3GPP TSG-RAN WG3 Meeting #125bis R3-245737

**Hefei, China, 14th – 18th October, 2024**

**Agenda Item: 17**

**Source: Ericsson (Moderator)**

**Title: Summary of offline discussions: Rel-19 Network Energy Saving**

**Document for: Discussion and Approval**

# Introduction

**The CB is related to AI 17.3.**

**CB: # R19ES**

**- Discuss the open issues above**

(moderator - E///)

Summary of offline disc [R3-245737](file:///C%3A%5C3GPP%5CRAN3%5C2024%5CRAN3%23125bis%5CWork%20On%20Site%5CInbox%5CR3-245737.zip)

# For the Chairman’s Notes

**It is** **proposed to capture the following RAN3 agreements in the chairman’s notes:**

**For “Support on-demand SIB1 for UEs”, RAN3 has agreed that:**

**New Agreement:**

* *Cell A gNB can decide and signal to NES Cell gNB that it stops the UL WUS configuration broadcast in its SIB.*

**To be continued….**

**Which option for the UL WUS configuration provision? Some companies have already indicated their views in below table.**

**Cell A can start the UL WUS configuration broadcast in its SIB?**

**Cell A can restart the UL WUS configuration broadcast in its SIB?**

**Xn Aspect: Details of the new Class 1?**

**Xn Aspect: Details of the new Class 2?**

**F1 aspect?**

**Other aspects, for example:**

* **NES cell is partially covered by different Cells, not all cells are Cell A;**
* **NES Cell is covered by multiple Cell As;**
* **gNBs are not aware their neighboring gNB NES Cell?**

# 3 Discussion

**The UL WUS configuration will be transferred over Xn via a new class1 defined procedure.**

**Introduce the start/stop mechanism from NES cell to Cell A for UL WUS configuration broadcast. Further check on first activation of UL WUS configuration broadcast in Cell A.**

Let us assume call the new procedure “UL WUS Configuration Provision”, there is a request from NES Cell to Cell A and there is a response from Cell A to NES Cell.

A few options are collected in below: (Successful Operation)

**Option 1: After the UL WUS Configuration Provision request and Positive Response (confirm), NES Cell gNB goes to OD-SIB1 Mode. Cell A gNB broadcasts UL WUS configuration via its SIB.**

**XnAP: Cell A gNB “confirm” means that it will broadcast received UL WUS configuration via its SIB right away ( i.e. not wait for 2 days)**

**Cell A gNB “reject” means it will not perform the request.**

**Request Parameters (FFS): WUS configuration, Cell Lists, Start, Stop, Remove, Cancel….**

**Response parameters (FFS)**

* **Confirm with a Timer meaning when Cell A has broadcasted UL WUS in its SIB1;**
* **Alternatively, no need for a timer, instead by implementation, NES waits a certain time before it goes to OD-SIB1;**

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**Option 2: After the UL WUS Configuration Provision request and positive response (confirm), Cell A gNB broadcast received UL WUS configuration via its SIB. NES cell goes to OD-SIB Mode upon reception of the explicit “UL config provided” message from Cell A gNB.**

The reason is, it may take up to 41 seconds to broadcast UL WUS even Cell A broadcast immediately, NES cell can stay as legacy until it knows that Cell A has broadcast its UL WUS.

**XnAP: Cell A gNB Confirm means that it has the intention to broadcast UL WUS config in SIB.**

**Reject: means it will not perform the request.**

**The addition message indicates when Cell A has broadcasted UL WUS Config in its SIB**

**Request Parameters (FFS): WUS configuration, Cell Lists, Start, Stop, Remove, Cancel….**

**This additional message from Cell A to NES cell (Class 2, FFS) can be used to indicate:**

* **Cell A has broadcasted UL WUS config in its SIB for NES cell;**
* **Cell A has stopped UL WUS config in its SIB for NES cell; ( in the later phase) (FFS) (Maybe Cell A is busy, is planned to shut down);**
* **Cell A has restart the UL WUS Config in the SIB (FFS) (in this case, Cell A stores the UL WUS configuration and reuses it). Else NES has to request UL WUS configuration from scatch.**

**The companies have agreed that Cell A should be able to send a message to NES cell to indicate it stops broadcasting UL WUS Configuration for the NES Cell.**

Moderator: Capture the following RAN3 agreements in the chairman’s notes.

