P4 is important as well.

- Apple wonders if this is only for short-switching? QC clarifies this is the case.

- Apple wonders if multiple active gaps would mean both periodic and aperiodic could be on at the same time? QC clarifies that e.g. paging reception and RNAU could have different gap patterns. UE would need to renegotiate otherwise.

- Huawei wonders what "short-switching" means? Does UE have to establish two RRC connections simultaneously with that? If UE has to do that in NW B, it has to leave RRC in NW B. QC clarifies the time is short enough that RLF doesn't occur. Ericsson agrees with Huawei and thinks we should use "NW switching without leaving RRC connected". Nokia thinks if the gap is short enough we can use short aperiodic gaps.

- Ericsson thinks multiple gaps may not be needed depending on NW behaviour. Could also handle periodic and aperiodic jointly. Nokia thinks multiple gaps are needed since different networks have different configurations.

- ZTE thinks the periodic gap is for paging reception or measurements. Why would we need multiple aperiodic gaps? QC clarifies only one would be active at one time. ZTE wonders how this is possible? QC thinks UE knows how long at most it needs and inform this to network via MAC CE. Otherwise UE may need to repeat this multiple times.

- Charter supports P1 and P4. Two RRC connections may be needed sometimes but this needs further discussion. China Telecom supports P1 and thinks multiple active gaps are necessary. UE can have multiple tasks with different periodicities.

- vivo supports P1 and thinks we can discuss if we can combine the configurations.

- Apple supports P4.

- ZTE wonders which happens first: P1 or P4? Samsung thinks P4 comes first and then P1, i.e. UE first gives assistance information.

* 1: RRC signaling for network switching without leaving RRC\_Connected state should allow multiple configurations of periodic “gaps” with different parameters (e.g. periodicities and durations). FFS is multiple can be active at the same time. FFS if multiple aperiodic gaps are supported.
* 4: UE provides assistance information to the gNB of NW A in Connected state based on the configuration of USIM of NW B for the gNB to determine the necessary switching parameters. Up to network what is the action based on UE assistance information. FFS what assistance information is needed.

*Proposal 2: MAC signaling can be used to activate/deactivate configurations of network switching in Connected state.*

*Proposal 3: RAN2 can consider enhancements to optimize the switching operation such as early termination or extension of the gap via MAC signaling.*

*Proposal 4: UE provides assistance information to the gNB in Connected state based on the configuration of other USIM for the gNB to determine the necessary switching parameters.*

*Observation 4: Both AS and NAS based solutions are feasible for network switching while leaving Connected state.*

*Proposal 5: RAN2 to discuss and coordinate with SA2 on using AS or NAS based solutions or both when the UE prefers to leave RRC Connected state during network switching.*

Support AS vs. NAS for NW switching with leaving RRC\_CONNECTED

AS: LGE, vivo, Xiaomi, QC, MTK, CMCC, Apple, CATT , CT, DENSO, Huawei, Nokia, Vdf, Lenovo, ASUSTek, OPPO Intel, Spreadtrum, Sharp (19)

NAS: OPPO, QC, Charter, Ericsson, CT, ZTE, NEC, Samsung (8)

* We support at least AS-based solution (with AS-based response) for network switching while leaving RRC\_Connected state in NW A. FFS if this may include NAS information

- ZTE thinks CT1 is discussing paging filtering assistance via NAS. Charter thinks NAS-based solution is needed for selective suspend. Nokia thinks NAS information can be included in assistance information. Samsung wonders if we need to send LS to SA2.

* Email [241] (QC): Discuss LS to SA2/CT1 to inform them of RAN2 decision (CB in 2nd week Thu session)

*Proposal 6: If RRC signaling is used for switching from Connected state, the UE is allowed to enter Inactive state (assuming this was the UE preference) if it does not receive a response message from the gNB.*

[R2-2105900](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105900.zip) Network Switching Solutions for Multi-SIM Charter Communications, Inc discussion

*Proposal 1: RAN2 should consider using existing procedures, such as measurement gaps, to address short-time switching. FFS possibility to enhance the gap length, periodicity and offset.*

*Proposal 2: To address various tasks for short-time switching, a UE may be configured with multiple measurement gaps with various attributes. Each measurement gap may be activated/activated via MAC CE.*

*Proposal 3: Similar to periodic short-time switching procedure, measurement gap procedure may be used for one-shot/aperiodic short-time switch.*

*Proposal 4: MAC signalling maybe used for activation of a previously-configured measurement gap so that the UE performs a one-shot/aperiodic short-time switch.*

*Proposal 5: UE autonomously transitioning from Connected mode to RRC Idle/Inactive mode (in the first network) impacts the network negatively, hence autonomous transition to RRC\_IDLE should either be entirely avoided, or if permitted it should occur after a long enough period to avoid frequent UE switching to RRC\_IDLE without the network knowledge.*

*Observation 1: During a long-time switch to a second network, an RRC-based procedure is ineffective in properly suspending specific PDU sessions in the first network, without breaking layer separation.*

*Proposal 6: For a selective suspension of PDU sessions in the first network in a long-time switch, NAS-based solution is preferred. Hence, we suggest that RAN2 to inform SA2 of such preference.*

Discussion

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[R2-2104765](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104765.zip) UE Notification on Network Switching for Multi-SIM OPPO discussion Rel-17 LTE\_NR\_MUSIM-Core

*Proposal 1: For the case when the UE has a preference to be kept in RRC\_CONNECTED state in network A, the wanted gap window info can be included in the network switching request message to network A.*

*FFS: The details of the wanted gap window info.*

*Proposal 2: For the case when the network A has a preference to keep UE in RRC\_CONNECTED state in network A after UE switching to network B, at most one additional gap configuration is configured to UE in network switching response message if the available measurement gap info is not workable.*

*Proposal 3: The additional gap configuration in network switching response message is activated immediately once received, i.e. No MAC signaling is needed for the additional gap configuration activation.*

*Proposal 4: For the case when the network A has a preference to keep UE in RRC\_CONNECTED state in network A after UE switching to network B, RRCReconfiguration message is reused as the network switching response message.*

*Observation: For the case when the UE has a preference to leave RRC\_CONNECTED state in network A, it’s network A implementation to put UE into RRC\_IDLE or RRC\_INACTIVE within a certain configured time period.*

