**3GPP TSG-RAN WG2 Meeting #109e-bis R2-20xxxxx**

**Electronic meeting, April 20 – April 30**

**Agenda item:** 6.1.1

**Source:** Qualcomm Incorporated (Rapporteur)

**Title:** [AT109bis-e][018][IAB] IAB terminology + other issues

**Document for:** Discussion

# Introduction

This document handles aspects related to IAB-terminology/notation, use of Rel-16 UE features for IAB-MT, and other issues as part of offline email discussion:

* [AT109bis-e][018][IAB] Stage-2 (Qualcomm, Huawei)

Scope: Treat Stage-2: Issues, corrections and CRs (add CRs to x.300 if needed).

Specifically: [R2-2003014](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109bis-e\Docs\R2-2003014.zip), [R2-2002728](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109bis-e\Docs\R2-2002728.zip), [R2-2003178](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109bis-e\Docs\R2-2003178.zip)

Part 1: Treat meeting input and comments.

Deadline: April 24 0700 UTC

Part 2: Update of CRs, e.g. to include agreements this meeting

The topics should be addressed during Part 1 of the offline. The deadline therefore is:

Deadline: April 24 0700 UTC

# Discussion

2.1 IAB terminology/notation changes

The discussion is based on R2-2002728. This paper proposes a few modifications to the IAB terminology and notation based on discussions in RAN3 after last meeting. The following captures the modifications on IAB terminology and notation:

* In running CR 38300, the *IAB-donor* is defined as a gNB that provides network access to UEs via a network of backhaul and access links.
  + There is **no** *IAB-donor gNB* or *IAB-donor-gNB*.
  + IAB-donor-DU and IAB-donor-CU are hyphenated in the same manner as the gNB-CU and gNB-DU.
* The IAB-node holds gNB-DU functionality with IAB-specific enhancements, referred to as *IAB-DU*.
  + There is **no** *IAB-node-DU* since this might imply that there would also be an *IAB-node-CU*.
  + The IAB-DU of a specific IAB-node, e.g., IAB-node 1, can be referred to as IAB-node-1’s IAB-DU, or IAB-DU 1.
* The IAB-node holds UE functionality with IAB-specific enhancements, referred to as *IAB-MT*.
  + There is **no** *IAB-node-MT* (since this might imply that there would also be an IAB-node-DU).
  + The IAB-MT of a specific IAB-node, e.g., IAB-node 1, can be referred to as IAB-node-1’s IAB-MT, or IAB-MT 1.
* The parent-node IAB-DU and child-node IAB-MT may be referred to as parent IAB-DU and child IAB-MT, respectively.
* Hyphenation follows commonly known rules.

**Proposal 2-1: RAN2 to agree on the above IAB terminology and notation.**

**Q: Do you agree with this proposal?**

|  |  |  |
| --- | --- | --- |
| Company | Agree with proposal | Comment |
| LG | Yes |  |
| Verizon | Yes | It would be good to include definitions for IAB-donor-DU and IAB-donor-CU in the Definitions section. |
| Huawei | Yes | We’d better formulate the proposal in a formal way, e.g.  **Proposal: IAB specifications will use the terminology and notation: IAB-donor-DU, IAB-donor-CU, IAB-donor, IAB-DU, IAB-MT, Child IAB-MT, Parent IAB-DU, Parent IAB-donor-DU.** |
| Apple | Yes | Would be good to include parent-node and child-node definitions as well into this terminology |
| CATT | Yes |  |
| NEC | Yes |  |
| ZTE | Yes |  |
| KDDI | Yes |  |
| Lenovo | Yes |  |
| vivo | Yes |  |
| AT&T | Yes |  |
| Nokia, Nokia Shanghai Bell | Yes |  |
| Ericsson | Okay |  |
| Kyocera | Yes |  |
| Samsung | Yes |  |

2.2 Use of Rel-16 UE features for IAB-MT

We are spending an increasing amount of time on discussing if individual Rel-16 UE features can be used by the IAB-MT. While a Rel-16 MT feature and capability discussion still has to happen, we could already move things forward via the following proposal:

