**3GPP TSG-RAN WG2 Meeting #109bis Draft R2-2003844**

**Elbonia, Online, 20 -30 April 2020**

**Agenda item: 6.9.5**

**Source: Intel Corporation, Ericsson**

**Title: Report of [AT109bis-e][210][MOB ASN1] ASN.1 discussion for LTE and NR mobility (Intel/Ericsson)**

**Document for: Discussion and Decision**

# Introduction

This is the email discussion report on below email discussion:

* [AT109bis-e][210][MOB ASN1] ASN.1 discussion for LTE and NR mobility (Intel/Ericsson)

Scope:

* + - Handling per-WI issues raised in ASN.1 review, including handling contributions submitted to the meeting on ASN.1 issues.
    - Flagging issues for discussion during Web conference (for either the 1st or 2nd week Web conferences)

Intended outcome:

* + - Discussion summary document in [R2-2003844](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003844.zip), including proposals for ASN.1 issue resolution (including ASN.1 changes) and summary of discussions.
    - CR issues to be handled via CR email discussions

Deadline for providing comments and for rapporteur inputs:

* + - Flagging review issues for the ASN.1 discussion: Wednesday Apr. 22nd, 08:00 UTC
    - Initial deadline (for companies' feedback): Thursday 2020-04-23 12:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003844](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003844.zip)): Friday 2020-04-24 12:00 UTC
    - Proposed agreements in [R2-2003844](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003844.zip) indicated for email agreement and not challenged until Monday 2020-04-27 12:00 UTC will be declared as agreed by the session chair.

In this email discussion, we focus on class 3 RIL raised in ASN.1 procedure for both LTE and NR.

# ASN.1 RIL for NR

## 2.1 DAPS

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Z251 | ZTE (ZMJ) | MobEnh | None | ToDo | We wonder whether DAPS should be considered as a new type of reconfiguration with sync here, since DAPS cannot match either of the two entries (e.g. PDCP will be reconfigured instead of PDCP re-establishment or PDCP data recovery, new RLC will be established instead of the re-establishment procedure described here). |  |

**Rappporteur:** **PropAgree, Looks reasonable to add a new description for DAPS**

**Z251: Do companies agree Rapporteur’s suggestion on RIL Z251?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Y | But may not be very necessary, since it already says “but is not limited to” in current text. |
| MediaTek | Y | We agree that new case(s) describing DAPS-styled reconfiguration with sync (e.g., PDCP reconfiguration) should be introduced here. The “but is not limited to” is here to make sure cases with minor differences are not excluded. But cases with major difference should be listed. |
| LG | No | Since there is no limitation for DAPS case, we don't think the change is needed. |
| Samsung | No | We think it is not required to over specify and describe all HO types in this section. Specification clearly mentions that UE is not limited to the already specified cases of reconfiguration with sync |
| Ericsson | Yes | Adding a new case describing reconfiguration with sync for DAPS handover is not necessary but it makes easier to understand the specification. |

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| H058 | TangXun (Huawei) | MobEnh | None | ToDo | This text does not reflect that UE only performs conditional configuration execution once as in the following agreement: 1. Confirm the working assumption as an optional feature: At RLF/HO failure/CHO failure, the UE performs cell selection and if the selected cell is a CHO candidate then the UE attempts CHO execution, otherwise re-establishment is performed. If the CHO performed during failure handling procedure fails, the UE will perform re-establishment, i.e. we do not allow multiple attempts of CHO during failure case. |  |

**Rappporteur: PropReject, It has been captured as the UE will discard the stored CHO configuration when successful HO, reestablishment, and then the UE cannot perform CHO since there is no stored variable.**

**H058: Do companies agree Rapporteur’s suggestion on H058?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | N | We suggest the following changes:  remove the following part in 5.3.5.3:  1> if the RRCReconfiguration is applied due to a conditional configurationexecution upon cell selection while timer T311 is running, as defined in 5.3.7.3:  2> remove all the entries within VarConditionalConfig, if any;  NOTE: This step is performed so the UE only performs conditional configuration execution while timer T311 is running once for a given failure detection.  and add clarification in 5.3.7.3:  1> if attemptCondReconfig is configured; and  1> if this is the first time that the selected cell is one of the candidate cells which the reconfigurationWithSync is included in the masterCellGroup in VarCondtionalConfig:  2> apply the stored condRRCReconfig associated to the selected cell and perform actions as specified in 5.3.5.3;  Reasoning:  For the first time re-establishment, before UE applies the stored condRRCReconfig, T311 has been stopped. So the “remove all the entries within VarConditionalConfig” action in 5.3.5.3 cannot be executed because the “while timer T311 is running” is not met. So the second CHO based re-establishment may still happen.  And we think it’s clearer to indicate the “first time condition” explicitly in re-establishment procedure. |
| MediaTek | Y | We do not see any problem. In the “CHO for failure recovery” procedure considered here:  - Cell selection is performed when T311 is running;  - Once the cell is selected, T311 is stop;  - If the selected cell is a CHO candidate cell, CHO configuration is applied, and we remove other CHO candidate cells to ensure the recovery with CHO can be used only once.  In other word, “upon cell selection while timer T311 is running” in 5.3.5.3 does not mean T311 should be running when UE applies the stored condRRCReconfig. |
| LG | Yes | The UE can perform this procedure text only when the attemptCHO has been configured and the UE already checks the condition in the Re-establishment procedure.  So, we think there is no problem with the current text. |
| Samsung | Yes | The requisite changes are already captured in 5.3.5.3 |