*Proposal 5: For the case when the UE has a preference to leave RRC\_CONNECTED state in network A, UE shall enter RRC\_IDLE state if it does not receive response message from network within a certain configured time period.*

*Proposal 6: For the case when the UE has a preference to leave RRC\_CONNECTED state in network A, the RRCRelease message is reused as the switching response message.*

*Proposal 7: For the case when the UE has a preference to leave RRC\_CONNECTED state in network A, the UE reuses the current RRC signaling to inform network A of its leaving, i.e. reusing UEAssistanceInformation message including preferredRRC-State.*

*Proposal 8: A common RRC notification message, i.e. UEAssistanceInformation, can be used for all network switching cases.*

*Proposal 9: No network configured gap threshold is introduced, it’s up to UE implementation to differentiate the following two cases:*

*Case1: when the UE has a preference to be kept in RRC\_CONNECTED state in network A.*

*Case2: when the UE has a preference to leave RRC\_CONNECTED state in network A.*

*Proposal 10: Postpone the discussion for busy indication before receiving the response from other groups.*

[R2-2105437](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105437.zip) Open issues on network switching for Multi-USIM devices Samsung Electronics Co., Ltd discussion Rel-17 LTE\_NR\_MUSIM-Core

*Proposal 1: UE Assistance information procedure is used to provide scheduling gap assistance information for switching procedure without leaving RRC\_CONNECTED state.*

*Proposal 2: RRC reconfiguration procedure is used to (re-)configure switching gap configuration based on reception of the UEAssistanceInformation message for switching procedure without leaving RRC\_CONNECTED state.*

*Proposal 3: Introduce dedicated scheduling gap configuration for switching procedure without leaving RRC\_CONNECTED state.*

*Proposal 4: Common switching procedure is used for any kind of temporary activities (e.g. periodic and/or one-shot) on network B without leaving RRC\_CONNECTED state in network A.*

*Proposal 5: Configuration of one or multiple scheduling gap(s) is supported. Each scheduling gap can be periodic or one-shot.*

*Proposal 6: UE can inform network A of its preference to release (part of) configured scheduling gap(s) used for temporarily switching to network B via UEAssistanceInformation message.*

*Proposal 7: RAN2 to discuss on the need of MAC signalling after working on RRC signalling based switching procedure without leaving RRC\_CONNECTED state, if time allows.*

*Proposal 8: RAN2 to discuss which UE behavior is supported during switching procedure without leaving RRC\_CONNECTED state:*

*- Option 1: UE always initiates switching procedure for leaving RRC\_CONNECTED state in network A if it needs to perform any transmission in network B.*

*- Option 2: UE suspends any transmission and stays in RRC\_CONNECTED state in network A while performing any transmission in network B during the configured scheduling gap, if possible.*

*Proposal 9: RAN2 agrees that only NAS signalling (e.g. Service request message) is used to support switching procedure for leaving RRC\_CONNECTED state in NR/5GS and E-UTRA/5GS.*

*Proposal 10: Do not support autonomous state transition from RRC\_CONNECTED state to RRC\_INACTIVE state during switching procedure for leaving RRC\_CONNECTED state.*

*Proposal 11: RAN2 to discuss whether to introduce new timer for autonomous UE state transition during switching procedure for leaving RRC\_CONNECTED state.*

[R2-2105226](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105226.zip) Scenarios and Requirements for switching notification procedure Nokia, Nokia Shanghai Bells discussion Rel-17

*On Switching Procedure without leaving connected state*

*Observation 1: For idle mode paging monitoring and measurements at NTWK-B periodic gaps with fixed and flexible gap locations for temporary short switching is needed at NTWK-A.*

*Observation 2: For signalling procedures associated with other idle mode operations, such as TAU/RAU or BUSY indication, temporary gap for both TX/RX operations of NTWK-A is required based on UE indication for such gap.*

*Observation 3: One-time temporary gap for RX operation may be required at NTWK-A for UE to complete the idle mode mobility procedure at NTWK-B.*

*Proposal 1: Network configures the gaps for temporary switching based on reception of Gap-Assistance-Information from UE.*

*Proposal 2: Gap-Assistance-Information includes the periodicity of gap and Fixed-gap-location needed for PO monitoring. FFS whether UE needs to provide additional assistance information for flexible gap configuration including the SMTC window.*

*Proposal 3: RAN2 support configuration of periodic gap with more than one gap pattern from NTWK-A towards MUSIM UE for the temporary switching for idle mode operation at NTWK-B.*

*Proposal 4: RAN2 to consider the adaptation of gap duration without change of periodicity using lower layer signalling mechanism.*

*Proposal 5: RAN2 to provide signalling mechanisms to allow the UE’s early return and NTWK-As possibility to schedule traffic in the remaining (non-used) part of the gap.*

*Proposal 6: RAN2 to provide means to partially accept a requested gap by directly configuring gap with reduced periodicity/time or provide assistance information along with the reject to UE and allow the UE to request different pattern.*

*On Switching Procedure for leaving connected state*

*Observation 4: Both AS and NAS level communication is needed to indicate leave on RRC connection.*

*Observation 5: In some scenarios, the UE may need to start the connection setup procedure quickly due to latency requirements without waiting for network response even for a preconfigured time.*

*Proposal 7: Leave indication for UE switching to NTWK-B without response from NTWK-A should be supported to minimize the delay in switching to another network for connection establishment.*

*Proposal 8: RAN2 discuss the RRC Configuration of the UE behaviour when it switches from NTWK-A without waiting for network response.*

*Proposal 9: RAN2 to discuss pre-configuration of the UE with the state the UE should move to after providing leave indication.*

[R2-2105165](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105165.zip) Consideration on the Switching Notification Procedure ZTE Corporation, Sanechips discussion Rel-17 LTE\_NR\_MUSIM-Core

*Observation 1: For long leaving procedure, if the upper layer need to transmit some assistance information to the network, it shall be left to the CN to make the final decision, e.g. the CN shall have right to accept or reject the release requirement.*

*Proposal 1: Send an LS to SA2 to confirm whether the UE needs to send upper layer assistance information (e.g.MT restriction info) to the network when the UE want to leave the connected state.*

*Proposal 2: If SA2 confirm that the UE needs to send upper layer assistance information (e.g.MT restriction info) to the network, the NAS signaling based procedure shall be adopted.*

