[94e-42-R17-MBS-Scope] - Version 0.0.3
RAN

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Source: RAN2 Chair (MediaTek Inc)

Title: Moderator's summary of discussion [94e-42-R17-MBS-Scope]

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1 Introduction

This discussion treats the tdoc RP-213259. Please read this tdoc before replying.

This topic was also treated at TSG RAN 93, see RP-212559.

2 Initial Round

RP-213259 concludes the following:

It is critical to have the configuration flexibility of Case-D and Case-E to resolve the restriction on CFR and initial downlink BWP configured by SIB1. Based on the discussions in this contribution, we have the following observations and proposals:

Observation 1 *It is necessary to decouple the CFR configuration from initial downlink BWP configured by SIB1.*

Observation 2 *The specification impact for Case-D and Case-E is the same as that for Case-C.*

Observation 3: *A common configuration method can be used to configure CFR in Case-C, Case-D and Case-E.*

Observation 4*: The service interruption & service continuity issue is common to Case-C, Case-D and Case-E.*

Proposal 1*: For a configured/defined CFR for GC-PDCCH/PDSCH carrying MCCH and MTCH for broadcast reception with UEs in RRC IDLE/INACTIVE state, support Case-D and Case-E to decouple the CFR configuration from initial downlink BWP configured by SIB1.*

Moderator: Please provide comments on Proposal 1 above. Please justify your view, e.g. for Opposing comments, can also comment on the observations.

Moderator: Please note that the Desicion from TSG RAN 93e is to support at least one of Case E and/or Case D, and that Proposal 1 indeed fullfills this Desicion. Thus, a reasonable question to potential opponents is whether there is any significant drawback with Proposal 1 compared with other alternatives that would fullfill said Desicion.

Feedback Form 1: Initial comments

1 – ZTE Corporation

1. We share the same view with the above observations and proposal 1. Limiting the CFR equal to CORE-SET#0 or SIB-1 configured initial DL BWP only is too restrictive especially for network configuration and service adaptation.

2. RAN1 has implemented the spec changes for Case A and C. As analysed in RP-213259, the solution and potential change is the same for Case C, Case D and Case E, thus the only left thing is RAN2 spec change, which is mainly to allow the configuration flexibility. We think it is worth it to support Case E with such minor RAN2 spec change.

3. In last RAN meeting, it has been concluded that at least one of Case D and Case E will be supported. Since companies couldn't converage on either Case D or Case E, the best compromise is to support both Case D and Case E.

4. If we have to pick one of Case D or Case E, we support Case E since anyway Case D can be realized by network implementation/scheduling.

5. If companies still couldn't converge on either Case D or Case E, we propose to add Case E in Rel-18 MBS WID.

2 – NTT DOCOMO INC.

We have the similar view with the above observations and agree with Proposal 1. If we have to choose one, we prefer Case D.

3 – Spreadtrum Communications

1.

After RAN#93e meeting, this issue has been discussed in two RAN1 meetings, and in Nov. RAN1 meeting, it was concluded that there is no consensus to support both case D and case E in RAN1. In addition, both status report from RAN1 Chair and status report from MBS rapporteur have clearly claimed that MBS work in RAN1 has been completed. Thus, we don't think RAN guidance is needed here.

2.

From the perspective of technology, we have different views regarding on observations and proposal.

1) For Observation 1: Actually we have agreed to support case C, where case C is associated with SIB1 configured initial BWP. So does observation 1 intend to not support case C? If yes ,we don't think it is proper at this point.

2) For observation 2: For case E one new additional BWP is introduced, while no BWP introduced for case C and case D. It is obvious that the spec impact is different.

3) For observation 3: In previous meeting, there is clear definition on case A, case C, case D and case E respectively. We should respect the previous agreements, not to reformulate case C/D/E at this point.

4) Regarding the selection of case D and case E, the conclusion from RAN1 has provided answers. Thus, proposal 1 is not needed.

5) In fact, this issue has been discussed across the whole R17 RAN1 meetings, and the key divergence among group lies in whether case E can be supported. But because there are too many things which have not achieved common understanding among people, e.g., whether case E is one optimization, how case E works, whether and which use cases have high data rate requirement in idle/inactive state and so on, then we have the conclusion in RAN1. We also don't think it is possible to achieve the common understanding in RAN plenary.