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| Z253 | ZTE (ZMJ) | MobEnh | None | ToDo | Considering the DAPS with DC is not supported, the MR-DC shall be released before the configuration of DAPS, then it seems no S-KgNB/S-KeNB described here. Or shall we allow to keep the SN terminated MCG bearer during DAPS? | delete “ the S-KgNB key, the S-KeNB key,” |

**Rappporteur: PropAgree, it is true we do not have DAPS+DC;**

**Z253: Do companies agree Rapporteur’s suggestion on Z253?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Y |  |
| MediaTek | Y |  |
| LG | Yes |  |
| Samsung | Yes |  |
| Ericsson | Yes |  |

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| S350 | Samsung (Fasil) | MobEnh | R2-2003326 | ToDo | We don’t see the need to establish and first configure the target L2 entities according to the source configuration and then later update to target configuration. We think it is possible and is simpler to directly establish the target entities and configure them according to the received target configuration. | 1> If dapsConfig is configured for any DRB: 2> suspend SRBs for the source ; 5.3.5.5.4 RLC bearer addition/modification For each RLC-BearerConfig received in the rlc-BearerToAddModList IE the UE shall: 1> if the UE's current configuration contains an RLC bearer with the received logicalChannelIdentity within the same cell group: 2> if dapsConfig is configured for this bearer: 3> establish the RLC entity or entities for the target in accordance with the received rlc-Config; 2> if dapsConfig is configured for any DRB, for each SRB that is part of the current UE configuration: 3> establish the RLC entity or entities for the target in accordance with the received rlc-Config; |

**Proposal 1: If DAPS is configured, the target MAC entity is created and directly configured based on target configuration.**

**Proposal 2: For DAPS DRBs and SRBs, the target RLC entities are established and directly configured based on target configuration.**

**Proposal 3: During DAPS handover, the handling of non-DAPS DRBs are same as that of a normal handover. No additional handling is introduced.**

**Rappporteur:**

**P1/P2: PropReject, the intentions was to support delta signaling; If we follow P1/P2, then delta signaling cannot be supported for MAC and RLC configurations;**

**P3: PropAgree;**

**S350: Do companies agree Rapporteur’s suggestion on S350?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Y | For P1/P2, it would be good to follow current understading of delta signaling, and anyway the final results are the same.  For P3, in case of DAPS fallback, we already capture that UE reverts back to source configuration. We assume current P3 doesn’t impact this fallback part. |
| MediaTek | Y | Agree with Huawei |
| LG | Yes |  |
| Samsung | No (P1/P2)  Yes (P3) | We think the delta signaling in DAPS is similar to that of a normal handover where the target configuration is provided as delta over the current source configuration. This does not require the UE to first configure based on ncurrent source configuration and later apply the delta for the target configuration. We think this is realted to UE implementation and the below alternatives are possible:   1. UE first configures the target entities based on current source configuration, later applies the delta configuration. 2. UE is already aware of the currensource configuration. Once the target configuration (delta) is received, then the UE can construct the final target configuration and then apply this directly to the target entities.   Delta configuration is allowed for normal handover as well but UE does not first apply source configuration and later apply target configuration. We think the behavior is similar for a normal handover case and DAPS case. |
| Ericsson | Yes |  |

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| Z256 | ZTE (ZMJ) | MobEnh | None | ToDo | For UM DRB, at most two RLC entities in target can be configured for a DRB. So “the RLC entity” should be changed as “an RLC entity or entities”. | 3> associate an the RLC entity or entities, and the associated logical channel, to the target PCell; |

**Rappporteur: PropAgree**

**Z256: Do companies agree Rapporteur’s suggestion on Z256?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Y |  |
| MediaTek | Yes, but | We agree to the reason, but we should use “the RLC entity or entities” |
| LG | Yes |  |
| Samsung |  | We agree to the suggestion. However, as indicated in S350, we think this handling itself is not required in this section. If S350 is agreed, then the suggested change in 5.3.5.5.4 already address this. |
| Ericsson | Yes |  |

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| Z257 | ZTE (ZMJ) | MobEnh | None | ToDo | Since no PDCP duplication is allowed during DAPS, then the “RLC entity or entities” should be “RLC entity”, since AM RLC is always used for the SRB mentioned here. | 3> establish an RLC entity or entities for the target, with the same configurations as for the source; |

**Rappporteur: PropAgree**

**Z257: Do companies agree Rapporteur’s suggestion on Z257?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Y |  |
| MediaTek | Y |  |
| LG | Yes |  |
| Samsung |  | See comment for Z256. We agree that “RLC entity or entities” should be “RLC entity” for SRB during DAPS. |
| Ericsson | Yes |  |

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| Z258 | ZTE (ZMJ) | MobEnh | None | ToDo | Considering the dapsConfig is not part of RLC bearer configuration, we propose to revise the description to “if dapsConfig is configured for the DRB associated with this bearer” to avoid the misunderstanding. | 2> if dapsConfig is configured for the DRB associated with this bearer: |