*Observation 2: The one-shot short time switching can be triggered by the following cases, while the periodic short-time switching can be triggered by paging or by serving cell/neighbor cell measurements*

* SIB1 receiving or the Other SI receiving of the neighbor cells/Serving cell.*

* Upper layer triggered CP plane procedure, e.g. Registration, Other MO signalling e.g.SMS. RRC triggered CP plane procedure, such as RAU.*

* Ran/CN paging response (e.g. busy indication).*

*Proposal 3: For the gap pattern, the UE shall indicate the duration of the Gap, the gap start time, gap repetition period, and the reference SCS or take the SCS of initial BWP of network A as reference SCS.*

*Proposal 4: The UE may require multiple gap patterns for the different purposes.*

*Proposal 4.1: The UE shall also indicate the purpose/usage for each gap pattern, then the network can assign the Gap selectively, e.g. give the Gap for paging with the highest priority.*

*Observation 3: There are 3 Gap type options for the one-shot short-time switching:*

* Option 1: Scheduled Gap, the Gap length equals to the short-time switching duration, during the Gap the network shall avoid both DL and UL scheduling;*

* Option 2: Scheduled Gap with TDM pattern, which is similar to the measurement GAP, the network A reserve the Gap periodically during the Scheduled Gap;*

* Option 3: Autonomous Gap, during the Gap, just as some legacy MUSIM UE has done, it’s left to the UE implementation on how to communicate with 2 networks.*

*Proposal 5: Ran2 to discuss which kind of Gap to be adopted for one-shot short-time switching first.*

*Proposal 6: If the communication with the network B can’t be finished before the gap, the UE shall abort the on-going procedure of the network B and back to the network A.*

*Proposal 7: The UE shall inform the network B that it was at short-time switching procedure on the other network, then the network B can avoid to trigger the mobility (e.g. handover, redirection), measurement and DC related procedures.*

*Proposal 8: A Return message from the UE to the network is not needed for one-shot short-time switching in case of the early return.*

[R2-2105085](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105085.zip) MUSIM Network Switching Apple discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105086](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105086.zip) MUSIM Band Conflict and RRC Processing Delay Requirements Apple discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105195](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105195.zip) Further Consideration on Network Switching CATT discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105196](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105196.zip) Analysis on UE switching without leaving RRC\_CONNECTED state China Telecommunications discussion

[R2-2105201](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105201.zip) Network switching consideration of Multi-SIM China Telecommunication discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105270](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105270.zip) Open Issues on Switching Notification vivo discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105375](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105375.zip) MUSIM Release Assistance Info for network switching ASUSTeK discussion Rel-17 LTE\_NR\_MUSIM-Core [R2-2103452](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103452.zip)

[R2-2105442](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105442.zip) Signalling design on short time switching procedure DENSO CORPORATION discussion Rel-17 LTE\_NR\_MUSIM-Core [R2-2102940](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2102940.zip)

[R2-2105445](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105445.zip) Procedures for MSIM UE notification on network switching Futurewei Technologies discussion [R2-2103957](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103957.zip)

[R2-2105449](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105449.zip) UE notification procedure for short time switching NEC discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105450](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105450.zip) Open issues on network switching procedures DENSO CORPORATION discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105683](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105683.zip) Discussion on Busy Indication in Inactive State Sony discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105684](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105684.zip) Discussion on Leaving in MultiSIM Sony discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105719](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105719.zip) On coordinated switch from NW for MUSIM device Huawei, HiSilicon discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105823](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105823.zip) Switching notification and busy indication Lenovo, Motorola Mobility discussion Rel-17

[R2-2105977](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105977.zip) Discussion on switching mechanisms for a Multi-USIM device Ericsson discussion

[R2-2106110](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106110.zip) Considerations on SIM Swithcing LG Electronics discussion Rel-17 LTE\_NR\_MUSIM-Core [R2-2103573](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103573.zip)

[R2-2106212](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106212.zip) RRC based Switching Notification for leaving RRC\_CONNECTED Sharp discussion

[R2-2106215](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106215.zip) RNAU Handling in MUSIM Sharp discussion

[R2-2106351](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106351.zip) Network switching behavior for MUSIM device MediaTek Inc. discussion LTE\_NR\_MUSIM-Core [R2-2104154](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104154.zip)

[R2-2106399](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106399.zip) Discussion of the UE notification on network switching for multi-SIM Xiaomi Communications discussion

Email discussions ([241])

* [AT114-e][241][MUSIM] LS to SA2/CT1 on network switching for leaving RRC\_CONNECTED (Qualcomm)

Scope:

* + - Draft LS to SA2/CT1 to inform them of the RAN2 decision to support at least AS-based solution (with AS-based response) for network switching while leaving RRC\_Connected state in NW A (FFS if this may include NAS information).

Intended outcome:

* + - Discussion summary in [R2-2106503](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106503.zip) (by email rapporteur).
    - Draft LS to SA2/CT1 in [R2-2106504](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106504.zip) (by email rapporteur).

Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Initial deadline (for company feedback): 2nd week Tue, UTC 1000
    - Initial deadline (for rapporteur summary and final draft LS): 2nd week Wed, UTC 1000

Web Conf 2nd week (summary of [241])

[R2-2106503](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106503.zip) Summary of [241][MUSIM] LS to SA2/CT1 on network switching for leaving RRC\_CONNECTED (Qualcomm) Qualcomm Incorporated discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2106504](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106504.zip) Draft LS on network switching for leaving RRC\_CONNECTED Qualcomm Incorporated LS out Rel-17 LTE\_NR\_MUSIM-Core To:SA2, CT1

### 8.3.4 Paging with service indication

This agenda item may be deprioritized in this meeting.