4 – MediaTek Inc.

Some Moderator Replies:

General: This topic has been discussed before. Moderator assumes e.g. that it is clear what are the intended benefits of supporting Cases D and E respectively (even though the description in the input tdoc was not that clear).

As both Spreadtrum and ZTE point out, there is indeed some impact of supporting E and/or D in addition to C, At least some RAN2 impact. The extent of this impact can be further elaborated.

5 – ZTE Corporation

Add some clarification for our previous comments "thus the only left thing is RAN2 spec change, which is mainly to allow the configuration flexibility". Sorry for the confusion if any.

Since Case C has been agreed, it will be specified/reflected in RAN2 spec. Compared with Case C, the only additional spec change is to allow configuring a CFR with a larger size instead of limiting the CFR size to SIB-1 configured initial DL BWP. The configuration framework and RRC signalling will be the same, it is just the value of the CFR size will be different.

Thus, based on our understanding, compared with Case C, the additional spec change for Case E will be in RAN2 ,and will be pretty minor or none.

6 – MediaTek Inc.

We have no strong view on whether to support case D or case E. But given that there is no consensus in RAN1 after R17 functional freeze, it would be fine for us to support case C only.

7 – Lenovo (Beijing) Ltd

We totally agree with Spreadtrum. In addition, we have below comments:

(1) RAN1 spent significant time in 2021 to define the fives cases, Case A E. The pros/cons are well analyzed in the whole year. Continuing to argue this dose not make any sense.

(2) RAN1#107 has made conclusion like below, which **unfortunately** was not mentioned by the sourcing companies.

Conclusion

RAN1 cannot get consensus on the support of Case D and/or Case E.

(3) As mentioned by Spreadtrum, both status report from RAN1 Chair and status report from MBS rapporteur for RAN#94e have clearly declared that MBS work in RAN1 has been completed with 100% level. No any RAN guidance is needed.

(4) Based on above, it is not a good way forward and a right timing to reopen the technical discussion in RAN level.

8 – Beijing Xiaomi Electronics

We agree with the analyses from Spreadstrum and Lenovo.

The technical debate has been present in RAN1 for several meetings. It is clear that there is impacts in RAN1 as mentioned by Spreadstrum. It is not true that the same behavior can be maintained in terms of specification impacts and service continuity. It is definitely not the common understanding in RAN1 case D and case E can be easily supported without any additional RAN1 impacts and this is why we achieve the conclusion that RAN1 cannot get consensus on the support of Case D and/or Case E. We shouldn't violate a conclusion achieved in RAN1 especially Rel-17 MBS work in RAN1 has been announced 100% completion.

9 – CATT

Our understanding of the conclusion in RAN1#107e (provided by Lenovo above) is that Case D and E are not supported in Rel-17. We do not think any RAN discussion/guidance is needed any more.

10 – vivo Mobile Communication Co.

1. With RAN1 status report claiming the completion of RAN 1 MBS work, we believe essential correction is still allowed to accomplish the first release of NR MBS.

- If case E is not supported in current release, the size of CFR will be quite restricted and resolution on this issue in future will cause poor backward compatibility.

2. Regarding RAN 2 spec impact, in our understanding, it will be the same for supporting Case-C, Case-D and Case-E, RP-213259 can be referred for detailed elaboration.

- There may exist two potential ways to configure the CFR in three cases: one is that CFR can be directly configured with proper size and another is that CFR can be configured within a BWP. In the previous one, common signaling can be used for configuring the frequency range of CFR. And in the latter one, common signaling can be used to configure a BWP within which the CFR is confined.

- Some companies argued in RAN 1 that CFR in Case-C can be defined based on initial downlink BWP configured by SIB-1 and thus, less RAN 2 spec effort is expected. However, initial downlink BWP configured by SIB-1 is not valid in RRC idle/inactive according to the legacy rules in Rel-15 and Rel-16 as there should be only one initial downlink BWP in RRC idle/inactive, and thus, another BWP with the same frequency resource with initial downlink BWP configured by SIB-1 is required even in Case-C.

3. The benefit of Case-E is it provides flexibility to configure a CFR independent of initial downlink BWP configured by SIB-1, so that proper size of CFR can be freely configured to facilitate MBS services well and has no constraint on initial downlink BWP.