**Rappporteur: PropAgree, but the wording is related to the issue raised by LG and Mediatek;**

**Z258: Do companies agree Rapporteur’s suggestion on Z258?**

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| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | N | For dapsconfig field we have “Indicates that the bearer is configured as DAPS bearer” in field description, so it is fine by us to keep current wording. |
| MediaTek | Y | We don’t think the current text causes any misunderstanding, but the change can be accepted if people think it’s more precise. |
| LG | Yes |  |
| Samsung | No strong view | We agree that the suggestion adds more clarity. However, we think it is sufficiently clear as currently specified. RLC bearer configuration is defined as ‘The lower layer part of the radio bearer configuration comprising the RLC and logical channel configurations’. With reference to this definition, we think the suggestion is not really required. |
| Ericsson | Yes | We also think the suggested rewording is more precise/correct. |

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| H223 | Xun Tang (Huawei) | MobEnh | [R2-2003664](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003664.zip) | ToDo | When DAPS is used, it is not clear whether tag-ToReleaseList and tag-ToAddModList apply to the source or target cell. | v39: Should have separate procedure text for the cases with and without daps. |

**Rappporteur: PropReject, tag-ToReleaseList and tag-ToAddModList shall not be applied for DAPS since only source Pcell and target Pcell exist. Target cannot configure TAG for source.**

**H223: Do companies agree Rapporteur’s suggestion on H223?**

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| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | N | We agree “tag-ToReleaseList and tag-ToAddModList shall not be applied for DAPS since only source Pcell and target Pcell exist”. So we still suggest to move the tag-ToReleaseList and tag-ToAddModList related procedural text under the non-DAPS handover branch for clearer understanding. |
| MediaTek | Y | We think current text is clear. |
| LG | Yes | Because the network will provides source configuration and target configuration separately, we don’t think we should have separate procedure text. |
| Samsung | Yes | Not required as we agreed not to have any SCells configured during DAPS handover. |
| Ericsson | Yes  (see comment for a slight modification of the proposed resolution) | Agree that it’s not required since we don’t have SCells. The current text “excluding tag-ToReleaseList and tag-ToAddModList” is a bit confusing though since it suggests that these fields may be included in the RRCreconfiguration message. But the target node would never include these fields since it doesn’t configure SCells. So maybe it would be better to remove this part, i.e.:  2> reconfigure the MAC main configuration of the cell group in accordance with the received *mac-CellGroupConfig*~~excluding~~ *~~tag-ToReleaseList~~* ~~and~~ *~~tag-ToAddModList~~* |

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| H224 | Xung Tang (Huawei) | MobEnh | None | ToDo | If DAPS is used, this should not be applied for the source cell. | v39: put a condition that this only applies when DAPS is not used. |

2> if any of the reference signal(s) that are used for radio link monitoring are reconfigured by the received *spCellConfigDedicated*:

3> stop timer T310 for the corresponding SpCell, if running;

3> stop timer T312 for the corresponding SpCell, if running;

3> reset the counters N310 and N311.

**Rappporteur: PropAgree, It is related to I106 (Class 2), propose to change it as**

3> if *dapsConfig* is not configured for any DRB:

4> stop timer T310 for the corresponding SpCell, if running;

4> reset the counters N310 and N311.

3> stop timer T312 for the corresponding SpCell, if running;

**H224: Do companies agree Rapporteur’s suggestion on H224?**

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| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Y |  |
| MediaTek | Y |  |
| LG | No | We think the spCellConfigDedicated information isn’t mandatorily provided for source when DAPS HO. Thus, we think the current text is enough. |
| Samsung | No | RAN2 agreed that UE does not stop T310 (if running) when DAPS HO command is received. This does not preclude the case where T310 is stopped if N311 in sync indication is received while DAPS is in progress. When RS for RLM is changed by network, then UE starts RLM based on the updated RS. Since has not received any out of sync indication associated to the new RS, there is no meaning to continuing T310, if running. This principle remains irrespective of DAPS is configured or not.  Therefore, we don’t understand how this is related to DAPS. T310 is started based on N310 out of sync associated to a RS. If the RS is changed, we don’t see the need to continue the T130 which was started based on other RS. Moreover, we think there is no use case where the network would change the RLM RS after DAPS HO command is sent to the UE. |
| Ericsson | No | Think the existing text is fine as it is. The target node doesn’t change the source cell configuration in the handover command so the conditionL  “if any of the reference signal(s) that are used for radio link monitoring are reconfigured by the received spCellConfigDedicated:”  would never evaluate to true for the source cell. The target node could update the target cell configuration in the handover command though and then it’s fine to execute the actions that follow the condition. |

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| Z259 | ZTE (ZMJ) | MobEnh |  | ToDo | Since the cipheringDisabled can not be changed once the DRB is established, we prefer to remove the “target’s”, which may lead to some misunderstanding that the configuration may be changed during the DAPS. | delete “target’s” |

**Rappporteur: PropReject, do not see the strong need to change since anyway it is clear in the field description. It cannot be changed.**

**Z259: Do companies agree Rapporteur’s suggestion on Z259?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Y |  |
| MediaTek | Y |  |
| LG | Yes |  |
| Samsung | Yes |  |
| Ericsson | Yes |  |

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| Z260 | ZTE (ZMJ) | MobEnh |  | ToDo | Considering the DAPS with DC is not supported, the MR-DC shall be released before the configuration of DAPS, then it seems no secondary described here. Or shall we allow to keep the SN terminated MCG bearer during DAPS? | delete “ or the secondary key (S-KgNB)”. |

