3GPP TSG-RAN WG3 Meeting #125 R3-24xxxx

Maastricht, NL, 19th – 23rd Aug 2024

Agenda Item: 16.3

Source: ZTE (moderator)

Title: Summary of Offline Discussion on CB: # AIoT2\_CNRANSignalling

Document for: Approval

# Introduction

**CB: # AIoT2\_CNRANSignalling**

**- Start with** [**R3-244059**](file:///C:\Users\ealeves\OneDrive%20-%20Ericsson\Documents\3GPP\TSG_RAN\WG3\TSGR3_125\Inbox\Drafts\CB%20%23%20AIoT2_CNRANSignalling\Inbox\R3-244059.zip)**, check the open issues above**

(moderator - ZTE)

Summary of offline disc [R3-244703](file:///C:\Users\ealeves\OneDrive%20-%20Ericsson\Documents\3GPP\TSG_RAN\WG3\TSGR3_125\Inbox\Drafts\CB%20%23%20AIoT2_CNRANSignalling\Inbox\R3-244703.zip)

# For the Chairman’s Notes

# Discussion-First round

RAN3 starts with inventory-only procedure. Discuss the content in Inventory/Command.

**The AIoT CN to select suitable reader (AIoT enabled gNB or AIoT enabled UE reader) for both topology 1 and topology 2?**

**Assistance information from AIoT CN to AIoT RAN?**

## Overall procedure for inventory-only

RAN3 starts with inventory-only procedure. Discuss the content in Inventory/Command.

**Introduce a class 1 Inventory Request procedure with request/response/failure messages.**

**Introduce a class 2 Inentory report prcodure**

#### 6.4.1.3 Content of Communication between involved main AIoT system entities



Figure 6.4.1.3-1: Overall procedure for AIoT

Editor’s Note: It is assumed that communication between AIoT RAN and AIoT CN can be common for topology 1 and topology 2. FFS on detailled differences.

Step 1 Content: ...

Step 2 Content: ...

Step 3 Content (as far as RAN3 scope is concerned):

Step 4 Content: ...

. When the AIoT CN decides to initiate inventory procedure, it sends Inventory request message to the gNB.

2. The gNB sends Inventory response message to the AIoT CN. If the gNB sends Inventory failure message to the AIoT CN, this Inventory procedure ends.

3. The gNB initiates inventory procedure at AIoT radio interface accordingly.

*Editor’s Note 1: This step is defined by RAN2.*

4. After receiving part or full of inventory result from devices, the gNB sends a single or multiple Inventory reports to the AIoT CN including the received inventory result.



Figure 6.4.1.3-2: Overall procedure for AIoT Topology 2

Editor’s Note: It is assumed that communication between AIoT RAN and AIoT CN can be common for topology 1 and topology 2. This section tries to identify details on communication between UE based reading device and AIoT enabled gNB, as far as RAN3 is concerned, if any.

0. The UE as reader shall be reachable, if needed, by legacy CN paging.

1/2. The step 1/2 are used to forward and respond the inventory request from AIoT CN, detail is FFS.

3. The gNB initiates inventory procedure at Uu interface and AIoT radio interface accordingly.

*Editor’s Note 1: This step is defined by RAN2.*

4. After receiving part or full of inventory result from UE, the gNB sends a single or multiple Inventory reports to the AIoT CN including the received inventory result.

## Device context

**Ericsson: What is a device context? Guess this chapter is not necessary at this point in time. What would be important would be to discuss in 3.1 (with that following chapters are not necessary, in my view, but this is a Q on how to structure this subsection of the TR)**

- the scope (e.g. unique per AIoT RAN node, per AIoT CN node, global, ...)

- the ownership (which node generates)

- which node needs to process the information and triggers a function based on the info, store it e.g. for associating request/response

**Which node to store Device context?**

AIoT CN

RAN as reader

UE as reader

**What content in the device context?**

Association between reader id and device id

## Device Identity

**Ericsson: should be part of the general section 3.1.**

**Whether the reader needs to store the device identity?**

**Whether the reader needs to decode the device identiy?**

## Reader selection

**The AIoT CN to select suitable reader (AIoT enabled gNB or AIoT enabled UE reader) for both topology 1 and topology 2?**

## Assistance information

**Assistance information from AIoT CN to AIoT RAN?**

# Conclusion, Recommendations

# References

1. [R3-244104](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244104.zip) (TP for TR 38.769) Signalling and Procedures for Topology 1 (Huawei) other
2. [R3-244428](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244428.zip) Inventory, Command and device context management for Ambient IoT (Qualcomm Incorporated) discussion
3. [R3-244060](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244060.zip) Discussion on unified procedure for AIoT topology 1 and 2 (ZTE Corporation) discussion
4. [R3-244059](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244059.zip) (TP for TR38.769) NG interface impact for Ambient-IoT (ZTE Corporation) other
5. [R3-244105](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244105.zip) (TP for TR 38.769) Signalling and Procedures for Topology 2 (Huawei) other
6. [R3-244158](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244158.zip) RAN-CN interface impact on ambient IoT (NEC) discussion
7. [R3-244184](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244184.zip) (TP to TR 38.769) Network signalling aspects for Topology 1 (CATT) other
8. [R3-244185](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244185.zip) (TP to TR 38.769) Network signalling aspects for Topology 2 (CATT) other
9. [R3-244192](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244192.zip) (TP for TR 38.769) AIoT interface impacts between RAN and CN (Xiaomi) other
10. [R3-244328](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244328.zip) Inventory procedure of ambient IoT (Lenovo) discussion
11. [R3-244329](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244329.zip) Context Management and Data Transport of Ambient IOT (Lenovo) discussion
12. [R3-244389](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244389.zip) [TP for TR 38.769] Elements for AIoT RAN – AIoT CN communication and overall signalling (Ericsson) other
13. [R3-244421](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244421.zip) Inventory Signalling Reusing Paging procedures for AIoT Topology 2 (Nokia ) discussion
14. [R3-244422](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244422.zip) [TP for TR 38.769] Inventory Signalling reusing Paging procedures for AIoT Topology 2 (Nokia ) other
15. [R3-244423](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244423.zip) [TP for TR 38.769] Data Transport and Context Management for AIoT (Nokia ) other
16. [R3-244556](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244556.zip) Discussion on RAN-CN interface impact for Ambient IoT (Samsung) discussion
17. [R3-244564](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244564.zip) Discussion on RAN-CN interface for Ambient IoT (China Telecom) discussion
18. [R3-244594](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244594.zip) Discussion on paging for Ambient IoT (CMCC) discussion
19. [R3-244595](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244595.zip) Discussion on Device Context Management and Data Transfer (CMCC) discussion
20. [R3-244607](file:///D:\会议硬盘\TSGR3_125\Docs\R3-244607.zip) Discussion on NG impact for Ambient IoT (LG Electronics) discussion