**Proposal 2-2: All Rel-16 UE features can at least optionally be used by the IAB-MT.**

**Q: Do you agree with this proposal?**

|  |  |  |
| --- | --- | --- |
| Company | Agree with proposal | Comment |
| LG | Yes | We assume that all Rel-16 UE features mean Rel-16 features developed by other Rel-16 WI. For Rel-16 MT feature, this should be discussed separately. |
| Verizon | Yes | Same view as LG above. |
| Huawei | No | There are so many WIs which are unrelated to IAB, e.g. IioT, 2-step RA, NR-U. If we want to discuss this proposal, we need to check and discuss case by case: whether it is beneficial for IAB-MT, **whether it can be supported without additional spec impacts**. One example can be the NPN feature, we already see some difficulty and more standard efforts for IAB supporting in NPN deployment. This is just one of all those 10+ Wis.  **We are not OK to just agree the proposal without any real discussion on each WI features.** In the very late stage, it is difficult to have a comprehensive analyses.  Instead, we can first try to agree if some of those Wis are needed and easily supported by IAB-MT. Some examples can be the CHO, DAPS, etc., which somehow are related to IAB R17 features. It is helpful to have a clear understanding on if the R16 IAB can those or to be discussed in R17. |
| Apple | Yes | Same view as LG above. |
| CATT | Can postpone? | The UE feature discussions for R16 are on-going in WGs and Wis. We’d prefer to postpone a bit this proposal until the whole picture is clear. If for some feature there is urgency to decide we could check case by case. |
| NEC | Yes | Same view as LG above. |
| ZTE | Not for now | It is suggested to have a comprehensive analysis of each Rel-16 UE feature before we draw the conclusion. |
| KDDI | Not for now | Share the view with ZTE. |
| Lenovo | Not for now | We need to check one by one during UE feature discussion. The feature from DCCA and NR mobility can be applied to IAB. We need to check whether the feature of IioT and NPN should be supported. |
| Vivo | Yes, but… | We think this was already agreed at the last meeting:   * For an IAB-MT node:  - The “Basic Procedures” of the BAP layer feature group is mandatory. - IP assignment over RRC is mandatory. - All other Rel-16 features are optional.   The first two features are IAB-specific and therefore are mandatory for IAB-MT, apart from these, all other Rel-16 UE features are optional. |
| AT&T | Yes, but probably not necessary | We agree with the spirit of the proposal (I assume this also applies to all optional Rel-15 features as well?), but it may not be strictly necessary as vendors should never be restricted from implementing optional features, although of course other network nodes may not implement them and the feature itself may not be that useful for IAB. We think the main issue arises if a feature from a different WI is a prerequisite for an IAB feature, in which case detailed analysis of the spec impact would have to be done in the WGs. |
| Nokia, Nokia Shanghai Bell | FFS | By default, we should assume all Rel-16 features are available for IAB. However, we need to check if this would mean some specification impact on a case by case basis. |
| Ericsson |  | We have concern about agreeing with such a broad statement without having even a minimum analysis of whether a specific feature has any value or makes sense in the IAB context and the impacts of the respective feature into IAB.  We could discuss options in which (some) Rel-16 features could optionally be used by IAB-MTs given they bring value or make sense, and there is no standardization impact to make them inter-operate. This would also imply that if a company wants to use one of these Rel-16 features with IAB but it ends up not working properly, RAN2 would not make corrections. It could be considered like new functionality in whatever release it would be discussed.  Addressing Vivo’s comment above, the referred agreement was taken in the context of IAB Rel-16 features, and not all features in Rel-16 (for all WIs).  Nevertheless, we think that it is quite late to start the discussion of these aspects considering there is still some work ahead of us. |
| Kyocera | Yes | Same view as LG above. |
| Samsung | FFS | We think that this proposal is started from the discussion on failure handling of IAB, whether feature from other WI also can be used for the case. Already we have the agreement on assumption that at least failure handling feature from Rel-16 will be used for the case. We think at least for failure handling features from other Rel-16 WI should be used based on this agreement, even though the support of other features from other Rel-16 WI needs to be discussed.  At the same time, the signaling point of view, there will be only single UE capability signaling structure (i.e., we are not going to define separate UE capability container for IAB MT). Since all Rel-16 UE features are the optional, we assume it doesn’t really matter whether IAB node is able to signal the support of any release 16 feature if the IAB node is really supporting the feature. |

# Conclusion

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