3GPP TSG-RAN WG2 #113bis-e Tdoc R2-210433

Electronic meeting, 2021-04-12 – 2021-04-20

Agenda Item: 6.4.2

Source: Ericsson

Title: [AT113bis-e][213][MOB] RRCReconfiguration with DAPS source release (Ericsson)

Document for: Discussion, Decision

# 1 Introduction

This document summarizes the following email discussion:

**[AT113bis-e][213][MOB] *RRCReconfiguration* with DAPS source release (Ericsson)**

Scope:

* + - Discuss how/whether to capture the agreements on what is allowed to be configured when *daps-SourceRelease* is sent to UE according to online agreements.

Intended outcome:

* + - Discussion summary in [R2-2104330](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2104330.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 Thu, UTC 0900
    - Initial deadline (for rapporteur summary): 1st week Fri, UTC 0900
    - Deadline for CR finalization: 2nd week Tue, UTC 1000

The email discussion is related to [R2-2102820](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2102820.zip) discussed during the online session on Monday 2021-04-12.

# 2 Discussion

The following was agreed for RRCReconfiguration with DAPS source release in the online session on Monday:

[R2-2102820](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2102820.zip) Reconfiguration during DAPS HO Ericsson discussion Rel-16 [R2-2100488](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2100488.zip)

*Observation 1 The restriction to have UDC or EHC configured during a DAPS handover is missing in the Stage-2 specifications.*

*Observation 2 It is not clear from the LTE specifications when the target node can configure the UE with SCG, SCells, uplinkDataCompression, ethernetHeaderCompression and/or conditional handover at a DAPS handover.*

*Observation 3 It is not clear from the NR specifications when the target node can configure the UE with SCG, SCells, multi-TRP configuration, SUL, sidelink, ethernetHeaderCompression and/or conditional handover at a DAPS handover.*

*Observation 4 Since the daps-SourceRelease indication is handled in the beginning of the procedure in 5.3.5.3 (in both 36.331 and 38.331), it is possible to include configuration of features not supported together with DAPS HO in the same RRC Reconfiguration message.*

*Observation 5 The explicit source cell indication (daps-SourceRelease) in the RRC Reconfiguration message is included to allow the network to reconfigure the UE before completion of the DAPS HO.*

*Observation 6 If it would be required for the network to include the explicit daps-SourceRelease in the first RRC Reconfiguration message after successful DAPS HO, it would instead be an implicit release. The daps-SourceRelease indication would then only trigger a failure when not set correctly, which is not the intention.*

*Observation 7 Conditional reconfigurations are included within an RRC Reconfiguration message that is built by the serving node. They can thus be included in the same message that contains the daps-SourceRelease set by the serving node.*

*Proposal 1 Clarify in the specifications that the first possible addition of SCG or SCells and configuration of multi-TRP, UDC, EHC, SUL, sidelink or conditionalReconfiguration (CHO) in the target cell at a DAPS HO is in the RRC Reconfiguration message that includes daps-SourceRelease.*

*Proposal 2 Correct field descriptions for parameters that can be configured in the RRC Reconfiguration message with daps-SourceRelease but where it now says that they cannot be configured if there is a DAPS bearer configured.*

*Proposal 3 The Text Proposals in section 3 should be introduced in the specifications.*

Discussion

- MTK supports P1. Huawei also agrees but thinks this is already clear in our specifications as it's a normal reconfiguration. Nokia agrees with Huawei.

- Intel agrees with P1 but thinks it would be good to clarify this in specifications to avoid ambiguities. QC agrees since order of UE implementations can differ.

Agreement

1 RAN2 confirms that the first possible addition of SCG or SCells and configuration of multi-TRP, UDC, EHC, SUL, sidelink or conditionalReconfiguration (CHO) in the target cell at a DAPS HO is in the RRC Reconfiguration message that includes *daps-SourceRelease*.

* Discuss in offline [213] how and whether to capture these in the specifications (Ericsson)

Thus, the general understanding in RAN2 is that the non-DAPS compatible features can be configured in the same RRC reconfiguration message that contains the *daps-SourceRelease* indication. The non-DAPS compatible features considered here are the following:

* Carrier Aggregation (CA)
* Dual Connectivity (DC)
* Multi-TRP (NR only)
* UDC (LTE only)
* EHC
* SUL (NR only)
* Sidelink
* conditionalReconfiguration (CHO)

To capture the above agreement the following options can be considered:

1. Capture with a note in the chairman’s notes
2. Capture in stage-2 only (i.e. 38.300 and 36.300)
3. Capture in stage-3 only (i.e. 38.331 and 36.331)
4. Capture in stage-2 + stage-3

Q1: Which of the options do you prefer?

