

3GPP TSG-RAN Meeting#92e

RP-211559

Electronic Meeting, June14 – 18, 2021

Title: Moderator's summary for email discussion [92-e-18-SDT-WI]

Agenda Item: 9.7.2.7

Source: Moderator (ZTE)

Document for: Discussion, Decision

1 Introduction

With regards to the handling of the RRC-less solution for Small Data Transmission (SDT), the following documents have been submitted to RAN#92.

[1] RP-211048, Handling of RRC-less SDT, Xiaomi Communications, ASUSTek, RAN#92e

[2] RP-211433, RRC-less Solution for SDT, ZTE Corporation, Sanechips, RAN#92e

The goal of this offline discussion is to discuss the inputs in [1] and [2] and to determine the way forward on RRC-less solution for SDT.

2 Discussion - Initial round

RAN2 is working on SDT feature to enable UE to send and receive small data packets whilst the UE is in INACTIVE state. Both RACH based SDT and CG based SDT are supported as part of the Rel-17 work.

RAN2 has discussed RRC-based SDT solution (which includes an RRC message sent over CCCH channel in the initial UL message from the UE) to initiate SDT and an RRC-less solution (which does not include any such RRC message in the initial UL message from the UE).

It is the general understanding that the RRC-less solution can only be supported in the same cell case (i.e. it can only be initiated in the same cell in which the UE has entered the RRC_INACTIVE state).

RAN2 agreed to study the RRC-less solution for the limited use cases (e.g. same serving cell and/or for CG), but with a lower priority. After this agreement, there has been no further discussion on RRC-less solution in RAN2 as the available time has been only sufficient to handle the prioritized solution (i.e. the RRC-based solution).

In [1], some of the benefits of RRC-less solution have been noted and it was mentioned that the extra standard effort for RRC-less is small. Thus, it is proposed to resume the RRC-less SDT discussion at RAN2#115.

In [2], it has been pointed out that further effort is needed both in RAN2 and in other WGs to be able to complete RRC-less solution and given the current status of the WI discussions, it was proposed not to initiate this work at this time in order avoid jeopardizing the progress of the prioritized baseline solution (i.e. the RRC-based solution for SDT) which works for all scenarios (i.e. same cell/different cell, RA-SDT and CG-SDT).

Based on the above, companies are invited to provide views on the following alternatives:

Alt 1: RAN plenary requests RAN2 to resume the discussions on RRC-less SDT from the next RAN2 meeting (i.e. RAN2#115e)

Alt 2: RAN2 is allowed to continue the work on the prioritized solution (i.e. the RRC-based solution for SDT) and RAN plenary to discuss the RRC-less solution as part of the Rel-17 WI scope discussion in RAN#93

Q1: Which alternative do companies prefer (Alt1/Alt2)? and why?

Feedback Form 1: For handling of RRC-less solution, which alternative do companies prefer (alt1/alt2) and why?

1 – ZTE Corporation

Prefer: Alt2

We think Alt1 is not practical at this point in time given the work load in RAN2. There are still open issues (at both stage-2 and stage-3 level) for the RRC-based solution and discussion on these issues will definitely need all the allocated time units in RAN2 for this work (as has been the case for the past few meetings). It is clear that RRC-based solution is essential for the feature to work (and enables RA-SDT – in same cell and different cell and also supports CG-SDT) whilst RRC-less is an optimisation for a specific use case. We also note that RRC-less solution itself comes in different flavours and it is likely to be a controversial discussion to conclude on the details of the RRC-less solution itself. So, taking up this work at this time is not trivial. It is necessary to avoid any impact to the ongoing work on the prioritised solution as any disruption could jeopardize the availability of the baseline solution in Rel-17.

2 – Samsung Electronics Co.

Prefer: Alt2

We have same view as ZTE, and RAN2 should prioritize the RRC-based solution as discussed before.

3 – Nokia Corporation

Alt.2

From the proposed alternatives in our view only Alt2 is feasible alternative as RAN2 has already earlier agreed to prioritized RRC-based solutions and RAN2 workload is high. Before any additional scope could be considered for the WID, the existing prioritized topics would need to be completed well before the Rel-17 completion timeline. Therefore, if companies prefer to clarify the scope of the WID in RAN#92, then in our view the only option is to clearly say that RRC-less SDT is out of the scope of the WID.

4 – Ericsson LM

We **prefer Alt 2**. RAN2 has made a prioritization for good reasons. If RRC-less is to be supported new messages for DCCH are required in addition to new message flows. Any gains for RRC-less do not justify the added work and complexity.

<p>5 – QUALCOMM JAPAN LLC.</p> <p>Alt.2</p> <p>As has been agreed by RAN2.</p>
<p>6 – LG Electronics Inc.</p> <p>We think RRC-less based solution is useful, but there is not enough time to discuss this feature in Rel-17. Thus, Alt.2 is the reasonable approach at this moment.</p>
<p>7 – Intel Corporation (UK) Ltd</p> <p>Alt.2. We think RRC-less has several benefits and is useful to specify. However, we acknowledge that it should not come at the expense of RRC based solutions that is the baseline for both RACH and CG based SDT. We can continue with current status quo in RAN2 where RRCless is downprioritised for now and revisit at next RAN plenary.</p>
<p>8 – CATT</p> <p>Alt 2. We share the same view with above companies. Although RRC-less solution has some benefits, it still should be low priority due to lack of time and can be revisited later.</p>
<p>9 – MediaTek Inc.</p> <p>Alt-2</p> <p>Although we see some benefits on RRC-less solution, we also think ensure the progress on RRC-based SDT is essential. RAN2 can come back to RRC-less SDT if there is good progress on RRC-based SDT. Further RP guideline seems not necessary.</p>
<p>10 – Apple Switzerland AG</p> <p>Alt-2. We prefer to focus on RRC-based solution for the sake of progress.</p>
<p>11 – InterDigital</p> <p>Alt-2.</p> <p>While we see some benefits to RRC-less solution, given limited time we need to ensure that RRC-based solution is prioritized and developed first.</p> <p>From a session chair perspective, it is not feasible with current available time for both solutions to progress in parallel. There are still a large number of open stage-2 and stage-3 issues remaining for RRC-based solution that we haven't even had time to discuss yet. Therefore if we want to complete the work on time we need to focus and follow our original agreement to treat RRC-less solution with lower priority (i.e. if time permits).</p>
<p>12 – Guangdong OPPO Mobile Telecom.</p> <p>We prefer Option 2, i.e., the current scope of SDT is already full, thus we can focus on the RRC based solution.</p>

2.1 Discussion summary - Initial round

Observations:

- Although the proponents of Alt1 did not respond, it seems all 12 companies that responded in the initial round agree with Alt2.
- Some companies pointed out that RRC-less solution has some benefits. This seems to be inline with the views seen in RAN2
- All companies agree that there is currently no time to pursue the RRC-less solution online or offline in RAN2 given the time constraints for the work.

Hence, the following seems to be the consensus view

Proposal: RAN2 is allowed to continue the work on the prioritized solution (i.e. the RRC-based solution for SDT) and RAN plenary to discuss the RRC-less solution as part of the Rel-17 WI scope discussion in RAN#93

This means companies don't need to contribute for RRC-less to RAN2#115e.

Given the status of this, we can actually close this discussion already (i.e. no need for an intermediate and final rounds) since this view from majority companies is unlikely to change.

3 Conclusion and proposal

Proposal: RAN2 is allowed to continue the work on the prioritized solution (i.e. the RRC-based solution for SDT) and RAN plenary to discuss the RRC-less solution as part of the Rel-17 WI scope discussion in RAN#93