**3GPP TSG-RAN WG3 #126 Draft-R3-247806**

**Orlando, U.S.A., 18th-22nd November 2024**

**Agenda Item: 17.3**

**Source: Ericsson (Moderator)**

**Title: Summary of offline discussions: Rel-19 Network Energy Saving OD-SIB1**

**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:\3GPP\RAN3\2024\RAN3%23125bis\Work%20On%20Site\Inbox\R3-245737.zip)

# For the Chairman’s Notes

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

**TBD**

**The following TPs are agreed:**

**XnAP: R3-24xxxx**

**F1AP: R3-24xxxx**

# 3 Discussion

We have already made the following agreements:

* *The UL WUS configuration will be transferred over Xn via a new class1 defined procedure.*
* *Cell A gNB can decide and signal to NES Cell gNB that it stops the UL WUS configuration broadcast in its SIB.*

We first make the agreement for the XnAP and F1AP TPs implementing the above agreements (with or without FFS).

We further discuss what more are needed.

# 4 Discussion on XnAP TP

We have already made the following agreements:

* *The UL WUS configuration will be transferred over Xn via a new class1 defined procedure.*
* *Cell A gNB can decide and signal to NES Cell gNB that it stops the UL WUS configuration broadcast in its SIB.*

The below captures the XnAP agreements.

### 8.x.x UL WUS Configuration Provision

#### 8.x.x.1 General

The purpose of the UL WUS Configuration Provision procedure is to enable an NG-RAN node to request a neighboring NG-RAN node to provide an UL WUS configuration in one or more cells.

The procedure uses non UE-associated signaling.

#### 8.x.x.2 Successful Operation



Figure 8.x.x.2-1: UL WUS Configuration Provision, successful operation

The NG-RAN node1 initiates the procedure by sending the UL WUS CONFIGURATION PROVISION REQUEST message to the peer NG-RAN node2 to start a provisioning, stop a provisioning, of an UL WUS configuration in one or more cells of the NG-RAN node2 (FFS). Upon receipt, the NG-RAN node2:

- shall initiate the requested provisioning according to the parameters given in the request in case the *Request Type* IE set to "start"; or

- shall terminate the indicated (previously admitted) provisioning in case the *Request Type* IE is set to "stop".

The NG-RAN node2 shall, if supported, provide the UL WUS configuration included in the UL WUS CONFIGURATION PROVISION REQUEST message in the cells indicated in the UL WUS CONFIGURATION PROVISION REQUEST message and shall respond with the UL WUS CONFIGURATION PROVISION RESPONSE message.

#### 8.x.x.3 Unsuccessful Operation



Figure 8.x.x.3-1: UL WUS Configuration Provision, unsuccessful operation

If the NG-RAN node2 cannot provide the UL WUS configuration included in the UL WUS CONFIGURATION PROVISION REQUEST message in the cells indicated in the UL WUS CONFIGURATION PROVISION REQUEST message, it shall respond with the UL WUS CONFIGURATION PROVISION FAILURE message with an appropriate cause value.

#### x.x.x.4 Abnormal Conditions

Void.

### 8.x.y UL WUS Configuration Provision Change

#### 8.x.y.1 General

This procedure is initiated by an NG-RAN node to inform a neighboring NG-RAN node about status changes concerning an admitted UL WUS configuration provision.

The procedure uses non UE-associated signalling.

#### 8.x.y.2 Successful Operation



Figure 8.x.y.2-1: UL WUS Configuration Provision Change, successful operation

The NG-RAN node2 shall indicate the status of the admitted UL WUS configuration provision in the UL WUS CONFIGURATION PROVISION STATUS message.

#### 8.x.y.3 Unsuccessful Operation

Not applicable.

#### 8.x.y.4 Abnormal Conditions

Void.

#### 9.x.x.x UL WUS CONFIGURATION PROVISION REQUEST

This message is sent by the NG-RAN node1 to the peer NG-RAN node2 to request provisioning of an UL WUS configuration in one or more cells.