Including details of the paging cause value support and, if necessary, discussion on additional feedback to SA2

Including

[R2-2104766](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104766.zip) Paging with Service Indication OPPO discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105163](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105163.zip) Further analysis on introduction of paging cause China Telecommunications discussion Rel-17

[R2-2105166](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105166.zip) Consideration on the Service Indication ZTE Corporation, Sanechips discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105228](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105228.zip) On Service type indication in Paging for EPS And RAN impacts of NAS-BUSY-Indication for RRC-INACTIVE Nokia, Nokia Shanghai Bells discussion Rel-17

[R2-2105259](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105259.zip) Paging Prioritization for MUSIM Qualcomm Incorporated discussion

[R2-2105271](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105271.zip) Including Paging Cause in Paging Message vivo discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105420](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105420.zip) Discussion on support of paging cause for Multi-USIM devices Samsung Electronics Co., Ltd discussion LTE\_NR\_MUSIM-Core

[R2-2105451](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105451.zip) Discussion on paging service indication for MUSIM Futurewei Technologies discussion [R2-2103958](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103958.zip)

[R2-2105541](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105541.zip) Discussion on the transmission of paging cause Spreadtrum Communications discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105542](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105542.zip) Supporting of Paging Cause Solution detection Spreadtrum Communications discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2105921](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105921.zip) Discussion on the paging with service indication Huawei, HiSilicon discussion Rel-17

[R2-2105979](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105979.zip) Introduction of a Paging cause indication Ericsson discussion

[R2-2106103](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106103.zip) Solution analysis for supporting Multi-SIM paging cause Intel Corporation discussion Rel-17 LTE\_NR\_MUSIM-Core

[R2-2106111](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106111.zip) Support of Paging Cause LG Electronics discussion Rel-17 LTE\_NR\_MUSIM-Core [R2-2103574](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2103574.zip)

[R2-2106353](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106353.zip) Paging with service indication MediaTek Inc. discussion LTE\_NR\_MUSIM-Core [R2-2104158](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104158.zip)

[R2-2106401](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106401.zip) Detailed methods of the paging cause support for MUSIM Xiaomi Communications discussion

## 8.8 RAN slicing

(NR\_Slice -Core; leading WG: RAN2; REL-17; WID: RP-210912)

Time budget: 0.5 TU

Tdoc Limitation: 2 tdocs

Email max expectation: 2 threads

### 8.8.1 Organizational

Rapporteur input

Including discussion on whether SMBR enforcement can impact SA2 work (postponed in RAN2#113bis-e, see [R2-2103647](C:\\Users\\terhentt\\Documents\\Tdocs\\RAN2\\RAN2_114-e\\R2-2103647.zip)) - 1 Tdoc per company allowed (does not count against Tdoc limit)

Web Conf (Thursday 1st week) (6)

SMBR enforcement:

[R2-2105942](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105942.zip) SMBR enforcement in RAN Ericsson discussion Rel-17 NR\_slice-Core

*Observation 1 The availability of features to map logical channels to specific resources shall not be assumed to be generally available, and the availability may vary during the lifetime of the RRC Connection.*

*Observation 2 allowedServingCells supports SMBR enforcement for, at best, two slices only.*

*Observation 3 allowedSCS-List disable support for multiplexing within a given slot, reducing resource utilization and end-user performance.*

*Observation 4 maxPUSCH-Duration does not support SMBR enforcement. Impacts the resource utilization due to added overhead.*

*Observation 5 configuredGrantType1Allowed does not support SMBR enforcement as dynamic grants can be used by all LCHs.*

*Observation 6 allowedCG-List.can when used for SMBR enforcement result in poor resource utilizations and prevent efficient multiplexing of data.*

*Observation 7 allowedPHY-PriorityIndex supports SMBR enforcement for two slices only.*

*Proposal 1 Send LS to SA2 indicating that a solution for SMBR enforcement in RAN by configuring different resources per slice is a solution that can only be used in certain cases, as per the observations in this contribution.*

[R2-2106418](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106418.zip) SMBR enforcement in RAN Intel Corporation discussion Rel-17 NR\_slice-Core

*Observation #1: RAN can measure the SMBR for each slices even if there is no resource isolation.*

*Observation #2: There are tools available in RAN to perform SMBR enforcement without having to perform total resource isolation of the slices.*

*Proposal: Current RAN mechanisms are sufficient for SMBR enforcement in RAN.*

Discussion

- Lenovo thinks that there are some limitations as Ericsson points out but is not sure how strictly SMBR enforcement has to be. If it's not very strict, the view from Intel is also valid. Futurewei has some sympathy for Ericsson view for short-term time scale but we already concluded this during SI. What should be said in LS to SA2? Samsung has similar thoughts as Futurewei but thinks we don't need more optimized mechanisms. Ericsson thinks we should respond to SA2 that RAN2 should be allowed to "not always" provide SMBR enforcement. Intel wonders if this means "strict" (short-term) enforcement or whether it's the long-term enforcement? Ericsson thinks SA2 likely doesn't discriminate.

- CMCC agrees with Intel and sees no reason to change SI conclusion. Nokia agrees and thinks that as Ericsson shows, there are different options that allow different kinds of differentiation. QC agrees and thinks this is SA2 matter. No need to do anything in RAN2.

- Ericsson thinks we should document these in Stage-2 and this has not been done. Even if there are different mechanisms but thinks it's strange that RAN uses these for SMBR enforcement.

* Can consider documenting SMBR enforcement in Stage-2 as conclusion of the slicing WI.

[R2-2105239](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105239.zip) Discussion on Uplink SMBR enforcement Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_slice-Core

[R2-2106155](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106155.zip) Discussion on SMBR enforcement Huawei, HiSilicon discussion Rel-17 NR\_slice-Core

[R2-2106223](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106223.zip) Discussion on SMBR enforcement in RAN CMCC discussion Rel-17 NR\_slice

[R2-2106374](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106374.zip) UL SMBR enforcement Samsung discussion Rel-17

Withdrawn:

[R2-2106373](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106373.zip) UL SMBR enforcement Samsung discussion Rel-17 Withdrawn

[R2-2104744](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104744.zip) Discussion on SMBR enforcement Qualcomm Incorporated discussion Rel-17 NR\_slice-Core Withdrawn

[R2-2104743](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104743.zip) Draft LS to SA2 on slice grouping and slice priority Qualcomm Incorporated LS out Rel-17 NR\_slice To:SA2 Withdrawn

### 8.8.2 Cell reselection

As 1st priority, including details of slice availability in terms of Slice grouping and frequency priority information for broadcast and RRC Release message, usage of “intended slice” (FFS whether we use this term in specification), UE prioritisation of slice when there is more than one intended slice and how UE determines frequency priority for inter-frequency cell reselection based on these.

