3GPP TSG-RAN2 Meeting #113bis-e R2-210xxxx

eMeeting, 12th – 20th April, 2021

Agenda Item: 5.4.3 UE capabilities

Source: Ericsson

Title: [AT113bis-e][010][NR15] UE caps DL scheduling slot offset

Document for: Discussion and Decision

# Introduction

During RAN2#906 it was agreed to have an offline email discussion, after the online discussion on Monday, about:

* [AT113bis-e][010][NR15] UE caps DL scheduling slot offset (Ericsson)

START ONLY AFTER ON-line Monday

Scope: Taking into account on-line agreements, Treat R2-2103768, R2-2103770, R2-2103771, R2-2103769, R2-2103799

Phase 1, determine agreeable parts, Phase 2, for agreeable parts Work on CRs.

Intended outcome: Report and Agreed-in-principle CRs.

Deadline: Schedule A

The deadline for the first round comments is **Wednesday April 14 1000 UTC**.

This report gives a summary of this offline email discussion.

# Contact information

|  |  |
| --- | --- |
| **Company** | **Email** |
| Ericsson | martin.van.der.zee@ericsson.com |
| Apple | naveen.palle@apple.com |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

# Introduction

There was no time for online discussion on monday, and no online agreements were reached, but in this first round we will look for agreeable parts in:

1. [R2-2103768](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_113bis-e/Docs/R2-2103768.zip), *Summary of [Post113-e][051][NR15] DL scheduling slot offset*, Ericsson report, RAN2#113bis-e
2. [R2-2103770](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_113bis-e/Docs/R2-2103770.zip), *Introduction of DL scheduling slot offset capabilities in UERadioPagingInformation*, Ericsson, CR 38.331, Rel-15, RAN2#113bis-e
3. [R2-2103771](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_113bis-e/Docs/R2-2103771.zip), *Introduction of DL scheduling slot offset capabilities in UERadioPagingInformation*, Ericsson, CR 38.331, Rel-16, RAN2#113bis-e
4. [R2-2103769](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_113bis-e/Docs/R2-2103769.zip), *Open issues K0 configuration and use*, Ericsson, DISC, RAN2#113bis-e
5. [R2-2103799](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_113bis-e/Docs/R2-2103799.zip), *Configuration of common fields in dedicated signalling*, Ericsson, DISC, RAN2#113bis-e

# Discussion

## Add DL scheduling slot offset capabilities to *UERadioPagingInformation* message

The gNB currently does not know if the UE has IOT-tested K0 > 0 when receiving a Paging message from CN. Thus the gNB does not know if it can use K0 > 0 in the PDCCH scheduling of the Paging message on PDSCH, provided that only UE(s) supporting K0 > 0 are paged in the Paging Occasion (PO). When the gNB does not know if the UE supports K0 > 0, or if also legacy UEs are paged in the PO, then the gNB cannot use K0 > 0 in the PO.

**Issue 1**: Do companies agree to add *SchedulingOffset-PDSCH-TypeA* and *dl-SchedulingOffset-PDSCH-TypeB* capability to the *UERadioPagingInformation* message?

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments** |
| Ericsson (proponent) | Yes | None |
| Apple | Yes | We are ok with this proposal |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Issue 2**: Do companies agree with the draft CRs for Rel-15 and Rel-16 in [2,3]?

1. [R2-2103770](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_113bis-e/Docs/R2-2103770.zip), *Introduction of DL scheduling slot offset capabilities in UERadioPagingInformation*, Ericsson, CR 38.331, Rel-15, RAN2#113bis-e
2. [R2-2103771](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_113bis-e/Docs/R2-2103771.zip), *Introduction of DL scheduling slot offset capabilities in UERadioPagingInformation*, Ericsson, CR 38.331, Rel-16, RAN2#113bis-e

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments** |
| Ericsson (proponent) | Yes | None |
| Apple | Yes | We do not have strong preference on Rel-15, but are ok with majority agree. |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## Open issues with K0 configuration and use

In the email discussion #051 [1] companies agreed that the NW can **configure** K0>0 in *pdsch-TimeDomainAllocationLis*t in *SIB1* which is a common configuration for all UEs in the cell i.e. for UEs supporting K0>0 and UEs not supporting K0>0:

A UE that does not support *dl-SchedulingOffset-PDSCH-TypeA* or *dl-SchedulingOffset-PDSCH-TypeB* capability does support *pdsch-TimeDomainAllocationList* **configuration** in *PDSCH-ConfigCommon* in *SIB1* including K0 values larger than 0.

**Issue 3**: Do companies agree to clarify this in the chairman notes?

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments** |
| Ericsson (proponent) | Yes | None |
| Apple | Ok |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

In the email discussion #051 [1] it was also discussed whether it should be clarified that the NW cannot **use** K0>0 when the NW does not know if the UE has IOT-tested it:

The network cannot **use** K0>0 for PDCCH/PDSCH scheduling without possible IOT issues when the network does not know if the UE has IOT-tested K0>0.

**Issue 4**: Do companies agree to clarify this in the chairman notes?

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments** |
| Ericsson (proponent) | Yes | None |
| Apple | Yes |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

In the email discussion #051 [1] it was also discussed whether the NW should use the UE capabilities when configuring K0 via *PDSCH-Config* (not *PDSCH-Config****Common***) in dedicated signalling, i.e. not configure K0>0 when the UE has not IOT-tested it. It is the understanding of the rapporteur that the normal approach is to use the UE capabilities in dedicated configuration in dedicated signalling:

The network configures K0 in *PDSCH-Config* in dedicated signalling according to the UE capabilities.

**Issue 5**: Do companies agree to clarify this in the chairman notes?

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments** |
| Ericsson (proponent) | Yes | None |
| Apple | Yes |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## Common configuration in dedicated signalling

The contribution [5] presents three types of RRC signaling in the dimension of common (cell specific) and dedicated (UE specific):

1. Common configuration included in SI
2. Dedicated configuration included in dedicated signaling
3. Common configuration included in dedicated signaling

The issue at hand is the third type, and the paper argues that it should be clarified whether Type 3 configurations should comply with what the UE supports or not.

**Issue 6**: Do you think clarifications are needed (why/why not)?

|  |  |
| --- | --- |
| **Company** | **Comments** |
| Apple | In our view, the common config in the dedicated signalling should be the same (or similar) to the one in common config of SI. Infact, it is one of the agreements in RAN2 that UE gets the common config in a dedicated message that reflects the content of the common config of the cell in handover. However we understand the scenario in this case (Esp for BWP config which has common part in UE dedicated info).  We think that if we follow the philosophy of including only cell-specific config in UE dedicated common config, then we do not have to run into the issue and the relation to UE capability (as cell-specific config using in broadcast does not depend on UE capability).  We are open to other companies view in this regard. |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

**Issue 7**: If clarifications are needed, what should be the intended behaviour (e.g. network adapts all type 3 signalling to UE capabilities, or network does not have to adapt all type 3 signalling and the UE has to comprehend it regardless of UE capabilities, or something else)?

|  |  |
| --- | --- |
| **Company** | **Comments** |
| Apple | Pls see our comments above. |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

# Summary of email discussion

TBD

# Conclusions

TBD