**Rappporteur: PropAgree, it is true DAPS+DC is not allowed**

**Z260: Do companies agree Rapporteur’s suggestion on Z260?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Y |  |
| MediaTek | Y |  |
| LG | Yes |  |
| Samsung | Yes |  |
| Ericsson | Yes |  |

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| Z261 | ZTE (ZMJ) | MobEnh |  | ToDo | Since the integrityProtection can not be changed once the DRB is established, we prefer to remove the “target’s”, which may lead to some misunderstanding that the configuration may be changed during the DAPS. | delete “target’s” |

**Rappporteur: PropReject, do not see the strong need to change since anyway it is clear in the field description. It cannot be changed.**

**Z261: Do companies agree Rapporteur’s suggestion on Z261?**

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| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Y |  |
| MediaTek | Y |  |
| LG | Yes |  |
| Samsung | Yes |  |
| Ericsson | Yes |  |

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| --- | --- | --- | --- | --- | --- | --- |
| Z262 | ZTE (ZMJ) | MobEnh |  | ToDo | Considering the DAPS with DC is not supported, the MR-DC shall be released before the configuration of DAPS, then it seems no secondary described here. Or shall we allow to keep the SN terminated MCG bearer during DAPS? | delete “ or the secondary key (S-KgNB)”. |

**Rappporteur: PropAgree, it is true DAPS+DC is not allowed**

**Z262: Do companies agree Rapporteur’s suggestion on Z262?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Y |  |
| MediaTek | Y |  |
| LG | Yes |  |
| Samsung | Yes |  |
| Ericsson | Yes |  |

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| C001 | CATT (Chandrika) | MobEnh | None | ToDo | It is not clear what the RRM configuration is refered to, the concept of RRM configuration hasn’t been used in the specification excpet here. It should be clarified what the RRM configuration is refered to. | 3> revert back to measurement configuration used in the source. |

**Rappporteur: PropAgree,**

**C001: Do companies agree Rapporteur’s suggestion on C001?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Y |  |
| MediaTek | Y |  |
| LG | No | The current text is much clearer for me because the current text indicates which measurement configuration should be reverted |
| Samsung | No | We think the measurement configurations from the source cell is still enabled on the UE when DAPS is in progress i.e. source part of DAPS still has the associated meas config applied. We think the sentence itself canbe removed. |
| Ericsson | Yes |  |

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| Z263 | ZTE (ZMJ) | MobEnh |  | ToDo | During DAPS HO, since we have a common PDCP linked with RLC entities in both source and target, the DRB is common for both source and target. So it seems “suspend all DRBs in the source” is not accurate. We prefer to revise it to “suspend the transmission of all DRBs in the source”. | 4> suspend the transmission of all DRBs in the source; |

**Rappporteur: PropAgree, Looks reasonable.**

**Z263: Do companies agree Rapporteur’s suggestion on Z263?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Y |  |
| MediaTek | Y |  |
| LG | Yes |  |
| Samsung | Yes |  |
| Ericsson | Yes |  |

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| --- | --- | --- | --- | --- | --- | --- |
| N007 | Nokia (Tero) | Mob | None | ToDo | A better description is needed for this as it’s not at all clear what UE does in this case. | Simply indicate what UE does with the field: “Indicates to UE that the source cell part of DAPS operation is to be released.” |

**Rappporteur: PropAgree, Looks reasonable.**

**N007: Do companies agree Rapporteur’s suggestion on N007?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Y |  |
| MediaTek | Y |  |
| LG | Yes |  |
| Samsung | Yes |  |
| Ericsson | Yes |  |

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| H060 | TangXun (Huawei) | MobEnh | None | ToDo | one sentence should be added, i.e. the network does not include the field in case of DAPS HO | v31: Add "the network does not include the field in case of DAPS HO" |

**Rappporteur: PropAgree, Looks reasonable.But We do not use DAPS HO in stage 3. The wording should be updated, e.g. after the conclusion on LG and MediaTek’s DAPS bearer discussion.**

**H060: Do companies agree Rapporteur’s suggestion on H060?**

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| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Y |  |
| MediaTek | Y |  |
| LG | Yes |  |
| Samsung | Yes |  |
| Ericsson | Yes |  |

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| --- | --- | --- | --- | --- | --- | --- |
| H061 | TangXun (Huawei) | MobEnh | None | ToDo | one sentence should be added, i.e. The value for this field cannot be changed in case of reconfiguration with sync, if dapsConfig is configured for this bearer. | v31: one sentence should be added, i.e. The value for this field cannot be changed in case of reconfiguration with sync, if dapsConfig is configured for this bearer. |

**Rappporteur: PropReject, Should this comments for "outOfOrderDelivery "? And seems it is clear the field cannot be changed. "This field should be either always present or always absent, after the radio bearer is established."**

**H061: Do companies agree Rapporteur’s suggestion on H061?**

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| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Y | Yes, the intention is for outOfOrderDelivery field. |
| MediaTek | Y |  |
| LG | Yes |  |
| Samsung | Yes | Agree to Rapporteur's opinion. It is already clear. PDCP out-of-order delivery does not affect the state variable update procedure. If it was configured, then UE can just apply it for NR DAPS PDCP. |
| Ericsson | Yes |  |

