**3GPP TSG RAN WG1 Meeting #100bis-E R1-200xxxx**

**e-Meeting, April 20 – 30, 2020**

**Source: Moderator (Intel Corporation)**

**Title: Summary of email discussions for NR Mobility Enhancements**

**Agenda item: 7.2.9**

**Document for: Discussion**

# Introduction

In this contribution, we summarize the email discussion approved for discussion during RAN1 #100bis-E. Chairman has approved three email discussion threads for RAN1 #100bis-E. The following are the approved email discussions:

* [100b-e-NR-Mob-Enh-01] Email discussion/approval on UL cancellation in UL DAPS-HO by 4/24; if necessary, followed by endorsing the corresponding TP by 4/30 – Daewon (Intel)
* [100b-e-NR-Mob-Enh-02] Email discussion/approval on power sharing mode for UL DAPS-HO by 4/23; if necessary, followed by endorsing the corresponding TP by 4/29 – Daewon (Intel)
* [100b-e-NR-Mob-Enh-03] Email discussion/approval on PDCCH/PDSCH restrictions for DL DAPS-HO by 4/22; if necessary, followed by endorsing the corresponding TP by 4/28 – Daewon (Intel)

# Email Discussion [100b-e-NR-Mob-Enh-01]

[Copy discussion from the document for email thread-01]

# Email Discussion [100b-e-NR-Mob-Enh-02]

[Copy discussion from the document for email thread-02]

# Email Discussion [100b-e-NR-Mob-Enh-03]

This discussion is regarding the PDCCH/PDSCH restrictions for DL DAPS-HO (Issue #1 from [11]).

**Issue and Proposal Summary:**

Proposal from [1] is to define a separate capability for UE that can process overlapping resources from source and target cell in intra-frequency DAPS HO. The motivation for introducing a new capability is not force certain UEs to be able to process DL signals that overlap in time and frequency resources, which can be difficult in some scenarios without SIC techniques. The following are the proposals made:

* Proposal by Huawei [1]: Restrict the minimum UE capability of DAPS-HO to FDMed simultaneous reception from source and target cells on overlapping OFDM symbols.
* Proposal by Huawei [1]: Introduce additional UE feature simultaneousRxOnOverlappedfreqAndtime to indicate the support of simultaneous reception from source and target cells on overlapped time and frequency resources.
* Adopt the following TP [1]:

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| --- |
| **15 Dual active protocol stack based handover**  If a UE indicates a capability for dual active protocol stack based handover (DAPS HO), the UE can be provided with a source MCG and a target MCG.  The UE may expect to receive one PDCCH associated to one MCG to schedule one PDSCH, where the full scheduling information for receiving a PDSCH is indicated and carried only by the corresponding PDCCH.  If a UE does not indicate a capability *simultaneousRxOnOverlappedfreqAndtime* for simultaneous reception on overlapped frequency resources and is configured with a source MCG and a target MCG, the UE does not expect:   * the set of frequency resources provided by higher layer parameter *frequencyDomainResources* in a *ControlResourceSet* in a source MCG to overlap with the set of frequency resources provided by *frequencyDomainResources* in a *ControlResourceSet* in a target MCG and, * to receive a PDSCH scheduled by a corresponding PDCCH sent by the source MCG to be located in frequency resources overlapping with a PDSCH scheduled by a corresponding PDCCH sent by the target MCG.   If the PDCCHs that schedule corresponding PDSCHs are associated to different MCGs, the UE procedure for receiving the PDSCH upon detection of a PDCCH follows Clause 5.1 in [5, TS 38.214]. |

**Discussion Summary:**

Companies are encouraged to provide comments on the proposal above. Comments should include views on whether proposals by Huawei [1] are acceptable or not. Also, if companies have a modified/reformulated proposal based on proposals from above companies, please do provide them below as well.

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| --- | --- |
| Company Name | Comments/Views |
| Company-A | Comments here |
| Huawei/HiSilicon | We support this proposal. |
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# Reference

1. R1-2001530, “Remaining issues on DAPS-HO,” Huawei, HiSilicon
2. R1-2001624, “Remaining issues on NR mobility enhancements in physical layer,” ZTE
3. R1-2002011, “Corrections to Physical layer aspects of NR mobility enhancement,” Intel Corporation
4. R1-2002148, “Remaining issues for NR Mobility Enhancement,” Samsung
5. R1-2002221, “Remaining physical layer aspects of dual active protocol stack based HO,” Nokia, Nokia Shanghai Bell
6. R1-2002344, “On remaining issues on NR mobility enhancements,” Apple
7. R1-2002490, “Correction to UL power sharing for DAPS HO,” Ericsson
8. R1-2002558, “Maintenance for NR mobility enhancements,” Qualcomm Incorporated
9. R1-2001531, “Remaining PHY aspects for CHO,” Huawei, HiSilicon
10. R1-2001625, “Discussion on FR2 mobility interruption enhancements,” ZTE
11. R1-2002010, “Issue Summary for NR Mobility Enhancements,” Moderator (Intel Corporation)