As 2nd priority, including details of slice based reselection for MO, different RSRP/RSRQ thresholds for inter and intra-frequency slice based cell reselection, need for Validity area in RRC Release

Web Conf (Thursday 1st week) (22)

[R2-2105203](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105203.zip) Discussion on frequency priority for inter-frequency cell reselection China Telecommunication discussion Rel-17

*Proposal 1: When determining frequency priority for inter-frequency cell reselection, the UE can first identify candidate frequencies based on the supported slice info in the SIB.*

*Proposal 2: For the frequency priority among the candidate frequencies, the UE can first select the frequency based on the slice based cell reselection priority info, and then consider existing cell reselection priority if needed.*

- LGE supports P1 and P2.

- Nokia thinks UE just uses frequency priorities to identify carrier and that should be slice-specific. Huawei agrees this could simplify the design.

- OPPO thinks "supported slice info" is not clear in P1 and could be "intended slice" as well. Can just say "slice information". For P2, all information may not be in SIB in which case no changes occur.

- QC disagrees with both proposals: What does UE identify in P1? If no slice is supported in frequencies, does UE not select anything? UE should just use slice priority if it's there and only then use frequency priority. Ericsson agrees and thinks "existing SIB fields" are used by legacy UEs. New UEs can use new fields. ZTE also agrees that UE should use slice priority if it exists. Otherwise we fall to legacy or prioritize frequency with maximum intended slices. Huawei agrees. Samsung agrees and thinks we shouldn't mix existing UE behaviour with slices. Apple also agrees with others and because of slice homegeneity, UE need not check slice availability.

- Lenovo thinks there are two aspects: First, same slice can have different priorities in different frequencies. Second, some slices may be more important than others. The question is which we take first? Intel also thinks we should look at the framework first. Proposals are not so clear.

- Nokia thinks slice priority is not AS issue: Should follow strict priority order, i.e. highest priority slice is checked first.

- CMCC thinks we are going to details.

* Email [250] (Lenovo): Attempt to formulate how the slice priorities could work (i.e. the entire approach, can have multiple options). We will not try to consider Stage-3 details yet or e.g. where priorities come from. Stick to basic principles of slice prioritization.

*Proposal 3: RAN2 considers slice based cell reselection for MO service for RAN slicing enhancement for NR.*

[R2-2106224](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106224.zip) Discussion on slice based cell reselection CMCC discussion Rel-17 NR\_slice

*Proposal 1: Introduce a new slice grouping mechanism to address security and SIB payload size issues. The solutions of broadcasting SST and access category are not pursued.*

*Proposal 2: The mapping between slice group ID and S-NSSAI(s) can be configured by RAN via RRC signalling.*

*Proposal 3: Each cell should broadcast the supported slice info of all the neighbour cells/frequency (including intra-frequency and inter-frequency) regardless of TA.*

*Proposal 4: RAN2 clarify that slice info consists of slice group ID and frequency/cell ID and optional cell reselection priority per slice group.*

*Proposal 5: The same information agreed in SIB can be included in RRCRelease, as well as a T320 like timer.*

*Proposal 6: For inactive-mode mobility, intended slices = suspended slices.*

*Proposal 7: The UE in RRC\_INACTIVE should reselect to a cell which supports suspended slices.*

*Proposal 8: The definition for intended slices should be captured in the stage-2 specs, i.e., TS 38.300, taking the definition in TR 38.832 as baseline.*

*Proposal 9: If the intended slices contain multiple slices, UE may follow the order of the configured allowed S-NSSAI list as the priority of the slices or it is up to UE implementation to choose a prioritized slice for slice specific cell reselection.*

*Proposal 10: If there are multiple slices in allowed S-NSSAIs, the UE can perform cell reselection using the following candidate solutions:*

*1) Solution 1: Based on the priority order of allowed S-NSSAIs;*

*a) the UE should consider the cell/frequency which supports the most advanced slices of the allowed S-NSSAI(s) to be the highest priority;*

*b) if there are at least two cells that support the same most advanced slices, then UE can reselect to a cell based on cell reselection priority (if provided in system information) or based on the cell reselection criteria (i.e. the highest ranked cell).*

*2) Solution 2: Based on the number of supported slices in allowed S-NSSAIs;*

*a) the UE should consider the cell/frequency which supports the maximum number of slices in the allowed S-NSSAI(s) to be the highest priority;*

*b) if there are at least two cells that support the same maximum number of slices, then UE can reselect to a cell based on cell reselection priority (if provided in system information) or based on the cell reselection criteria (i.e. the highest ranked cell) or based on the priority order of allowed S-NSSAIs.*

Proposal 9: If the intended slices contain multiple slices, UE may follow the order of the configured allowed S-NSSAI list as the priority of the slices or it is up to UE implementation to choose a prioritized slice for slice specific cell reselection.

[R2-2104873](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104873.zip) Frequency prioritization for slice specific cell (re)selection Intel Corporation discussion Rel-17 NR\_slice-Core

*Proposal#1: UE uses the configured NSSAI for slice based frequency prioritisation. In terms of the term “intended slice” here, this means, that intended slices are the configured NSSAI.*

*Proposal#2: Slice based frequency prioritisation solution provides the frequency priority for use with legacy prioritisation mechanism. The UE behaviour for cell reselection based on the frequency priority is the same as legacy. And this is the same for IDLE and INACTIVE.*

*Proposal#3: Introduce a new slice group for indicating the availability of one or more slices within a cell/frequency*

*Proposal#4: CN provides the slice group mapping to its S-NSSAI via NAS signalling to the UE during initial and mobility registration procedure.*

*Proposal#5: Inform RAN3, SA2 and CT1 if Proposal#4 is agreed.*

*Observation#1: In the network based steering, the allowed NSSAI is being used for deriving the dedicated priority configuration. In Rel-17, this is extended to possibly include configured/requested NSSAI for the derivation of the dedicated priority configuration.*

*Observation#2: If the slice info contains only the slice/slice group availability for the current and neighbouring frequency layer, it has the drawbacks of either not enough control on the UE prioritisation*

*Proposal#6: The slice availability and frequency priority for the slice for the serving and neighbouring frequencies are provided in SIB/RRC Release. For each frequency, UE selects the highest priority for the available slices among the configured slices.*

*• The need for any additional mechanism to further distribute UEs among the frequencies using, for example, UE specific priority of configured slice is FFS.*

[R2-2105943](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105943.zip) Cell re-selection enhancements for slicing Ericsson discussion Rel-17 NR\_slice-Core

