

[94e-43-R17-IAB-WID]
Variant of [94e-43-R17-IAB-WID] Version 0.0.4
RAN

3GPP TSG RAN#94e

RP-213620

Agenda Item: 9.3.2.6

Source: Qualcomm (Moderator)

Title: Moderator's summary for discussion [94e-43-R17-IAB-WID]

Document for: Discussion

1 Initial Round

This discussion handles contributions RP-212812 and RP-212812.

- RP-212811 proposes a revision to Rel-17 IAB WID RP-211548.
- RP-212812 motivates the WID update.

1.1 RAN2-related change

The first WID change proposed is based on the following agreements of RP#93:

- **Enhancements to improve topology-wide fairness and multi-hop latency to be deprioritized.**
- **RAN2-led efforts on enhancements to LCG-range extension, RLF indications and local rerouting to continue.**

The proposed change to the WID is:

Topology, routing and transport enhancements [RAN2-led, RAN3]:

- *Specifications of enhancements to **LCG range, RLF indications, local rerouting** **improve topology-wide fairness, multi-hop latency** and congestion mitigation*

Feedback Form 1: Q1: Do you agree to this RAN2-related change of the WID?

1 – Qualcomm Incorporated

Yes

2 – vivo Mobile Communication Co.
Yes
3 – Verizon UK Ltd
Yes
4 – Samsung Electronics Co.
Yes
5 – LG Electronics Inc.
Yes
6 – Nokia Italy
Yes
7 – CATT
Agree
8 – Intel Deutschland GmbH
Agree
9 – Apple GmbH
Yes
10 – ZTE Corporation
Agree
11 – Rakuten Mobile
Agree
12 – HUAWEI TECHNOLOGIES Co. Ltd.
Huawei, HiSilicon Yes
13 – Ericsson LM
Agree. We can even further clarify to have a more focused discussion in RAN2, that the local routing considers the RLF indication reception and the congestion. So we propose the following: Specifications of enhancements to LCG range, RLF indications, local rerouting (based on improve topology-wide fairness, multi-hop latency and congestion mitigation, <u>BH RLF, and RLF indications</u>)
14 – Beijing Xiaomi Mobile Software
agree

1.2 RAN-3 related change

The second WID change proposed is based on the following way forward agreed by RAN3#104e:

- **Way forward: Discussions on IAB full migration are stopped for Rel17. The topic may be addressed in future releases.**

The proposed change to the WID is:

Topology, routing and transport enhancements [RAN2-led, RAN3]:

- *Specification of procedures for inter-donor ~~IAB-node~~ migration of the IAB-MT to enhance robustness and load-balancing, including enhancements to reduce signalling load.*

Feedback Form 2: Q2: Do you agree to this RAN3-related change of the WID?

1 – Qualcomm Incorporated Yes
2 – vivo Mobile Communication Co. Yes
3 – Verizon UK Ltd Yes
4 – Samsung Electronics Co. Yes, but the wording can be improved to capture the intention clearly: the proposed change merely reflects the IAB-MT migration, but it does not say anything about IAB-DU migration, which can be interpreted as either allowing IAB-DU migration or not allowing IAB-DU migration. So, one of the following options can be considered if it is agreeable by the moderator and majority: <ul style="list-style-type: none">- Option 1: inter-donor IAB-node partial migration (since Rel-18 WID uses term of “full migration”)- Option 2: inter-donor IAB-node migration of the IAB-MT only (i.e., no change of F1 termination point)
5 – LG Electronics Inc. Yes
6 – Nokia Italy Yes
7 – CATT Yes

8 – Intel Deutschland GmbH
Agree
9 – Apple GmbH
Yes
10 – Rakuten Mobile
YES
11 – ZTE Corporation
Agree
12 – HUAWEI TECHNOLOGIES Co. Ltd.
Huawei, HiSilicon Yes
13 – Ericsson LM
We are ok with the intention of the revised objective. However, we also think we should make it clearer that only partial migration is on focus, otherwise it would seem that only the IAB-MT is impacted by the migration, whereas the partial migration affects also the DU. We propose the following: Specification of procedures for inter-donor IAB-node <u>partial migration</u> to enhance robustness and load-balancing, including enhancements to reduce signalling load
14 – Beijing Xiaomi Mobile Software
yes

2 Intermediate Round

2.1 RAN2-related change

All 14 companies participating in the discussion agree on the revision of the RAN2-related objective based on RP-212811. As a reminder, **RP-212811** proposes the following revision.