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| G004 | Google (EricChen) | MobEnh | None | ToDo | In case of the DAPS handover failure, the UE may perform a failure information procedure instaed of the RRC re-establishment procedure. | Add the sentences: In case of DAPS handover and there is no RLF in source, initiate the failure information proceure. |

**Rappporteur: PropAgree,**

**G004: Do companies agree Rapporteur’s suggestion on G004?**

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| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Y | We suggest to reword it to “In case of DAPS handover and there is no RLF in source, initiate the failure information reporting proceure” |
| MediaTek | Y | Agree with Huawei |
| LG | Yes |  |
| Samsung | Yes |  |
| Ericsson | Yes |  |

## 2.2 CHO

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| --- | --- | --- | --- | --- | --- | --- |
| Z252 | ZTE (ZMJ) | MobEnh | None | ToDo | Whether we need to separate the description for MN and SN, since the reconfigurationwithSync is described separately for MCG and SCG above. | - the conditionalReconfiguration for CPC is included only when when at least one RLC bearer is setup in SCG. - the conditionalReconfiguration for CHO is included only when AS security has been activated, and SRB2 with at least one DRB are setup and not suspended. |

**Rappporteur:** **PropAgree, Looks reasonable to have separate description for CHO and CPC;**

**Z252: Do companies agree Rapporteur’s suggestion on RIL Z252?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Yes |  |
| MediaTek | Y |  |
| LG | Yes |  |
| Samsung | Yes | It seems reasonable and aligned to handling of reconfigurationWithSync |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| S302 | Samsung (Fasil) | MobEnh | None | ToDo | the statement to check if all events for a candidate are fulfilled seems a bit confusing: | 2> if trigger conditions for all event(s) associated to all measId(s) within condTriggerConfig are fulfilled for all associated measId(s) in condTriggerConfig for a target candidate cell within the stored condRRCReconfig are fulfilled: |

**Rappporteur:** **PropAgree, the wording change looks ok.**

**S302: Do companies agree Rapporteur’s suggestion on RIL S302?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Yes |  |
| MediaTek | Y |  |
| LG | Yes |  |
| Samsung | Yes |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| S301 | Samsung (Fasil) | MobEnh | None | ToDo | The candidate CHO configuration is provided based on the current source configuration i.e. if current source configuration includes SCells on MCG, the CHO configuration is provided as delta over this. for instance, if UE is configured with SCells on MCG, and CHO target cell supports these, then like a normal handover, these SCells are deactivated during CHO execution later activated after CHO using MAC CE i.e. the SCells are retained. In other case, where SCells are not supported on the CHO target, the target configuration would include the release of these SCells. Therefore, when we apply CHO configuration on selecting CHO candidate while T310 is running, the same source configuration as prior to RLF has to be retained in order to apply target configuration correctly. | 1> release the MCG SCell(s), if configured; 1> if UE is not configured with conditionalReconfiguration: 2> release spCellConfig, if configured; 2> suspend all RBs, except SRB0; 2> release the MCG SCell(s), if configured; Section 5.3.7.3 2> if UE is configured with conditionalReconfiguration:           3> release spCellConfig, if configured;           3> suspend all RBs, except SRB0;           3> release the MCG SCell(s), if configured;; |

**Rappporteur:** **PropAgree, It is also related to issue in email discussion 207, question 5**

**S301: Do companies agree Rapporteur’s suggestion on RIL S301?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Yes |  |
| MediaTek | Y |  |
| LG | Yes |  |
| Samsung | Yes |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| C002 | CATT (Chandrika) | MobEnh | None | ToDo | Considring up to 2 measID can be configured for one execution condition, each measID can only be configured with 1 quantity, so the clause to restrict the maximum number of quantities is needless. However, it was agreed only one RS type can be configured for the execution condition, which is not captured in the CR now. so we suggest to modify the clause to capture the restriction on the RS type not on the quantities. | For conditional configuration execution triggering quantities condition, the network can configure up to 2 quantitiesonly one RS type to associate with it. |

**Rappporteur:** **PropAgree**

**C002: Do companies agree Rapporteur’s suggestion on RIL C002?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Yes |  |
| MediaTek | Y |  |
| LG | Yes |  |
| Samsung | Yes | Agree to the intention. However, we propose a different wording ‘For conditional configuration execution triggering quantities condition, the network can configure *upto 2 conditions, both using same RS type’* |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Z264 | ZTE (ZMJ) | MobEnh |  | ToDo | It seems the evaluation of conditional configuration execution criteria should be captured in the text, instead of the note. And the section for conditional configuration execution should be 5.3.5.13.4. | if reportConfig is condTriggerConfig: 3> perform the evaluation of conditional configuration execution criteria as specified in 5.3.5.13.4; else: 3> perform the evaluation of reporting criteria as specified in 5.5.4. |