*Proposal 1 There is no need to introduce new slice information in SIB to indicate slice availability for a cell, this is already indicated by the TAI (TAC + PLMN id in SIB1).*

*Proposal 2 There is no reason to consider slice availability in cell re- selection, e.g. at RA border.*

*Proposal 3 For Inter-frequency cell re-selection to cell in same TA/RA, a candidate solution is to provide a slice group identity in NAS signalling and publish in SIB together with a priority. In RRCRelease no slice group identification is needed. Details need further studies.*

*Proposal 4 For Inter-frequency cell re-selection to cell in other TA/RA, a candidate solution is to provide UE with information of slices supported in non-registered “neighbouring” TAs in RRC signalling (RRCReconfiguration and/or RRCRelease messages). Details need further studies.*

*Proposal 5 Providing slice information in SIB or RRCRelease per inter-frequency might give some advantages as compared to existing mechanisms based on network handover/re-direct and dedicated frequency priorities in RRCRelease.*

*Proposal 6 RAN2 to discuss further details on the solution and involve other groups as needed.*

*Proposal 7 For inter-frequency cells belonging to same TA/RA, the “intended slice” to trigger cell re-selection can be: Slices in the “Allowed NSSAI” (in RRC\_Idle) Slices for which the UE has active PDU session (in RRC\_Inactive)*

*Proposal 8 For inter-frequency cells belonging to other TA/RA, only the application via NAS layer in UE can trigger such cell re-selection.*

*Proposal 9 For initial NAS registration in a PLMN, no “intended slice” should impact the selection of cell.*

[R2-2105631](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105631.zip) Cell (re)selection for RAN slicing Asia Pacific Telecom, FGI discussion

[R2-2105738](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105738.zip) Considerations on contents of slice related cell selection info KDDI Corporation discussion Late

[R2-2104791](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104791.zip) Discussion on slice aware cell reselection ZTE corporation, Sanechips discussion Rel-17 NR\_slice-Core

[R2-2105240](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105240.zip) Slice specific cell reselection Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_slice-Core

[R2-2105438](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105438.zip) Discussion on slice based cell reselection Samsung Electronics Co., Ltd discussion Rel-17 NR\_slice-Core

[R2-2106013](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106013.zip) Slice-based cell/frequency prioritization NEC Telecom MODUS Ltd. discussion

[R2-2106156](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106156.zip) Discussion on slice based cell reselection under network control Huawei, HiSilicon discussion Rel-17 NR\_slice-Core

[R2-2106175](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106175.zip) Discussion on Slice-based Cell Reselection CATT discussion NR\_slice-Core

[R2-2104740](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104740.zip) Further discussion on slice specific cell reselection Qualcomm Incorporated discussion Rel-17 NR\_slice-Core

[R2-2104782](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104782.zip) Considerations on slice based cell reselection Beijing Xiaomi Software Tech discussion Rel-17

[R2-2105109](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105109.zip) Discussion on slice based cell reselection Apple discussion Rel-17 DUMMY

[R2-2105212](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105212.zip) Further discussion on slice-based cell reselection Lenovo, Motorola Mobility discussion Rel-17 NR\_slice-Core

[R2-2105331](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105331.zip) Discussion on slice-based reselection vivo discussion Rel-17 NR\_slice-Core

[R2-2105533](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105533.zip) Discussion on slice based cell reselection Spreadtrum Communications discussion Rel-17

[R2-2105568](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105568.zip) Consideration on slice-specific cell reselection OPPO discussion Rel-17 NR\_slice-Core

[R2-2105697](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105697.zip) Slice based Cell Reselection and intended slice Sony discussion Rel-17 NR\_slice-Core

[R2-2105880](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105880.zip) Discussion on slice aware cell reselection LG Electronics UK discussion Rel-17

[R2-2106087](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106087.zip) Consideration on slice-based cell reselection SHARP Corporation discussion Rel-17

Email discussions ([250])

* [AT114-e][250][Slicing] Usage of slice priorities for cell reselection (Lenovo)

Scope:

* + - Attempt to formulate how the slice priorities could work (i.e. the entire approach, can have multiple options).
    - We will not try to consider Stage-3 details yet or e.g. where priorities come from. Stick to basic principles of slice prioritization

Intended outcome:

* + - Discussion summary in [R2-2106501](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106501.zip) (by email rapporteur).

Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Initial deadline (for company feedback): 2nd week Tue, UTC 1000
    - Initial deadline (for rapporteur summary): 2nd week Wed, UTC 1000

Web Conf 2nd week (summary of [250])

[R2-2106501](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106501.zip) Summary of [AT114-e][250][Slicing] Usage of slice priorities for cell reselection (Lenovo) Lenovo discussion Rel-17 NR\_Slice-Core

Withdrawn:

[R2-2105630](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105630.zip) Cell (re)selection for RAN slicing FGI discussion Withdrawn

### 8.8.3 RACH

Including discussion slice specific CBRA RACH for IDLE and INACTIVE mode. Slice-specific CBRA RACH for CONNECTED mode is deprioritized and will not be treated in this meeting.

Including discussion on how to resolve prioritization parameter collision with MPS/MCS: Should we consider UE-based solution or NW-based solution? both

Configuration of separated PRACH configuration (e.g., transmission occasions of time-frequency domain and preambles) for slice or slice group. RACH parameters prioritization (e.g., scalingFactorBI and powerRampingStepHighPriority) for slice or slice group. Determine how this works with existing functionality.

NOTE: Since RACH partitioning potentially impacts multiple WIs (RAN slicing, RedCap, Small Data Transmission, CovEnh),focus should be on understanding on the requirements for the RACH partitioning for RAN slicing to allow for common Rel-17 design (see AI 8.18).