- In Case-C, CFR for RRC IDLE/INACTIVE UEs always has to be the same size with initial downlink BWP configured by SIB 1. When initial downlink BWP is configured to a small size, i.e., 20MHz, a bandwidth larger than 20MHz is not allowed for broadcast services, resulting in performance loss; when initial downlink BWP is configured to a large size for accommodating broadcast services better, it will have impact on RRC CONNECTED UEs in Rel-15/Rel-16/Rel-17, i.e., not friendly to power saving purpose.

11 – Guangdong OPPO Mobile Telecom.

We share the similar views and analysis from Spreadtrum, Lenovo, Xiaomi and CATT.

With long technical discussion and analysis in detail in RAN1, no consensus is reached on supporting of case D / case E. Furthermore, it is announced that this WI is already 100% completed, which cannot be

violated by now. considering about the technical part of case D/E, we also think it will have additional RAN1 impact and furthermore specification work is needed. We would like to say that it may not need to be reopened or discussed in the future meeting.

12 – Ericsson LM

We are fine with P1

13 – HUAWEI TECHNOLOGIES Co. Ltd.

As pointed out by other companies, this issue has been discussed in both RAN plenary and RAN1 for a long time and no consensus still. Technically, both case D and case E could be useful in some scenarios with more or less different spec impacts as discussed and debated all the time.

We prefer not to further debate more but work on the remaining issues including the spec impact for both case D and case E if supported. We could be supportive of case D and case E for progress and convergence.

14 – Apple Computer Trading Co. Ltd

We consider supporting CaseD and/or Case E is beneficial. Current RAN1 confusion is not aligned with RAN#93 agreements. Further guidance from RANP is helpful on this issue.

15 – Qualcomm Incorporated

We share the similar views on the observations and the proposal. Comparing with Case D, Case E is especially important, as it would enable larger bandwidth reception for broadcast, to avoid collision with the paging/sib transmitted in a small initial BWP.

More comments for clarification:

Since legacy UEs in IDLE/INACTIVE mode only monitor CORESET#0, it is necessary to define a BWP larger than CORESET#0 for IDLE/INACTIVE UEs to support Case C, D or E. We don't see the difference of the specification impact. For RRC_CONNECTED UEs, the SIB1-configured initial BWP is optional (which is mainly used for SIB/paging/initial RRC configuration, but not intended for broadcast). So, it is too restricting to support Case C only, where a CRF/BWP for broadcast has to be same size as SIB1-configured initial BWP.

16 – LG Electronics France

We support Case E. We are also fine with Case D as well as Case E for compromise.

17 – Intel Corporation (UK) Ltd

We support Case D and E by using SIB-x to reconfigure the initial SIB-1 configured BWP of the MBS UEs to a wider (Case E) or narrower (Case D) BWP and then the CFR equals to initial BWP. This solution would have addressed all cases under a similar framework, and is different from "*decouple the CFR configuration from initial downlink BWP configured by SIB1*" in Proposal 1.

For progress, we proposed to agree on first part of Proposal 1, i.e. "*For a configured/defined CFR for GC-PDCCH/PDSCH carrying MCCH and MTCH for broadcast reception with UEs in RRC IDLE/INACTIVE state, support Case-D and Case-E*".

18 – Nokia France

We agree with the comments from ZTE and similar above.

We support case E. Case D is basically a special case of case E.

Note that RAN1 does not have the right to over-ride decisions of RAN plenary. Therefore the decision of RAN#93e must be respected now with a corresponding decision of RAN#94e.

19 – China Mobile Com. Corporation

We see pros and cons of supporting case E.

In our understanding,

- if only case C or case C&D are supported, there is no need to configure another BWP (e.g., broadcast BWP) in SIBx, and only the broadcast CFR needs to be configured in SIBx. The broadcast CFR can be associated and confined within SIB1 initial BWP.
- If case C&D&E are supported, another BWP (e.g., broadcast BWP) needs to be configured in SIBx, and the broadcast CFR is configured in the broadcast BWP.

The most advantage of supporting case E compared with case C is that, for the UEs that only support one UE-specific RRC configured BWP, if a large bandwidth (e.g., 60MHz) is configured for SIB1 initial BWP for broadcast reception, when UE enters RRC CONNECTED states, network has two choices:

- Choice-1: network additionally configures the UE a dedicated BWP with small bandwidth (e.g., 20MHz) for UE power saving, and if this is the case, network cannot configure dedicated configurations for the SIB1 initial BWP and only fallback DCI can be used in SIB1 initial BWP.
- Choice-2: network configures dedicated configurations for the SIB1 initial BWP, but UE's power consumption may be larger since network cannot configure another BWP with small bandwidth (e.g., 20MHz) for UE power saving.