Direction: NG-RAN node1 ® NG-RAN node2.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| --- | --- | --- | --- | --- | --- | --- |
| Message Type | M |  | 9.2.3.1 |  | YES | reject |
| Choice Request Type | M |  |  |  | YES | reject |
| > Stop |  |  |  |  |  |  |
| >> Provision ID | M |  | INTEGER (0..255) | Allocated by the NG-RAN node1 | YES | reject |
| > Start |  |  |  |  |  |  |
| >>UL WUS Configuration | M |  | OCTET STRING | Includes the *xyz* message as defined in subclause a.b.c of TS 38.331. | YES | reject |
| >> Provision ID | M |  | INTEGER (0..255) | Allocated by the NG-RAN node1 | YES | reject |
| **>> Assisting Cells List (FFS)** |  | *1* |  | List of cells of the NG-RAN node2 requested to provide the UL WUS configuration. | YES | reject |
| **>>>Assisting Cells Item** |  | *1 .. <* *maxnoofCellsinNG-RANnode>* |  |  | – |  |
| >>>NR CGI | M |  | 9.2.2.7 | Indicates the NR\_CGI at the NG-RAN node2 | – |  |
| Interface Instance Indication | O |  | 9.2.2.39 |  | YES | reject |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofCellsinNG-RANnode | Maximum no. cells that can be served by an NG-RAN node.  Value is 16384. |

#### 9.x.x.y UL WUS CONFIGURATION PROVISION RESPONSE

This message is sent by an NG-RAN node2 to a peer NG-RAN node1 to indicate that the UL WUS configuration will be provided in the requested cells.

Direction: NG-RAN node2 ® NG-RAN node1.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| --- | --- | --- | --- | --- | --- | --- |
| Message Type | M |  | 9.2.3.1 |  | YES | reject |
| Provision ID | M |  | INTEGER (0..255) | Allocated by the NG-RAN node1 | YES | reject |
| Criticality Diagnostics | O |  | 9.2.3.3 |  | YES | ignore |
| Interface Instance Indication | O |  | 9.2.2.39 |  | YES | reject |

#### 9.x.x.z UL WUS CONFIGURATION PROVISION FAILURE

This message is sent by an NG-RAN node2 to a peer NG-RAN node1 to indicate that the UL WUS configuration cannot be provided in the requested cells.

Direction: NG-RAN node2 ® NG-RAN node1.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| --- | --- | --- | --- | --- | --- | --- |
| Message Type | M |  | 9.2.3.1 |  | YES | reject |
| Provision ID | M |  | INTEGER (0..255) | Allocated by the NG-RAN node1 | YES | ignore |
| Cause | M |  | 9.2.3.2 |  | YES | ignore |
| Criticality Diagnostics | O |  | 9.2.3.3 |  | YES | ignore |
| Interface Instance Indication | O |  | 9.2.2.39 |  | YES | ignore |

#### 9.x.x.t UL WUS CONFIGURATION PROVISION STATUS

This message is sent by NG-RAN node2 to NG-RAN node1 to report a status change concerning an admitted UL WUS configuration provision.

Direction: NG-RAN node2 ® NG-RAN node1.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| --- | --- | --- | --- | --- | --- | --- |
| Message Type | M |  | 9.2.3.1 |  | YES | ignore |
| Provision ID | M |  | INTEGER (0..255) | Allocated by the NG-RAN node1 | YES | reject |
| Provision Status |  |  | ENUMERATED (stopped, …) | Indicates the provision status of the UL WUS configuration in the assisting cells. |  |  |
| Interface Instance Indication | O |  | 9.2.2.39 |  | YES | reject |

# 5 Discussion on F1AP TP

Reuse the existing message.

Include UL WUS configuration from gNB-DU to gNB -CU;

Include Stop UL WUS configuration from gNB-DU to gNB-CU;

# 6 References