Web Conf (Thursday 1st week) (17)

[R2-2104741](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104741.zip) Further discussion on slice specific RACH Qualcomm Incorporated discussion Rel-17 NR\_slice-Core

*RO separation and RA-RNTI collision:*

*Proposal 4: RAN2 confirm for a slice group, separated RO and/or separate preamble can be configured without overlapping with the existing RACH-ConfigCommon and RACH-ConfigCommonTwoStepRA*

*Proposal 5: Same as NR Rel-15 conclusion, RAN2 conclude that there is no RA-RNTI collision between slice specific RACH and legacy RACH in shared RO*

*Proposal 6: Same as NR Rel-15 conclusion, RAN2 conclude that the RA-RNTI collision between slice specific RACH and legacy RACH may happen in separate RO, but it can be left to Network implementation to resolve it (e.g. configure different RA search space or rely on contention resolution)*

* 4: RAN2 confirm for a slice group, separated RO and/or separate preamble can be configured within the existing RACH-ConfigCommon and RACH-ConfigCommonTwoStepRA
* 5: Same as NR Rel-15 conclusion, RAN2 conclude that there is no RA-RNTI collision between slice specific RACH and legacy RACH in shared RO
* 6: Same as NR Rel-15 conclusion, RAN2 conclude that the RA-RNTI collision between slice specific RACH and legacy RACH may happen in separate RO.
* Working assumption: this can be left to network implementation to resolve it (e.g. network configure RO in different time)
* FFS how many slice groups we can have and how they are indicated.
* **Post meeting email discussion: TBD during 2nd week Thursday (will have something)**

P4-P6

- ZTE is not sure what P6 means: Now we only have one SeachSpace so would we have more than one now? QC calrifies this just means network configures RO in different times.

- LGE thinks "overlapping" is not clear. Does not wish to re-define the entire RACH IE to avoid overhead. Legacy UEs cannot recognize the slice-specific UEs.

- Ericsson thinks we need to consider this in the common RACH discussion.

- Ercisson wonders how many slice groups we will consider? Nokia thinks this coudl be similar as the one for reselection. Can be also implicitly given by current information.

*RA type selection and fallback:*

*Proposal 7: Reuse the legacy RSRP threshold for RA type selection of slice specific RACH, i.e. no need to introduce slice specific RSRP threshold*

*Proposal 8: UE should first select between slice specific RA and common RA. Correspondingly, the 4 FFSs in the column of “RACH type selection for slice triggered access” for case 1/3/7/8 can be removed*

*Proposal 9: No need to introduce a new fallback from slice specific RACH to common RACH (including fallback from 4-step slice specific RA to 4-step common RA in Case 2/4/5/8, fallback from 4-step slice specific RA to 2-step common RA in Case 3 and fallback from 2-step slice specific RA to 2-step common RA in Case 6)*

*Proposal 10: To provide Network configuration flexibility, support Case 3/6/8 in specification*

*RACH prioritization:*

*Proposal 11: In slice specific RACH prioritization, scalingFactorBI and powerRampingStepHighPriority are only configured in SIB (i.e. not configured via dedicated RRC signaling)*

*Proposal 12: For each RA prioritization parameters set, a priority value can be configured by gNB or pre-configured via UE’s subscription. And the UE’s AS selects the set of RACH prioritization parameters with highest priority to perform RACH*

*Proposal 13: If no priority value is (pre)configured for RA prioritization parameters set, slice specific RA prioritization parameter should override MPS/MCS specific RA prioritization parameter, to guarantee the fairness among UEs initiating the same slice*

[R2-2105475](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105475.zip) Slice-specific RACH prioritisation Nokia, Nokia Shanghai Bell discussion Rel-17 FS\_NR\_slice

*Proposal 1: The gNB provides a slice prioritization by means of scalingFactorBI and powerRampingStepHighPriority configured per one or more slices identified by Operator Defined Access Categories.*

*Proposal 2: Slice grouping for RA prioritization can be independent from slice grouping used for cell reselection.*

*Proposal 3: A grouping of slices for RACH prioritization should be based on available (group of) slices from NAS.*

*Proposal 4: Group of slices is realized by a list of Operator-Defined Access Categories.*

*Proposal 5: Slice id for RRC INACTIVE for random access prioritization may be provided by NAS in advance.*

*Proposal 6: Send LS to CT1 on feasibility to provide slice id (e.g. by Operator-Defined Access Category) for RRC INACTIVE by NAS in advance.*

*Proposal 7: gNB handles proper RA prioritization for MCS/MPS and slice-specific users.*

[R2-2106225](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106225.zip) Discussion on slice based RACH configuration CMCC discussion Rel-17 NR\_slice

*Proposal 1: Both RO partition and preambles partition can be configured per slice group. The details for configuring slice group are the same as cell reselection.*

*Proposal 2: case 3/6/8 in the table are valid from network configuration perspective.*

*Proposal 3: The UE should first select between slice specific RA and common RA, if both are configured.*

*Proposal 4: The RSRP threshold for 2-step & 4-step RACH type selection can be configured differently per slice group.*

*Proposal 5: The parameter msgA-TransMax can be configured differently per slice group.*

*Proposal 6: Whether to support the fallback from slice specific RA to common RA is up to the network configuration.*

*Proposal 7: RAN2 agree the fallback cases in the table 2. The changes are highlighted in yellow.*

*Proposal 8: For the topic of prioritization parameters collision with MPS/MCS, it can be configurable by network, and if not configured, slice specific RA prioritization parameters should override MPS/MCS specific RA prioritization parameters.*

[R2-2104789](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104789.zip) Considerations on slice based RACH configuration Beijing Xiaomi Software Tech discussion Rel-17

[R2-2104874](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104874.zip) Further considerations of slice based RACH Intel Corporation discussion Rel-17 NR\_slice-Core

[R2-2105110](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105110.zip) Discussion on slice based RACH Apple discussion Rel-17 DUMMY

[R2-2105213](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105213.zip) Further discussion on slice-based PRACH configuration Lenovo, Motorola Mobility discussion Rel-17 NR\_slice-Core

[R2-2105332](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105332.zip) Discussion on slice-based RACH configuration vivo discussion Rel-17 NR\_slice-Core

[R2-2105534](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105534.zip) Consideration on slice based RACH configuration Spreadtrum Communications discussion Rel-17

[R2-2105569](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105569.zip) Consideration on slice-specific RACH OPPO discussion Rel-17 NR\_slice-Core

[R2-2106375](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106375.zip) Discussion on slice-specific RACH operation LG electronics discussion Rel-17 NR\_slice-Core Late

[R2-2104792](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104792.zip) Slice specific RACH resources and RACH prioritization ZTE corporation, Sanechips discussion Rel-17 NR\_slice-Core

[R2-2105345](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105345.zip) Slice specific RACH configuration Samsung discussion Rel-17 NR\_slice-Core

[R2-2106157](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106157.zip) Discussion on slice based RACH configuration Huawei, HiSilicon discussion Rel-17 NR\_slice-Core

[R2-2106014](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106014.zip) RAN Slicing remaining RACH issues NEC Telecom MODUS Ltd. discussion

[R2-2105944](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105944.zip) RACH for RAN slicing enhancement Ericsson discussion Rel-17 NR\_slice-Core

*(moved from 8.8.2)*

[R2-2106184](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106184.zip) Analysis on slice based RACH configuration CATT discussion NR\_slice-Core

# 9 Rel-17 EUTRA Work Items

## 9.3 EUTRA R17 Other

Time budget: 0 TU

Tdoc Limitation: No limitation but the AI may be entirely deprioritized depending on available time.