For other cases, we think the effect of case C&D and case E are basically the same. However, in order to support case E, there will be some additional spec impact, e.g.,

- When broadcast BWP is configured in SIBx and when UE enters RRC_CONNECTED state, basically UE already has two SIB-configured BWPs (one SIB1 initial BWP and one broadcast BWP), whether this needs additional UE capability.
- For UEs that can only support one UE-specific RRC configured BWP, whether they can be configured with additional UE-specific RRC configured BWP on top of the two SIB-configured BWPs.
- Whether PDCCH/PDSCH-config common can be configured in broadcast BWP and whether UE can use these PDCCH/PDSCH-config common parameters to receive unicast service when enters RRC_CONNECTED state.

20 – vivo Mobile Communication Co.

We would like to share our further view on the spec impact of supporting Case-C/D/E, in our understanding, the spec impact is common to the three cases:

- A BWP configured in SIBx is mainly for defining the frequency range of CFR for RRC idle/inactive UEs, it doesn't have to be valid when UE enters RRC*CONNECTED state and thus, PDCCH/PDSCH-config common is not needed. UE can follow legacy rule in R15/R16 when it enters RRC*CONNECTED

state and a dedicated BWP can be configured to include the broadcast CFR if broadcast service continuity is expected.

- The referred BWP by broadcast CFR has to include CORESET 0, and thus, both system information and broadcast services can be received simultaneously, no additional UE capability is needed.

2.1 Initial Round Conclusion

Moderator Observations:

- Initial comments by proponents/supporters indicate that the impact of supporting Cases D and E is in RAN2, and impacts configuration, i.e. an alternative configuration that is applied instead of initial DL BWP in SIB1 but still allows the same procedures as initial DL BWP in SIB1 by including CORESET0. Vivo believes that transition to Connected is not an issue as Dedicated BWP may include the CFR.
- Initial comments indicate that Case E may be the main case to focus on.
- Initial comments by opponents contain no tangible arguments, and refer to the failure to reach consensus in RAN1 and that the release now is closed in RAN1.

Moderator / R2 chair think that both sides has some points:

- RAN2 parts: The impact of supporting case D and E likely include some additional aspects that will require discussion, e.g. transition to connected mode. Assuming that discussions will result in no impact or very simple TS solutions (e.g. capture some restriction, an additional indication IE etc), the RAN2 impact seems not prohibitive.
- RAN1 parts: Maybe RAN2 can drive the work on configuration. Which parts need to be aligned etc between current SIB1 initial DL BWP and Case E CFR BWP may be somewhat obvious, but RAN1 may likely need to assist in this.

Moderator assessment and proposal:

- As it is now late in the release it is not good to attempt progress In an open ended way, with stongly opposing companies. If to proceed we need a way forward that is widely acceptable.
- As the previous desicion by TSG RAN 93e was to support either Case D or Case E, the moderator suggest to remove Case D from the table and check in the intermediate phase whether it can be acceptable to support case E, under the assumption that configuration work is driven by RAN2 and RAN2 impact is reasonable (i.e. RAN2 may decide to not support if issues surface during WG discussions).

3 Intermediate Round

As the previous desicion by TSG RAN 93e was to support either Case D or Case E, the moderator suggest to remove Case D from the table and check in the intermediate phase whether it can be acceptable to support case E, under the assumption that configuration work is driven by RAN2 and RAN2 impact is reasonable (i.e. RAN2 may decide to not support it if issues surface during WG discussions).

Proposal: Support case E, under the assumption that configuration work is driven by RAN2 and RAN2 impact is reasonable (i.e. RAN2 may decide to not support it if issues surface during WG discussions).

Moderator asks companies to comment on the proposal and any related apsects.

Feedback Form 2: Intermediate Rnd Comments

1 – Qualcomm Incorporated

We think the proposal by the moderator is a good compromise, given the previous RAN agreement an the situation in RAN WGs.

2 – Nokia France

We agree that the Moderator's proposal is a good compromise and support it.

