3GPP TSG-RAN Meeting #89-eRP-20xxxx

Electronic Meeting, 14-18 September 2020

Agenda Item: 9.10

Source: Email discussion moderator (Intel)

Title: Report from Email Discussion [89E][15][UE\_features]

Document for: Discussion and decision

# 1 Introduction

This documents reports on the following email discussion during RAN#89-e:

**[89E][15][UE\_features]**

Goal: Find a way forward regarding the proposals on UE features.

Input contributions covered: 1525, 1768, 1877, 1878, 1879.

Note that tdoc RP-201864 was allocated to this email discussion in the kick-off email but was subsequently moved to email discussion 32.

The tdocs allocated to this discussion relate to 3 independent topics which are addressed separately by the 3 sections of this report.

## 2 UE capability differentiation for licensed and unlicensed operation

The topic is raised by tdoc RP-201525 which makes the 3 proposals which are handled in the following sub sections. The intention of this email discussion is not to discuss individual UE capabilities, but to attempt to conclude some principles that can be applied in future discussions by the RAN WGs.

### 2.1 Proposal 1

**Proposal 1** Discuss feature by feature the applicability of the features developed for unlicensed to licensed. In general, apply to licensed, as long as it is feasible.

Companies can provide any feedback related Proposal 1.

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| **Company** | **Comments** |
| Charter Communications, Inc. | We agree with this proposal |
| Nokia | We agree with this proposal, this is already the approach taken in RAN1 for Rel-16 NR-U feature groups |
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### 2.2 Proposal 2

**Proposal 2** Avoid discussing feature by feature the applicability of the features developed for licensed to unlicensed. As default, apply all licensed features to unlicensed, and discuss cases on an exception basis, only if there is specific company input requesting discussion.

Companies can provide any feedback related Proposal 2.

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| **Company** | **Comments** |
| Charter Communications, Inc. | We agree with this proposal |
| Nokia | We agree with this proposal, this is already the approach taken in RAN1 for Rel-16 feature groups |
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### 2.3 Proposal 3

**Proposal 3** As a baseline, for all features that apply to both licensed and unlicensed, UE capability differentiation is needed – this is already being handled in RAN1 for Rel-16 features. Capability differentiation for Rel-15 UE features is for further discussion. The differentiation is being realized by either reporting types ‘per Band’, ‘per FS’, ‘per FSPC’, or explicit differentiation for certain features.

It is not very clear from the wording of Proposal 3 what the specific proposal is. While companies are free to provide any feedback in relation to Proposal 3, it is suggested that companies should at least address the following points:

1 Should the principle to apply UE capability differentiation to all Rel-16 features that are applicable to both unlicensed and licensed also applied by RAN 2 and RAN4 (it seems it is already being applied in RAN1)

2 What should be done for Rel-15 features that are applicable to both unlicensed and licensed.

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| **Company** | **Comments** |
| Charter Communications, Inc. | We agree with this proposal |
| Nokia | For Rel-16 features this is already being considered in RAN1, where in some cases it has been identified that a feature requires licensed/unlicensed differentiation (e.g. 19-1). As for Rel-15 features, the principles of Proposal 2 should apply here, i.e. WGs should only discuss such differentiation for specific feature groups based on company requests, if any. Moreover, NBC changes need to be avoided. From Nokia point of view, we have not identified any need to modify Rel-15 capabilities due to unlicensed/licensed differentiation needs. |
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## 3 UE features for cross-carrier operation

The topic is raised by tdoc RP-201768 which makes the 3 proposals which are handled in the following sections

### 3.1 Proposal 1 and 2

**Proposal 1**: RAN discusses the remaining Rel-15 UE features with potential ambiguity issue in case of cross-carrier operation in this plenary.

**Proposal 2**: Regarding the interpretation of UE capabilities in case of cross-carrier operation, the support of the following UE capability is based on the support of this capability for the band of the scheduled/triggered/indicated cell only.

**2.1** ue-SpecificUL-DL-Assignment

**2.2** bwp-DiffNumerology / bwp-SameNumerology

These proposals are closely related and hence separate feedback for proposal 1 is not requested - if any company thinks this should not be discussed in RAN plenary then this can be indicated. Separate tables are provided in which to give feedback on 2.1 and 2.2

Companies can provide any feedback related Proposal 2.1 related to **ue-SpecificUL-DL-Assignment**

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| **Company** | **Comments** |
| Nokia | Related discussion has been started in RAN1 already and in our view it should be continued in RAN1 instead of RAN Plenary. |
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Companies can provide any feedback related Proposal 2.2 related to **bwp-DiffNumerology / bwp-SameNumerology**

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| **Company** | **Comments** |
| Nokia | Related discussion has been started in RAN1 already and in our view it should be continued in RAN1 instead of RAN Plenary. |
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### 3.2 Proposal 3

**Proposal 3**: RAN tries to resolve the ambiguity issue of Rel-16 UE features related to cross-carrier operation in RAN#89e. Otherwise, RAN tasks WG to discuss and resolve this issue in next WG meeting.

Companies can provide feedback related to Proposal 3. At this stage, feedback on the separate capabilities (approximately 15 listed in the paper) is not requested, but companies can comment on whether we try to progress these within RAN plenary. If there is support to progress them, then feedback will be requested on each separate capability in the next stage of the discussion.

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| **Company** | **Comments** |
| Nokia | RAN1 has just finalized the list of Rel-16 UE features in RAN1#102-e with focus on ASN.1 impacts, and it is natural that discussion will continue in next quarter to finalize remaining aspects. Hence, the most natural place to discuss this topic is in upcoming RAN1 meetings rather than RAN Plenary. |
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## 4 New UE FG for CBG-based PUSCH retransmission with cancelled initial transmission

Tdoc RP-201877 makes the following proposal:

**Proposal**: Add the following Rel-16 UE FG for eURLLC WI (based on Option 1a above):

In addition, tdocs RP-201878 and RP-201879 provide CRs to 38.306 and 38.331. The first phase of the email discussion should focus on the principle decision of whether to introduce the new capability. If this is agreeable then the CRs can be looked at in a second stage or tasked to RAN2 to progress in Q4.

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| **Company** | **Comments** |
| Nokia | We are OK with the principle decision of introducing the new capability proposed in RP-201878. As for the CRs, we believe it is best to task RAN2 to progress in Q4 with those. |
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## 5 Contacts

Please provide a company contact that the email discussion moderator can contact if required.

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| **Company** | **Contact name and email** |
| Nokia | Cassio Ribeiro, cassio.ribeiro@nokia.com |
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