**Rappporteur:** **PropReject, the change is not needed since it is clear in 5.3.5.13.**

**Z264: Do companies agree Rapporteur’s suggestion on RIL Z264?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Yes | The change is not necessary since current spec is clear. |
| MediaTek | Y |  |
| LG | Yes | No need to specify. It is working currently in our perspective. There is no need to add CHO procedure to other measurement performing procedure. |
| Samsung | Yes | We think it is already clear from the section referenced in note. |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Z272 | ZTE (ZMJ) | MobEnh |  | ToDo | Considering we introduce the condEventA3 and condEventA5 in the ASN. 1 as new CHO/CPC events, whether we need to explain these in this section of IE description, as the normal Event AN? If needed, the corresponding description should also be captured in the text (section 5.5.4 Measurement report triggering) as a sub-section, e.g. 5.5.4.X CondEvent A3 (Conditional reconfiguration candidate becomes amount of offset better than PCell/PSCell). | If needed, add the corresponding description for condEventA3 and condEventA5 as follows: CondEvent A3: Conditional reconfiguration candidate becomes amount of offset better than PCell/PSCell; CondEvent A5: PCell/PSCell becomes worse than absolute threshold1 AND Conditional reconfiguration candidate becomes better than another absolute threshold2; |

**Rappporteur:** **PropAgree, Ok to add the descriptions.**

CondEvent A3: Conditional reconfiguration candidate becomes amount of offset better than PCell/PSCell;

CondEvent A5: PCell/PSCell becomes worse than absolute threshold1 AND Conditional reconfiguration candidate becomes better than another absolute threshold2;

**Note: Z257 in LTE has been set as PropAgree by RRC Rapporteur;**

**Z272: Do companies agree Rapporteur’s suggestion on RIL Z272?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Yes |  |
| MediaTek | Y |  |
| LG | Yes |  |
| Samsung | Yes |  |

## 2.3 CPC

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Z254 | ZTE (ZMJ) | MobEnh | None | ToDo | This description is under “1> set the content of the RRCReconfigurationComplete message as follows:”, but the description is about how to submit RRCReconfigurationComplete message for conditional configuration, instead of setting the content of RRCReconfigurationComplete message. It should be put as an individual section, e.g. put before “1> if the UE is configured with E-UTRA nr-SecondaryCellGroupConfig (UE in (NG)EN-DC):”. | Delete the description here, and then add the description before “1>if the UE is configured with E-UTRA nr-SecondaryCellGroupConfig (UE in (NG)EN-DC)” as follows: 12> if the RRCReconfiguration is applied due to a conditional configuration execution and included a secondaryCellGroupConfig: 23> if the applied RRCReconfiguration message was received via SRB1: 34> if the applied RRCReconfiguration message was received via E-UTRAN: 45> FFS; Editor's note: FFS How the RRCReconfigurationComplete is transmitted when the UE is in EN-DC e.g. ULInformationTransferMRDC or RRCConnectionReconfigurationComplete. 34> else: 45> submit the RRCReconfigurationComplete to lower layers for transmissionvia SRB1; Editor's note: FFS on whether to inform MN upon the CPC execution if CPC configured via SRB3 1> if the UE is configured with E-UTRA nr-SecondaryCellGroupConfig (UE in (NG)EN-DC): |

**Rappporteur: Todo, We can just remove " submit the message. " For rest of part, it should be put as it is, like EN-DC, e.g. "2> if the RRCReconfiguration message was included in E-UTRA RRCConnectionResume message:**

**3> include the RRCReconfigurationComplete message in the E-UTRA MCG RRC message RRCConnectionResumeComplete in accordance with TS 36.313 [10], clause 5.3.3.4a;" Wait for changes from CPC;**

**Z254: How to handle Z254?**

**Option 1: Just remove “submit the message”?**

**Option 2: follow Z254?**

**Other suggestion?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Option 1, Option 2, others?** | **Reason** |
| Huawei, HiSilicon | Slightly prefer Option 2 | Option is more aligned with the current procedure text. See the example in TS 38.331-g00: “1> if the UE is configured with E-UTRA *nr-SecondaryCellGroupConfig* (UE in (NG)EN-DC):  2> if the *RRCReconfiguration* message was received via E-UTRA SRB1 as specified in TS 36.331 [10]; or  2> if the *RRCReconfiguration* message was received via SRB3 within *DLInformationTransferMRDC*  3> submit the *RRCReconfigurationComplete* via E-UTRA embedded in E-UTRA RRC message *RRCConnectionReconfigurationComplete* as specified in TS 36.331 [10], clause 5.3.5.3/5.3.5.4;  3> if *reconfigurationWithSync* was included in *spCellConfig* of an SCG:  4> initiate the Random Access procedure on the SpCell, as specified in TS 38.321 [3];  3> else:  4> the procedure ends;  ” |
| LG | Option 1 | Simpler than Option 2 |
| Samsung | Option 2 |  |

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| --- | --- | --- | --- | --- | --- | --- |
| Z255 | ZTE (ZMJ) | MobEnh | R2-2003424 | ToDo | From the text description, it seems the CPC configuration shall also be removed once PCell change is executed. But we just agreed that CPC configuration shall be removed once successful completion of CPC or conventional PSCell change. It seems we have never discussed whether the CPC configuration shall be removed once PCell change is executed. | We bring a discussion paper for clarifying this issue. |

* **Alt. 1: Stick to current specification that all stored CPC configurations shall be released on the UE side autonomously (i.e. for both PCell change with and without SN involved) after successful execution of PCell change, and send LS to RAN3 to inform them the new requirement on the information exchange over X2/Xn for the case of PCell change without SN involved (i.e. the MN inform the SN the execution of PCell change, even there is no impact on the SN);**
* **Alt. 2: Remove the requirement on autonomous release of stored CPC configuration after successful execution of PCell change. And it is up to NW to configure the release of CPC configuration in case of PCell change.**