3 – ZTE Corporation

We think the moderator summary is reasonable and a good compromise. We support the moderator proposal above.

4 – Xiaomi Communications

We agree with the Moderator's proposal.

5 – Spreadtrum Communications

Not support the Proposal.

1.

As we commented in the initial round, for case E, one new additional BWP is introduced. In our understanding, it not only refers to RAN2 configuration signaling, but also require RAN1 work, e.g., whether/how to use the new additional BWP for MBS UE, the consideration on parameters related to BWP (e.g., SCS, CP,…) with possible RAN1 specification impact . But you see, R17 RAN1 MBS has closed, and RAN1 have the conclusion.

2.

Regarding the justification of case E, it has been discussed many times in RAN1, but no consensus among group. For information, we repeated it here.

1) The proponent of case E claims that the motivation of case E can be used to support high data rate, and flexibility can be ensured. But Until now, we have not received any LS from SA/SA1 to state that R17 MBS should support high date rate MBS Service in idle state.

2) Even if assuming the high data rate requirement exists, case C also can achieve high date rate and no behavior changed for legacy UEs, for the sake of that the size of SIB1 configured initial BWP can also be up to carrier bandwidth. So since we have case A/C, case E is not needed.

3) Some proponents of case E claim that it is critical issue if not supporting case E. But here we would like to share some information. In last RAN1 MBS GTW session, when the VC David asked whether there are critical issues left, all of the three RAN1 feature leaders said 'No', and no one objected it. We think that is why the status report from MBS rapporteur claims that RAN1 work has completed by 100%.

4) As some opponents pointed out that In Rel-17 MBS WID, it has clearly stated that 'Specify RAN basic functions for broadcast/multicast for UEs in RRC*IDLE/ RRC*INACTIVE states'. Since we have already agreed case A and case C, case E is not necessary.

6 – Lenovo (Beijing) Ltd

We can't agree with this proposal.

(1) This proposal doesn't respect RAN1's conclusion as above and RAN1 chairman/rapporteur on the assertion of 100% completion level of RAN1 MBS work.

(2) In RAN#93, RAN plenary guidance is to make down-selection between Case D and Case E in RAN1#106bis meeting. However, in both RAN1#106bis meeting and RAN1#107 meeting, RAN1 can't get consensus on the support of Case D and/or Case E. I don't know why the down-selection is made in RAN#94 meeting. Why is Case D excluded so easily and unfairly? As discussed in RAN1 meetings, companies do think **Case D brings less issues and standard impact than Case E.**

(3) As mentioned by Spreadtrum, the justification of supporting Case E (the CFR is configured with larger bandwidth than SIB-1 configured initial DL BWP) is unclear, which has been discussed in RAN1 in several rounds of meetings. **The proponent of Case E hasn't provided any valid use cases which require a very high data rate so that a CFR with same bandwidth as SIB-1 configured initial DL BWP (i.e., Case C) can't meet it**.

(4) **It is obvious that support of Case E is an optimization on top of Case C. Support of Case E is not an essential issue.**

(5) As clearly stated in Rel-17 MBS WID, only basic functionality is specified in Rel-17 MBS idle/inactive UEs. I don't intend to paste WID here and just show the name of the agenda item below. **With basic functionality, we don't need Case E in Rel-17**. If proponent companies of Case E think this is important, we fully support to enhance the data rate of idle/inactive UEs in Rel-18 with other possible solutions not limited to Case E.

8.12.3 Basic functions for broadcast/multicast for RRC*IDLE/RRC*INACTIVE UEs

(6) **Standard impact of Case E is significant**, e.g., configuration of MBS-specific BWP, BWP switching delay from SIB1-configured BWP to the MBS-specific BWP with larger size than SIB-1 configured BWP, interest indication issue for idle mode UEs, etc.

(7) Last but not the least, since RAN1 has 100% completed Rel-17 MBS work and maintenance is to be started in Q1 2022, it does not make any sense to reopen the door for discussing a non-essential issue.

7 – CATT

Based on the inputs in the initial round, we are in general fine with the proposal from moderator but would like to make it clear that there is no additional RAN1 impact to support Case E.

Proposal: Support case E, under the assumption that **there is no additional RAN1 impact and** configuration work is driven by RAN2 and RAN2 impact is reasonable (i.e. RAN2 may decide to not support it if issues surface during WG discussions).

