3GPP TSG-RAN WG2 Meeting #105bis R2-190xxxx

Xian, China, April 8 - 12, 2019

Agenda Item: x.x

Source: Qualcomm Incorporated

Title: Summary of email discussion [105#40][NR] UE capability procedure processing delay

Document for: Discussion, Decision

# Introduction

This offline discussion is to discuss the following issue identified in RAN2#105.

Agreements

1 For TS 38.331, RRC processing delay for UE capability transfer is [15-80] ms.

2 For TS 36.331, RRC processing delay for UE capability transfer to report NR band combinations and/or MR-DC band combinations is corrected to [15-80] ms.

3 Not define RRC processing delay for the combined procedure of SecurityModeCommand and RRCConnectionReconfiguration.

4 RRC processing delay for RRCReestablishment is 10 ms

5 Not define RRC processing delay for the combined procedure of RRCReestablishment and RRCConnectionReconfiguration.

=> Offline discussion to progress the UE capability transfre number (Offline discussion 87, Qualcomm)

# What to discuss?

It was pointed out during the discussion that since carrier aggregation is introduced, the filtering of UE capability (e.g. “requested bands”) is getting more and more complex and computation demanding. It was also pointed out that the amount of RRC processing at the UE can vary depending on the form of UE capability filter used to derive the UE capability.

One possible approach may be to discuss whether we can define the condition on how the UE capability is enquired by the network. For example, it may be possible to agree on the form of UE capability filter as a condition to define the UE requirement.

**Q1:** Do companies agree it is a good way to make progress on the issue?

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| **Company** | **Yes/No** | **Comment** |
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# Discussion

* 1. Existing UE capability filters defined in TS36.331

The following UE capability filters are defined currently in TS36.331. The items **A** and **I** are mandatory for requesting MR-DC or NR UE capability.

|  |  |  |
| --- | --- | --- |
|  | **Field name** | **Description** |
| **A** | UE-CapabilityRequest | List of RATs for which UE capability is requested |
| **B** | requestedFrequencyBands-r11 | 1 to 16 frequency bands |
| **C** | requestReducedFormat-r13 | Request to provide supported CA band combinations in the supportedBandCombinationReduced-r13 |
| **D** | requestSkipFallbackComb-r13 | Request to exclude fallback CA band combinations |
| **E** | requestedMaxCCsDL-r13 | 2 to 32 CCs |
| **F** | requestedMaxCCsUL-r13 | 2 to 32 CCs |
| **G** | requestReducedIntNonContComb-r13 | Request to exclude supported intra-band non-contiguous CA band combinations |
| **H** | requestDiffFallbackCombList-r14 | List of CA band combinations for which the UE is requested to provide different capabilities for their fallback band combinations |
| **I** | requestedFreqBandsNR-MRDC-r15 | List of NR and/ or E-UTRA frequency bands for which the UE is requested to provide its supported NR CA and/or MR-DC band combination |
| **J** | requestSTTI-SPT-Capability-r15 | Request to include the short TTI and SPT capabilities |
| **K** | eutra-nr-only-r15 | Request to include EN-DC capability, but not NR standalone capability |

* 1. Existing UE capability filters defined in TS38.331

The following UE capability filters are defined currently in TS38.331. The items **L** and **M** are mandatory for requesting MR-DC or NR UE capability.

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|  | **Field name** | **Description** |
| **L** | rat-Type | List of RATs for which UE capability is requested |
| **M** | frequencyBandList | 1 to 1280 E-UTRA /NR frequency bands, where for each band the items can be requested |
| **N** | ca-BandwidthClassDL-EUTRAca-BandwidthClassUL-EUTRA | {a, b, c, d, e, f}: Meant to limit the bandwidth per band: |
| **O** | maxBandwidthRequestedDLmaxBandwidthRequestedUL | 0 to 400MHz |
| **P** | maxCarriersRequestedDLmaxCarriersRequestedUL | 1 to 32 |

**Q2:** Do companies think defining what UE capability filters are used in UE Capability Enquiry will help defining the UE requirement for RRC processing delay?

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| **Company** | **Yes/No** | **Comment** |
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**Q4:** Any other conditions that should be defined?

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| **Company** | **Condition / Comment** |
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**Q3:** Companies are requested to provide their proposed requirement number for UE capability transfer processing delay, and proposed conditions (if applicable).

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| **Company** | **Requirement number (ms)** | **Condition / Comment** |
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# Conclusion

# Reference