3GPP TSG-RAN WG2 #109e R2- 200xxxx

**Electronic Meeting, 24th Feb – 6th Mar 2020**

Agenda Item: 7.2.10

Source: Ericsson (Rapporteur)

Title: Report - [AT109e][309][NBIOT/EMTC] RAI whether AS RAI should be provided in case including AS RAI would lead to data segmentation (Ericsson)

Document for: Discussion, Decision

# 1 Introduction

RAN2 made the following agreements in RAN2#109e regarding AS Release Assistant Information (RAI) during the session on Monday, Feb 24th at 13:30 – 15:30.

**RAN2#109e**

* AS RAI can be used when connected to EPC or 5GC, including when in RRC connected mode and using CP/UP optimisations, EDT, or PUR.
* AS RAI can be provided with any higher layer PDU transmission in the UL including the last one or with no higher layer PDU transmission in the UL.
* AS RAI is provided in the same MAC CE as the DL channel quality report.
* One of the codepoints for AS RAI implies “no indication”.
* AS RAI has higher priority than data when AS RAI and DL channel quality report are provided in the same MAC CE.
* No other mechanisms are introduced to provide R16 AS RAI.
* Codepoints for AS RAI are allocated as follows:
  + - Code Point 00: No RAI information
    - Code Point 01: no subsequent DL and UL data transmission is expected
    - Code Point 10: a single subsequent DL transmission is expected
    - Code Point 11: Reserved.

In order to discuss the remaining proposals, i.e., 3 and 9, from the email discussion “[108#96][NB-IoT/eMTC R16] Finalise details on RAI”, it was agreed to have the following offline email discussion:

* [AT109e][309][NBIOT/EMTC] RAI whether AS RAI should be provided in case including AS RAI would lead to data segmentation (Ericsson)

Status: Not Started

Scope: Proposal 3 and 9 of [R2-2001474](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109_e\\Docs\\R2-2001474.zip" \o "http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109_eDocsR2-2001474.zip)

Intended outcome: report

Deadline: Thursday 27th 0900 CET

In this document, companies are invited to provide their views regarding proposals 3 and 9, from [R2-2001474](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109_e\Docs\R2-2001474.zip) based on the agreements made so far.

# 2 Discussion

The objective of providing assistance information for the network to release a UE is to reduce power consumption when the network knows that a UE expects no further transmissions in the UL/DL or no further transmission in the UL, but only a single shot transmission in the DL.

In [R2-2001474](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109_e\Docs\R2-2001474.zip), it was discussed whether companies confirm the understanding that AS RAI can be provided with any higher layer PDU transmission in the UL including the last one or with no higher layer PDU transmission in the UL. All companies, which responded to the email discussion, have confirmed. It was also discussed whether AS RAI, when triggered, should have higher priority than data. Although this seemed to be the common understanding, it was also brought up when such would apply if including AS RAI would lead to data segmentation.

**Discussion point 1: Do you agree that AS RAI, when triggered, should have higher priority than data if including AS RAI would not lead to data segmentation? Please elaborate on why.**

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| --- | --- | --- |
| Company | Yes / No | Comments |
| Qualcomm | Yes |  |
| Ericsson | Yes | As discussed in R2-2001474 |
| Lenovo | Yes |  |
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**Discussion point 2: Should AS RAI be provided in case including AS RAI would lead to data segmentation? Please elaborate on why.**

|  |  |  |
| --- | --- | --- |
| Company | Yes / No | Comments |
| Qualcomm | No | What would the AS RAI state about uplink in this case? |
| Ericsson | No | This should not be a problem since the eNB would be able to know if there is any pending traffic in the UL. However, for EDT or PUR, AS RAI may not be provided if it would lead to data segmentation. |
| Lenovo | No | The same view as Ericsson. |
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**Discussion point 3: If you have responded with a “yes” to discussion point 2; please elaborate on how prioritization should be specified in that case.**

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| --- | --- |
| Company | Comments |
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# 3 Summary

The following companies provided comments to the email discussion: ???.

1. ???.

# 4 Conclusion

Based on the discussion and summary, the following proposals are made:

[Proposal 1 ???.](#_Toc33577241)

# 4 References

1. [RP-192875](http://3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_86/Docs/RP-192875.zip), “Additional MTC enhancements for LTE”, Ericsson, RAN#86, Sitges, Spain, 9th – 12th December 2019.
2. [RP-193224](http://3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_86/Docs/RP-193224.zip), “Additional enhancements for NB-IoT”, Futurewei, RAN#86, Sitges, Spain, 9th – 12th December 2019.
3. [R2-1915772](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_108/Docs/R2-1915772.zip), “RRC release assistance for Control and User Plane CIoT EPS optimizations” Ericsson discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core
4. [R2-1915316](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_108/Docs/R2-1915316.zip), “Access Stratum Release Assistance Indicator for eMTC and NB-IoT connected to 5GC” Huawei, HiSilicon discussion Rel-16 LTE\_eMTC5-Core, NB\_IOTenh3-Core.