8 – LG Electronics France

We think that moderator's proposal is reasonable. We support moderator's proposal.

9 – Guangdong OPPO Mobile Telecom.

Thanks Moderator for the organization and update on this discussion.

We do not support this updated proposal with the following reasons/concerns:

1) Based on the long time of debating on this issue in RAN1 WG meetings, supporting Case E do have RAN1 impact since the CFR has a larger size than SIB1 configured initial DL BWP. Furthermore, two clarification is needed on the i.e. part: First, how to assume that there is only RAN2 work/impact by supporting case E? Second, whenever RAN1 impact besides RAN2 impact is found during the future discussion/design in RAN2 WG, will this case E be automatically dropped, or the NOT supportive decision has to be made by RAN WG (RAN2/1) or by RAN plenary?

2) According to the RAN#93 guidance, down-selection is supposed to be made by RAN1 between case D and case E. Unfortunately, no consensus was reached according to technical debating and analysis on both cases. Case D should have the equivalent chance to be down-selected as case E, and as Lenovo mentioned that case D brings less issues and standard impact that that of case E.

3) Case D/E is considered as optimization mechanism, and the agreed case A/C is already reached the basic functionality of RRC*IDLE/RRC*INACTIVE state in Rel-17 NR MBS. If case D/E has to be supported in this release, then the RAN1 work status of 100% completion should be modified.

10 – vivo Mobile Communication Co.

We support moderator's proposal as a good compromise, and in our understanding, there will be no additional RAN1 impact of supporting Case-E in addition to Case-C. we would like to address some concerns here:

1) Configuring a BWP in SIB X is targeting for providing frequency reference to define the frequency range of CFR in Case-C and Case-E, we consider it as kind of configuration work in RAN2 and there is no additional RAN1 work expected.

RRC idle/inactive UEs expect to receive broadcast services within the broadcast CFR, and when UE enters RRC-connected states, it doesn't have to take the BWP into account, it can just follow legacy rules in rel-15/rel-16, and thus, there is no further RAN1 work left.

2) We observe a plurality of companies considering the necessity of Case-E to configure a flexible size of CFR, instead of always restricting CFR to the size of initial DL BWP.

When configuring a CFR, Case-E can help tackling the requirements of MBS services well and cause neither constraint on initial downlink BWP nor impacts on RRC connected UEs.

However, Case-C has such constraint and adverse impact. For example, when UEs only support one UE-specific RRC configured BWP, we agree with CMCC that in Case-C, if a large bandwidth (e.g., 60MHz) is configured for SIB1 initial BWP for broadcast reception, when UE enters RRC CONNECTED states, network has two choices. It is obvious that both choices degrade the performance of RRC-connected UEs (including MBS and non-MBS UEs).

- Choice-1: network additionally configures the UE a dedicated BWP with small bandwidth (e.g., 20MHz) for UE power saving, and if this is the case, network cannot configure dedicated configurations for the SIB1 initial BWP and only fallback DCI can be used in SIB1 initial BWP.

- Choice-2: network configures dedicated configurations for the SIB1 initial BWP, but UE's power consumption may be larger since network cannot configure another BWP with small bandwidth (e.g., 20MHz) for UE power saving.

3) The SCS and CP of the configured BWP in SIBX/configured CFR should be the same as that of CORESET0.

Therefore, in this sense, both broadcast services and system information can be received simultaneously. To make it clear, we hope a sub-bullet could be added in the proposal.

Proposal: Support case E, under the assumption that configuration work is driven by RAN2 and RAN2 impact is reasonable (i.e. RAN2 may decide to not support it if issues surface during WG discussions).

- **The configured/defined broadcast CFR has the same SCS and CP as CORESET0**

11 – Apple Computer Trading Co. Ltd

We support moderator's proposal to move forward. it's aligned with RAN#93 meeting agreements.

12 – Intel Corporation (UK) Ltd

We support moderator's proposal.

13 – Samsung Electronics Co.

The proposal from the moderator is acceptable.

14 – Lenovo (Beijing) Ltd

We don't think the support of Case E don't bring RAN1 standard impact. If no RAN1 impact, why did RAN1 spend the entire Rel-17 discussing the pros/cons of Case A, Case B, Case C, Case D and Case E?

Furthermore, we would like to further emphasize the standard impact of Case E.