Topology, routing and transport enhancements [RAN2-led, RAN3]:

- Specifications of enhancements to **LCG range, RLF indications, local rerouting improve ~~topology-wide fairness, multi-hop latency~~** and congestion mitigation

In the initial round, **Ericsson** proposes the following alternative revision:

Topology, routing and transport enhancements [RAN2-led, RAN3]:

- Specifications of enhancements to **LCG range, RLF indications, local rerouting (based on ~~improve~~**

~~topology-wide fairness, multi-hop latency and congestion mitigation, BH RLF, and RLF indications).~~

Feedback Form 3: Q11: Do you prefer the revision of the RAN2 objective as proposed by RP-212811 or as proposed by Ericsson?

<p>1 – Nokia Italy</p> <p>Prefer the revision provided by Ericsson. This version clarifies the scope and avoids revisiting "congestion mitigation" discussions.</p>
<p>2 – LG Electronics Inc.</p> <p>Prefer the revision proposed by Ericsson which seems more clear.</p>
<p>3 – ZTE Corporation</p> <p>No, we prefer the previous version. Actually, the congestion mitigation is discussed not only in RAN2 but also in RAN3 and RAN3 has made relevant agreements on it. Considering that RAN3 is also involved in this objective, It is not appropriate to only capture the RAN2 impacts in the WID.</p>
<p>4 – Intel Deutschland GmbH</p> <p>We are fine with revision proposed by RP-212811.</p>
<p>5 – Samsung Electronics Nordic AB</p> <p>Compared to Ericsson's version, we prefer to the original one in RP-212811. "based on ..." from Ericsson version seems to already touch the details, and it also miss the item of "congestion mitigation".</p>
<p>6 – Apple GmbH</p> <p>We prefer to revise the objective as proposed in RP-212811.</p>
<p>7 – HUAWEI TECHNOLOGIES Co. Ltd.</p> <p>Huawei, HiSilicon Not a strong preference, but we prefer the version from RP-212811.</p>
<p>8 – Qualcomm Incorporated</p> <p>We prefer to original version by RP-212811.</p>

2.2 RAN-3 related change

All 14 companies participating in the discussion agree on the principal revision proposed by RP-212811. As a reminder, **RP-212811** proposes the following revision.

Topology, routing and transport enhancements [RAN2-led, RAN3]:

- *Specification of procedures for inter-donor ~~IAB-node~~ migration of the IAB-MT to enhance robustness and load-balancing, including enhancements to reduce signalling load.*

Samsung is not happy with this revision since it does not say anything about F1 migration. Samsung therefore proposes the following two alternative options:

Option 1: *Specification of procedures for inter-donor ~~IAB-node~~partial migration to enhance robustness and load-balancing, including enhancements to reduce signalling load*

Option 2: *Specification of procedures for inter-donor ~~IAB-node~~ migration of the IAB-MT only (i.e., no change of F1 termination point) to enhance robustness and load-balancing, including enhancements to reduce signalling load*

Ericsson has similar concerns and proposes yet another option, which the moderator refers to as option 3:

Option 3: *Specification of procedures for inter-donor IAB-node partial migration to enhance robustness and load-balancing, including enhancements to reduce signalling load*

The moderator is concerned that "partial migration" may not be sufficiently clear, especially, since this term has not been specified before Rel-17, i.e., it cannot be used in the Rel-17 WID, which is supposed to precede Rel-17 work.

Samsung emphasizes that the Rel-18 WID uses the term "full migration". The moderator believes that this term can be used in the Rel-18 WID since it has been defined in Rel-17. The Rel-18 WID further explains in more detail what "full migration" is actually refers to (...*inter-donor migration of the entire mobile IAB-node*).

For these reasons, the moderator proposes two alternatives:

Alternative 1: Original proposal by RP-212811

- *Specification of procedures for inter-donor ~~IAB-node~~ migration of the IAB-MT to enhance robustness and load-balancing, including enhancements to reduce signalling load.*

Alternative 2: Option 2 proposed by Samsung

- *Specification of procedures for inter-donor ~~IAB-node~~ migration of the IAB-MT only (i.e., no change of F1 termination point) to enhance robustness and load-balancing, including enhancements to reduce signalling load*

Feedback Form 4: Q12: Do you prefer alternative 1 or alternative 2 for the revision of the RAN3 objective?

1 – Nokia Italy Fine with Alternative 1.
2 – Ericsson LM We prefer option 2.
3 – vivo Mobile Communication Co. Option 2 is fine.