Email max expectation: 1 thread

Including discussion on whether there needs to be LS to SA3 for RAN2 actions if user location tracking attack based on GSMA LS [R2-2100003](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2100003.zip).

No TEI17 documents will be handled in this meeting.

Web Conf (Monday 2nd week) (1+1+2)

[R2-2104705](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2104705.zip) User location identification from Carrier Aggregation secondary cell activation messages (FSAG Doc 88\_009) GSMA LS in To:SA3, RAN2

* Noted (already handled last time but not officially marked as noted)

Discussion on SLIC - focus is on what/whether to reply to other groups:

[R2-2105268](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105268.zip) Discussion on Stealthy Location Identification Attack. vivo discussion

*Observation 1: SLIC relies on UE identity and Scells activation/de-activation MAC CE content to uniquely locate user*

*Observation 2: If UE identity or Scells activation/de-activation MAC CE content is unknown or tempered, SLIC would not deduce user location information*

*Observation 3: Frequently changing UE identity can avoid SLIC effect.*

*Observation 4: UE will not activate a non- configured Scell regardless of MAC CE content*

*And*

*Proposal 1： Operator frequently changing UE identity is a solution to alleviate SLIC attack*

*Proposal 2： Randomly setting additional bit in Scells activation/de-activation MAC CE is also an effective solution to prevent successful SLIC attack*

*Proposal 3： Encryption MAC CE should be discussed by SA3, if necessary*

*Proposal 4： RAN2 to reply to GSMA that current network implementation is sufficient to address the described SLIC attack [2]*

Discussion

- Vivo thinks we should send an LS. Ericsson thinks any reply to GSMA should come from RAN. Could send reply to SA3. Huawei agrees and is fine to send short LS to SA3. Can just mention the risk is low and no specification change is needed.

- QC thinks we don't need to involve RAN and let SA3 handle the matter. Need not even send LS to SA3. ZTE agrees and thinks the issue is only that RAN hasn't been included. Intel agrees with QC and ZTE. TMO also agrees.

- Vodafone thinks it's sensible to send LS to SA3 as P2 is not so clear and they should know that. Nokia thinks LS to SA3 is fine but it's not so clear everyone agrees with P2.

- ZTE thinks we shouldn't mention anything about how to solve this but just say it's feasible. vivo and QC agree.

- Vodafone thinks P2 needs to be discussed in RAN2. Intel thinks we can wait for SA3 to indicate the risk potential before evaluating the solutions (e.g. P2 or other solutions). TMO and Huawei agree.

* RAN2 only discusses this further if SA3 decides something is needed.
* Send LS to SA3. Indicate that RAN2 discussed this issue but will only work on this matter if SA3 decides a solution is needed.
* Email [202] (vivo): LS to SA3 (not to GSMA, SA or RAN)

Draft LS to GSMA (should go via RAN/SA instead of RAN2 sending the reply directly):

[R2-2105039](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105039.zip) Draft LS on SLIC attack Huawei, HiSilicon discussion Rel-17 NR\_pos\_enh-Core

[R2-2105263](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105263.zip) [Draft] LS reply on Stealthy Location Identification Attack vivo LS out To:GSMA

Not treated (TEI17 will be discussed in RAN2#115e):

[R2-2106144](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106144.zip) Discussion on event triggered logged MDT for LTE Huawei, HiSilicon discussion Rel-17 TEI17

[R2-2106145](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106145.zip) CR to 36.306 on event triggered logged MDT for LTE Huawei, HiSilicon CR Rel-17 36.306 16.4.0 1817 - B TEI17

[R2-2106146](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106146.zip) CR to 36.331 on event triggered logged MDT for LTE Huawei, HiSilicon CR Rel-17 36.331 16.4.0 4677 - B TEI17

[R2-2106147](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106147.zip) CR to 37.320 on event triggered logged MDT for LTE Huawei, HiSilicon CR Rel-17 37.320 16.4.0 0109 - B TEI17

[R2-2106148](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2106148.zip) CR to 36.304 on event triggered logged MDT for LTE Huawei, HiSilicon CR Rel-17 36.304 16.3.0 0827 - B TEI17

## 9.4 NR and EUTRA Inclusive language

Time budget: N/A

CRs were endorsed/agreed-in-principle at R2#112-e. Final approval is expected when R17 TSes are to be created and at that point CRs need to be updated towards latest TS version and submitted again. Meanwhile this AI can be used to cover missing part, if any, and for correction/modification of the endorsed/agreed-in-principle CRs e.g. for inter-group consistency, inter-group review etc.

Web Conf (Monday 2nd week) (1)

Terminology of inclusive language:

[R2-2105934](file:///C:\Users\terhentt\Documents\Tdocs\RAN2\RAN2_114-e\R2-2105934.zip) On the use of the term exclude-list Ericsson discussion Rel-17

*Proposal 1 Adopt the term "block-list" to replace "black-list" and update any related endorsed CRs.*

*Proposal 2 If proposal 1 is not agreed, send an LS to SA plenary asking them to add the term "exclude-list" to Table K.1 of TR 21.801.*

P1

- Intel thinks the TR terms are just examples and we just need to be consistent. SA list is not comprehensive. Prefers "exclude-list" but is fine with majority. QC and Vodafone agree. Huawei agrees that RAN, SA and CT should use aligned terms. Plenary should handle this.

- Huawei thinks "block-list" sounds like we bar the whole cell. QC thinks no need to send LS.

- ZTE wonders if there is misalignment? Intel thinks this is just example terms in TR. We can handle misalignment via CRs and that we shuold do.

* We keep the term "exclude-list". No need to send an LS to SA (companies can contribute to SA based on this decision if needed)