**Rappporteur: Alt1 algin with CHO handling and same as current specification;**

**Z255: How to handle Z255?**

**Alt1: stick to current specification, UE autonomous removes CPC upon PCell change;**

**Alt2:UE does not autonomous remove CPC upon PCell change;**

|  |  |  |
| --- | --- | --- |
| **Company** | **Alt 1, Alt 2,** | **Reason** |
| Huawei, HiSilicon | Alt2 | We think currently UE doesn’t remove CHO configuration upon PSCell change, so it should be aligned that UE doesn’t remove CPC configuration upon PCell change. |
| LG | Alt 1 | But we want to take separated procedure text for removing of the each case of CHO and CPC. |
| Samsung | Alt 2 | We think the CPC configuration should not be autonomously removed upon successful PCell change. We don’t see the need to remove CPC configuration for PCell change without PSCell change. For other cases, either PSCell also changes or SCG release is expected and this has to be explicitly signaled by the network. |

**Z255-1: If Alt 1 is selected, shall we send LS to RAN3 to inform them the new requirement on the information exchange over X2/Xn for the case of PCell change without SN involved (i.e. the MN inform the SN the execution of PCell change, even there is no impact on the SN);**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| LG | No |  |
|  |  |  |
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## 2.4 T312

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Z269 | ZTE (ZMJ) | MobEnh |  | ToDo | The T312 shall be triggered only when useT312 is set to true. Shall we need to add this condition as well? | If T312 is configured in MCG: Upon triggering a measurement report for a measurement identity for which T312 has been configured and useT312 has been set to true, while T310 in PCell is running. If T312 is configured in SCG: Upon triggering a measurement report for a measurement identity for which T312 has been configured and useT312 has been set to true, while T310 in PSCell is running. |

**Rappporteur: PropAgree,**

**Z269: Do companies agree Rapporteur’s suggestion on Z269?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Yes |  |
| MediaTek | Y |  |
| LG | Yes |  |
| Samsung | No | We think it is sufficiently clear from ‘measurement report for a measurement identity for which T312 has been configured’. Moreover, it is already clear from normative text. |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| C003 | CATT (Chandrika) | MobEnh | None | ToDo | it was agreed the T312 should be stoped upon the reconfiguration of the rlf-TimersAndConstants, which is captured in the 5.3.5.5.6 | Upon receiving N311 consecutive in-sync indications from lower layers for the SpCell, receiving RRCReconfiguration with reconfigurationWithSync for that cell group, upon initiating the connection re-establishment procedure, upon the reconfiguration of rlf-TimersAndConstant, and upon the expiry of T310 in corresponding SpCell. Upon SCG release, if the T312 is kept in SCG. |

**Rappporteur: PropAgree,**

**C003: Do companies agree Rapporteur’s suggestion on C003?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Yes |  |
| MediaTek | Y |  |
| LG | Yes |  |
| Samsung | No | Both T312 and T310 are stopped upon reconfiguratiaon of the rlf-TimersAndConstants. However, we think it is better to align to what is captured in T310 to avoid any ambiguity.Therfore, we suggest no change is made to T312 or change both T312 and T310. |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Z270 | ZTE (ZMJ) | MobEnh |  | ToDo | It seems the T312 can not be started if security is not activated since the UE shall initiate the measurement report procedure only after successful AS security activation. | Delete “If security is not activated: go to RRC\_IDLE else: ” |

**Rappporteur: PropAgree**

**Z270: Do companies agree Rapporteur’s suggestion on Z270?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Yes |  |
| MediaTek | Y |  |
| LG | Yes |  |
| Samsung | Yes |  |

# ASN.1 RIL for LTE

Some Class 3 RILs have been marked as PropAgree by RRC Rapporteur. Pls indicate whether you have any concern on these issues or not;

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Z251 | ZTE (ZMJ) | MobEnh | 3 | None | PropAgree | v11 | For UM DRB, at most two RLC entities in target can be configured for a DRB. So “an RLC entity” should be changed to “the RLC entity or entities”. | 3> establish the RLC entity or entities and an the associated DTCH logical channel for the target PCell, with the same configurations as for the source PCell; |
| Z252 | ZTE (ZMJ) | MobEnh | 3 | None | PropAgree | v11: As suggested | It seems the stored condReconfigurationToApply for CHO shall always include mobilityControlInfo, so it seems no need to describe “if ... else...”. | 1> for the selected cell of conditional reconfiguration: 2> if the stored condReconfigurationToApply associated to the selected cell includes mobilityControlInfo (conditional handover): 23> apply the stored condReconfigurationToApply associated to that condReconfigurationId and perform the actions as specified in 5.3.5.4; 2> else: 3> apply the stored condReconfigurationToApply associated to that condReconfigurationId and perform the actions as specified in 5.3.5.3;  [Comments]: |
| Z257 | ZTE (ZMJ) | MobEnh | 3 | None | PropAgree | v11: As suggested, with minor change i.e. no mention of PSCell (i.e. no CPC for LTE PSCell in R16) | Considering we introduce the condEventA3 and condEventA5 in the ASN. 1 as new CHO events, whether we need to explain these in this section of IE description, as the normal Event AN? If needed, the corresponding description should also be captured in the text (section 5.5.4 Measurement report triggering) as a sub-section, e.g. 5.5.4.X CondEvent A3 (Conditional reconfiguration candidate becomes amount of offset better than PCell/PSCell). | If needed, add the corresponding description for condEventA3 and condEventA5 as follows: CondEvent A3: Conditional reconfiguration candidate becomes amount of offset better than PCell/PSCell; CondEvent A5: PCell/PSCell becomes worse than absolute threshold1 AND Conditional reconfiguration candidate becomes better than another absolute threshold2; |