<p>4 – LG Electronics Inc.</p> <p>Ok with the Alt 2.</p>
<p>5 – ZTE Corporation</p> <p>We think Alt 1 is clear enough. Everyone knows the implications of the proposed revision. It is not necessary to further refine the wording.</p>
<p>6 – Intel Deutschland GmbH</p> <p>We are fine with alternative 2.</p>
<p>7 – Samsung Electronics Nordic AB</p> <p>We prefer to Alt2 since it clearly indicates our focus in Rel-17. As we mentioned in initial round, Alt. 1 only mentioned IAB-MT migration without say anything on IAB-DU.</p>
<p>8 – HUAWEI TECHNOLOGIES Co. Ltd.</p> <p>Huawei, HiSilicon Not a strong preference, but we prefer the version from Samsung (alt.2)</p>
<p>9 – Apple GmbH</p> <p>We are okay with option 2.</p>
<p>10 – Qualcomm Incorporated</p> <p>We are fine with either version.</p>

3 Final Round

3.1 RAN2-related change

There was substantially more support for the version proposed by RP-212811. Also, this version did not receive any objection in the initial round.

Two companies pointed out that the rewording proposed Ericsson would not capture RAN3-related work on congestion mitigation in Rel-17 IAB.

The moderator therefore proposes:

Proposal 1: The RAN-2-led WID objective is revised to: *Specifications of enhancements to LCG range, RLF indications, local rerouting ~~improve topology-wide fairness, multi-hop latency~~ and congestion mitigation.*

Feedback Form 5: Q21: Do you agree with Proposal 1?

<p>1 – HUAWEI TECHNOLOGIES Co. Ltd.</p> <p>Huawei, HiSilicon Given the companies opinions and the moderator final proposals, we thought that the discussion could have been closed without a final phase. Anyway we agree with P1.</p>
<p>2 – Beijing Xiaomi Mobile Software</p> <p>our understanding was this was the preferred way forward from the last round so no need to debate again. Agree with P1</p>
<p>3 – Intel Deutschland GmbH</p> <p>Agree.</p>
<p>4 – Apple GmbH</p> <p>Agree with P1.</p>
<p>5 – Samsung Electronics Nordic AB</p> <p>Fine with proposal 1.</p>
<p>6 – LG Electronics Inc.</p> <p>Agree</p>
<p>7 – Nokia Italy</p> <p>If the concern is that RAN3 work is not covered in the current wording, perhaps a note can indicate that work on congestion mitigation is exclusive to RAN3.</p>
<p>8 – ZTE Corporation</p> <p>Agree</p>

3.2 RAN3-related change

The majority of companies preferred alternative 2.

While proponents of alternative 1 felt that the additional explanation contained in alternative 2 was not necessary, they did not raise any issue related to its content. At the same time, the additional explanation of alternative 2 makes those companies happy that considered it necessary for clarification in the initial round discussion.

The moderator therefore proposes:

Proposal 2: The RAN-3-led WID objective is revised to: *Specification of procedures for inter-donor ~~IAB-node~~ migration of the IAB-MT only (i.e., no change of F1 termination point) to enhance robustness and load-balancing, including enhancements to reduce signalling load.*

Feedback Form 6: Q22: Do you agree with Proposal 2?

1 – HUAWEI TECHNOLOGIES Co. Ltd. Huawei, HiSilicon Given the companies opinions and the moderator final proposals, we thought that the discussion could have been closed without a final phase. Anyway we agree with P2.
2 – Beijing Xiaomi Mobile Software no strong opinion would be fine with either alternative. Acceptable
3 – vivo Mobile Communication Co. Agree with P2.
4 – Intel Deutschland GmbH Agree.
5 – Apple GmbH Agree with P2.
6 – Samsung Electronics Nordic AB Fine with proposal 2.
7 – LG Electronics Inc. Agree
8 – Nokia Italy Fine with proposal 2.
9 – ZTE Corporation Agree

4 Conclusion

There is consensus on the revision of the Rel-17 IAB WID for RAN2- and RAN3-led objectives as summarized in proposals 1 and 2:

Proposal 1: The RAN-2-led WID objective is revised to: Specifications of enhancements to LCG range, RLF indications, local rerouting ~~improve topology-wide fairness, multi-hop latency~~ and congestion mitigation.

Proposal 2: The RAN-3-led WID objective is revised to: Specification of procedures for inter-donor ~~IAB-node~~ migration of the IAB-MT only (i.e., no change of F1 termination point) to enhance robustness and load-balancing, including enhancements to reduce signalling load.

The proposals have been captured in a revision of the Rel-17 IAB WID in RP-213668.