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**Option 3: After the UL WUS Configuration Provision request and positive response (confirm), no change in NES Cell or Cell A gNBs.**

**The Request message is to send the UL WUS Configuration;**

**The positive Response is to indicate that Cell A has received the UL WUS configuration and has intension to broadcast it ( but it will not do it yet.)**

**The second message is sent from NES Cell gNB to Cell A gNB to indicate it is time to broadcast UL WUS configuration. And NES cell goes to OD-SIB Mode.**

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**Q1: Which is your view of how UL WUS configuration works according to the above Options?**

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| **Company Name** | **Company View** |
| **Rakuten** | **Option 1;**  |
| **NEC** | **Option 1;**  |
| **Ericsson** | **Prefer Option 2, Can also be open for Option 1,** |
| **Huawei**  | **Prefer Option 1. But can also open for the other options;** |
| **Samsung** | **Prefer Option 1. But can also open for the other options;** |
| **Nokia** | **Option 2 + Option 3 (i.e. both solutions in one)** |
| **CATT** | **Option 1 and Option 2** |
| **CT** | **Open for all the Options** |
| **Deutsche Telekom** | **Prefer Option 2. Open also for Option 1.** |
| **Lenovo** | **Option 1** |
| **ZTE** | **Prefer Option 3, but open for other options if majority agrees.** |

**Q2: For the new UL WUS Configuration provision procedure, should we produce XnAP Text Proposal at this meeting?**

Not discussed

**Q3: Should we produce F1AP Text Proposal at this meeting?**

Not discussed

# 4 References

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| [R3-245498](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_125-bis%5CDocs%5CR3-245498.zip) | Xn impact of On-demand SIB1 for UEs in idle/inactive mode (Ericsson) | other |
| [R3-245517](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_125-bis%5CDocs%5CR3-245517.zip) | F1 impact of On-demand SIB1 for UEs in idle/inactive mode (Ericsson) | discussion |
| [R3-245107](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_125-bis%5CDocs%5CR3-245107.zip) | Support On-Demand SIB1 for UEs (CMCC) | discussion |
| [R3-245120](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_125-bis%5CDocs%5CR3-245120.zip) | Discussion on on-demand SIB1 in low-carbon green network (Samsung) | discussion |
| [R3-245219](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_125-bis%5CDocs%5CR3-245219.zip) | (TP for TS 38.473) Discussion on on-demand SIB1 for UEs in idle or inactive mode (Huawei) | other |
| [R3-245249](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_125-bis%5CDocs%5CR3-245249.zip) | Aspects of on-demand SIB1 for NES enhancements (Qualcomm Inc.) | discussion |
| [R3-245257](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_125-bis%5CDocs%5CR3-245257.zip) | On support on-demand SIB1 for idle UE (CATT) | discussion |
| [R3-245300](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_125-bis%5CDocs%5CR3-245300.zip) | Support on-demand SIB1 (NEC) | discussion |
| [R3-245456](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_125-bis%5CDocs%5CR3-245456.zip) | Discussion on On-demand SIB1 for Idle/Inactive UE (Lenovo) | discussion |
| [R3-245561](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_125-bis%5CDocs%5CR3-245561.zip) | Further thoughts on open Issues in support of On-Demand SIB1 (Nokia) | discussion |
| [R3-245647](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_125-bis%5CDocs%5CR3-245647.zip) | Discussion on OD-SIB1 (Rakuten Mobile, Inc) | discussion |
| [R3-245668](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_125-bis%5CDocs%5CR3-245668.zip) | Further discussion on on-demand SIB1 (ZTE Corporation) | discussion |