**Z251/252/257: Do companies agree RRC Rapporteur’s suggestion on Z251, 252, 257?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| MediaTek | Y |  |
| Samsung | Yes |  |
|  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| E901 | Ericsson | LTE\_feMob-Core | 3 | None | ToDo |  | Some procedure text for conditional handover is missing or erroneous and needs to be added and corrected, see R2-2003040. Also, there are some remaining FFS which can be removed. Also, some editorial corrections are made. | main correction is required below in procedure text. Change 1: below needs to be added 1> else: 2> stop timer T311; 2> if the cell selection is triggered by detecting radio link failure of the MCG, handover failure or mobility from E-UTRA failure of the MCG; and Change 2: below needs to be deleted 2> if attemptCondReconf is configured; and 2> if the selected cell is one of the target candidate cells in VarConditionalReconfiguration: 3> remove all entries within VarConditionalReconfiguration; // this needs to be deleted 3> apply the stored condReconfigurationToApply of the selected cell and perform the actions as specified in 5.3.5.3; 2> else: Change 3: below needs to be added 3> if the UE is configured with conditionalReconfiguration: 4> suspend all RBs, including RBs configured with NR PDCP, except SRB0; 3> remove all the entries within VarConditionalReconfiguration, if any; 3> for each measId, that is part of the current UE configuration in VarMeasConfig, if the associated reportConfig has condReconfigurationTriggerEUTRA configured: 4> remove the entry with the matching reportConfigId from the reportConfigList within the VarMeasConfig; 4> if the associated measObjectId is only associated with condReconfigurationTriggerEUTRA: 5> remove the entry with the matching measObjectId from the measObjectList within the VarMeasConfig; 4> remove the entry with the matching measId from the measIdList within the VarMeasConfig; |

**Rappporteur: PropAgree, good to align with NR, but Mobility from E-UTRA failure of the MCG shall not be added since we did not agree inter RAT moblity case.**

**E901: Do companies agree Rapporteur’s suggestion on E901?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| MediaTek | Y |  |
| Samsung | Yes |  |
|  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Z253 | ZTE (ZMJ) | MobEnh | 3 | None | DiscMail | v11 | According to the agreement “Before the successful completion of the RACH to the target cell, when the source link fails, the UE releases the source link (but not source RRC configuration which may be used for re-establishment) and stops any data transmission or reception via the source link.”, the source configuration should not be released here. So it may be enough to simply specify “suspend the transmission of all DRBs in the source” and “release the source connection”, as NR specs. | 2> consider radio link failure to be detected for the source MCG; 2> suspend the transmission of all DRBs in the source; 2> release the source connection. 2> release the MAC entity for the source PCell; 2> for each DRB configured with daps-HO: 3> re-establish the RLC entity for the source PCell; 3> release the RLC entity and the associated DTCH logical channel for the source PCell; 3> reconfigure the DAPS PDCP entity to normal PDCP entity as specified in TS 36.323 [8]. 2> for each SRB: 3> release the PDCP entity for the source PCell; 3> release the RLC entity and the associated DCCH logical channel for the source PCell; 2> release the physical channel configuration for the source PCell;  [Comments]: Rap: Suggest some further discussion. Not entirely sure about the as we don’t state these aspects for regular HO for which same applies i.e. UE release the connection but keeps some of the configuration as it may revert back. Can be discussed further |

**Rappporteur: PropAgree, good to align with NR.**

**Z253: Do companies agree Rapporteur’s suggestion on Z253?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| Huawei, HiSilicon | Y |  |
| MediaTek | Y |  |
| Samsung |  | We normally don’t state these aspects for regular RLF, for which the same applies. We think the handling for source RLF during DAPS is similar to that of a normal RLF |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Z255 | ZTE (ZMJ) | MobEnh | 3 | R2-2003424 | TDoc | v11 | Considering scenarios of target CHO configuration in legacy HO command or target CHO configuration in target CHO command and the coexistence of CHO and DAPS are not supported in Rel-16, the corresponding restrictions should be added here. | add the description of “The field is absent if daps-HO is configured for any DRB or the MobilityControlInfo has been included in the RRCConnectionReconfiguration message. The conditionalReconfiguration can not be configured in the RRCConnectionReconfiguration message which is contained in a conditionalReconfiguration (i.e. the cascaded case is not supported).” |

**Rappporteur: PropAgree, good to align with NR.**

**Z255: Do companies agree Rapporteur’s suggestion on Z255?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Reason** |
| MediaTek | Y |  |
| Samsung |  | We agree to the intention. But not sure this is the way to capture it. |
|  |  |  |

# Conclusion

The followings are proposed:

To be agreed:

Further discussion:

# References

1. [R2-2003371](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003371.zip), Report of [Post109e#11][MOB] Resolving open issues for DAPS (Intel), Intel Corporation