In legacy BWP framework, UE assumes the SIB-1 configured BWP as the first active BWP when UE enters connected mode. In that sense, when UE enters connected mode, it should use the SIB-1 configured BWP instead of the MBS-specific BWP (this MBS-specific BWP is configured with larger size than SIB-1 configured BWP as definition of Case E) so that it may miss the MBS transmission in the MBS-specific BWP.

Supposing standards allow to configure the first active BWP exactly same as the MBS-specific BWP, how can gNB know an idle/inactive mode UE needs to be configured with an MBS-specific BWP with larger bandwidth than SIB-1 configured BWP as the first active BWP for the UE? It is impossible since RAN2 has already agreed that transmitting MBS interest indication to gNB for Idle/Inactive mode UE is not supported.

In addition, the Idle/Inactive mode UE can't transmit MBS interest indication to gNB due to lack of TA.

Without such indication, gNB can't know which Idle/Inactive mode UE is interested in the MBS with larger CFR and will not configure the first active BWP same as the MBS-specific BWP in Case E to the interested Idle/Inactive mode UE. In that sense, assuming an Idle/Inactive mode UE is interested in the MBS service, it shall use SIB-1 configured initial DL BWP when it enters RRC_Connected mode, which inevitably leads to BWP switching delay and may miss the MBS transmission during the switching period.

Again, **without convincible use cases or motivations, only emphasizing the flexibility of a non-essential issue after the completion level of 100% is not 3GPP style. If proponent of Case E really cares about this issue, why not enhance it in Rel-18?**

15 – HUAWEI TECHNOLOGIES Co. Ltd.

We are fine with the moderator's proposal.

16 – NTT DOCOMO INC.

We support moderator's proposal as a compromise.

17 – MediaTek Inc.

We are fine with the proposal from moderator. But if no clear consensus to support case E, we would fine to have case C only.

18 – Ericsson LM

Ericsson supports this compromise. Agreeing on Case E, the remaining work is the configuration aspects and RAN2 can handle those.

19 – MediaTek Inc.

Moderator:

- The formality that RAN1 may need to assist RAN2 is just a formality and shouldnt really be a blocking factor. RAN1 can claim 100% completion and anyway assist work led by other groups. All groups do this kind of alignment work.
- Indeed it seems that support of case E is an enhancement, as without it, the configuration of initial DL BWP in SIB1 may need to take both MBS and unicast into account, whereas with case E, the configuration of initial DL BWP in SIB1 can be more optimized for the unicast case also in a system that support MBS broadcasting. However 2, major parts of R17 are enhancements, so I think Case E is not formally disqualified just for being an enhancement. The current comments seems to illuminate that there is disagreement regarding how important this enhancement is.
- In general as this impacts usage of a basic broadcast configuration, principles are better introduced from start instead of postponing to a later release, as it is difficult to change later. Note that as soon as there may be R-17 UEs in a R-18 system, the broadcast configuration need to support them, even though R-18 UEs has different usage of / requirements of broadcast configuration.

20 – MediaTek Inc.

Moderator: Reading my own text above, I relalize that I used the word broadcast in two different meanings. Broadcast configuration = SIB configuration

3.1 Intermediate Round Conclusion

Moderator: For the intermediate round the following proposal was put forward

Proposal: Support case E, under the assumption that configuration work is driven by RAN2 and RAN2 impact is reasonable (i.e. RAN2 may decide to not support it if issues surface during WG discussions).

Outcome: 14 companies supported / accepted the proposal, while 3 companies state that they do not support. The importance of the enhancement and the lateness in the release seems to be the major sources of contention.

Moderator / R2 Chair:

- Also the amount of work needed was challanged. Lenovo mentions a number of potential discussion points for resolution regarding the UE transition to connected mode.
- Moderator / R2 Chair believes that solutions can potenitally be kept simple e.g. if CFR BWP has commonality with Initial DL BWP in the SIB1 such that they both support the identical resources and

configuration for the access procedure including the exchange of the first two RRC messages, such that the UE can indicate the requirement of CFR before configuration of dedicated BWP for connected mode. If simple approaches seems to not be sufficient / not work, it should be possible for RAN2 to abort the work.

Moderator Suggestion: The intermediate Round proposal above may be agreeable (it is not clear to the moderator how strongly the objecting companies object). Treat on-line to confirm.