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| --- | --- | --- |
| Company | Which option? | Comments |
| Ericsson | d (b might also be ok) | It is not clear from the specifications that the non-DAPS compatible features can be configured in the same RRC reconfiguration message that contains the *daps-SourceRelease* indication.  For some related parameters in 36.331 and 38.331 it is, in the field descriptions, stated that they cannot be included/configured when there is a DAPS bearer configured. This could then be interpreted as that the parameter cannot be set in the message that includes the daps-SourceRelease, which removes any DAPS bearer.  Therefore this needs to be clarified somewhere.  Option a is not a good option since if DAPS gets implemented in a few years time the implementers should not have to look a t the chairman‘s notes. |
| MediaTek | d | Stage-2 modifications are needed since we have related descriptions about non-DAPS compatible features “during DAPS handover”, and the proposed changes explain that the earliest message to configure non-DAPS compatible features is the one with *daps-SourceRelease*.  Stage-3 modifications do help confirm that it is not a problem to have non-DAPS compatible features configured in the message with *daps-SourceRelease*, although reasonable UE implementation aligns with the proposed change even without the CR. |
| Huawei, HiSilicon | A or b | This common understanding can be clarified in chairman notes, and if companies have strong views to capture something in spec, we see a general description in stage-2 CR is enough.  If stage-3 CR is introduced, many changes are needed since we have to identify and layout all affected parameters according to the non-compatible feature list. We don’t see such changes are suitable for a frozen spec. |
| Apple | b or d | Spec should be clear on the UE behavior and the correct order of the implementation, e.g. release DAPS source cell and then apply the other configuration. |
| ZTE | b | We think it’s clear enough to capture a general description in stage-2 CR. So there is no need to do exhausted work on identifying and clarifying all related parameters in stage-3 spec. |
| Intel | d (b might also be ok) | Share the same with Ericsson. The ambiguous part is whether the source release message or after source release, we consider the DAPS is released. And therefore it would be good to clarify this in the specification. |
| Nokia | a | We think the behavior is clear enough and do not require specification changes. It may be captured in the chairman notes. If majority clearly wants the specification modifications, then a simple text in Stage-2 should be more than enough. |
| LGE | d (or b) | Both stage-2 and 3 modifications would be helpful for understanding. However, considering future expansion, b can be also a good option in order to avoid changing stage-2 and 3 together whenever new features are agreed to non-DAPS compatible. |
| ITRI | b or d | The current specifications may lead to misunderstanding that the non-DAPS compatible features cannot be configured in the RRC reconfiguration message containing the daps-SourceRelease. Changes in the specifications for clarification are needed. Both options b and d work. Option d clarifies all related parameters but needs exhausted work on identifying and clarifying them, while option b provides general description in stage-2 only which could also be enough. |
| vivo | a | non-DAPS compatible features configured in the message with *daps-SourceRelease is a kind of normal reconfiguration, which is supported by reasonable UE implementation.*  Hence, it’s not needed to change stage-2 and stage-3 specification. |

Rapporteur’s summary for Q1: It seems a stage-2 clarification would be acceptable to most companies. Hence the following is proposed:

1. Clarify in stage-2 (38.300 and 36.300) that non-DAPS compatible features (CA, DC, multi-TRP, UDC, EHC, SUL, sidelink, and CHO) can be configured in the same RRC reconfiguration message containing the *daps-SourceRelease* indication

If it is decided to capture the agreement in stage-2 (i.e. option b or d in Q1) the text proposals in [R2-2102820](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2102820.zip) may be used as a starting point.

(Note that restriction to configure EHC during DAPS handover is currently missing in 38.300 and is therefore also added in the text proposal for 38.300).

Q2: Any comments on the stage-2 text proposals in [R2-2102820](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2102820.zip)?

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| Company | Comments |
| Huawei, HiSilicon | If a NR stage-2 CR is needed, according to the non-compatible feature list, we see CHO is missing.  @Rapporteur: This has been addressed in the revised 38.300 CR. |
| ZTE | In the stage-2 spec, we also captured that “RRC suspend, a subsequent handover or inter-RAT handover cannot be initiated until the source cell has been released.”. So we think some clarifications for subsequent handover or inter-RAT handover can also be considered. E.g., (for a subsequent handover or inter-RAT handover, at earliest in the same message that releases the source PCell).  @Rapporteur: RAN2 previously agreed to not allow subsequent handover in the same RRC reconfiguration message that releases the source cell due to the difficulty for the target to set the *daps-SourceRelease* indication. For an inter-RAT handover it also not possible to set the *daps-SourceRelease* indication since the RRC reconfiguration message is from the other RAT. No change is therefore considered needed due to this comment. |
| Nokia | For 36.300: The changes in 10.1.2.1.0 are not needed as they are later covered by the text in NOTE3a and NOTE4 within the next changed subsection.  @Rapporteur: It is correct that the changes in section 10.1.2.1.0 are strictly not needed and can be considered editorial since the same information is contained elsewhere. However, since the text immediately before talks about releasing SCells it might be good to explain when the SCells can be added back again in the same section. |
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Rapporteur’s summary for Q2: The stage-2 CRs from [R2-2102820](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2102820.zip) have been revised according to the comments above and are available in the draft CR folder. It is proposed to continue the discussion of the revised stage-2 CRs during the second phase (deadline 2nd week Tue, UTC 1000).

1. Continue the discussion of the revised stage-2 CRs in the second phase of the email discussion.

If it is decided to capture the agreement in stage-3 (i.e. option c or d in Q1) the text proposals in [R2-2102820](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2102820.zip) may be used as a starting point.

Q3: Any comments on the stage-3 text proposals in [R2-2102820](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2102820.zip)?

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| Company | Comments |
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Rapporteur’s summary for Q3: Based on the answers to Q1, no stage-3 CR will be pursued.

# Conclusion

Based on the discussion in the previous sections the following proposals are made:

[Proposal 1 Clarify in stage-2 (38.300 and 36.300) that non-DAPS compatible features (CA, DC, multi-TRP, UDC, EHC, SUL, sidelink, and CHO) can be configured in the same RRC reconfiguration message containing the](#_Toc69394935) *[daps-SourceRelease](#_Toc69394935)* [indication](#_Toc69394935)

[Proposal 2 Continue the discussion of the revised stage-2 CRs in the second phase of the email discussion.](#_Toc69394936)

# References

1. Tdoc Number, Title, Source, Meeting, Date
2. Spec number, Title, Source, Version, Date