**3GPP T****SG-RAN WG3 Meeting #124 R3-243807**

**Fukuoka, Japan, 20th – 24th May 2024**

**Agenda Item: 16.2**

**Source: Ericsson**

**Title: [TP for TR 38.769] CB:#AIoT1\_Architecture**

**Document for: Discussions & Approval**

# 1 Introduction

This is the summary of offline discussions on the first comeback for Ambient AIoT during RAN3#124.

The chair’s minutes are as follows:

**CB: # AIoT1\_Architecture**

**- Focus on how to capture the system architecture in TR**

**- Discuss the definition of common reader function and AIoT RAN function**

**- the possibility to send LS to other WGs on security?**

(moderator – E///)

Offline discussions were based on R3-243549 and attempted to produce commonly acceptable content for TR 38.769, as shown below in the “Text Proposal”, containing architecture related Figures and the definition of the terms used in the figure. Items for further study are captured within “Editor’s Notes”.

- Further item worth to mention

# 2 Text Proposal

<<<<<<<<<<<<<<<<<<<< First Change >>>>>>>>>>>>>>>>>>>>

## 6.4 RAN architecture aspects

Editor’s note: Corresponds to the second RAN3 objective in the SID, to identify RAN architecture aspects, including whether support for split architecture is necessary.

This chapter attempts to identify and describe architectural elements necessary to define a RAN architecture for support of Ambient IoT embedded in the overall 5G system architecture in support of topology 1 and topology 2 (as defined in TR 38.848 [2]).

This chapter also attempts to identify a functional split between RAN and CN.

Figure 6.4-1 depicts a simplified System architecture, able to support topology 1 and topology 2.

It consists of the following architectural elements:

**AIoT device**: equipment with characteristics outlined e.g. in TS 22.369 [x] and TR 38.848 [y].

Editor’s Note: Further details FFS, if any.

**AIoT RAN**: executing 5GS functions for AIoT as of the functional split between RAN and CN

Editor’s Note: Further details regarding 5GS AIoT functions and the respective functional split to be decided by RAN2, RAN3 and SA2.

Editor’s Note: Whether AIoT functions are hosted by 5GS is still challenged by one company. How to resolve this is not clear yet.

Editor’s Note: AIoT RAN definition as above challenged by one company.

**AIoT radio**: radio interface between AIoT RAN and AIoT device.

Editor’s Note: Further on details to be discussed by RAN1&2

Editor’s Note: whether this definition applies also for topology 2 is FFS.

**AIoT CN**: executing 5GS functions for AIoT as of the functional split between RAN and CN

Editor’s Note: Further details regarding 5GS AIoT functions and the respective functional split to be decided by RAN2, RAN3 and SA2

Editor’s Note: Whether AIoT functions are hosted by 5GS is still challenged by one company. How to resolve this is not clear yet.

**XX interface**: interface between the AIoT RAN and the AIoT CN on which certain AIoT specific functions are performed

Editor’s Note: The functions represented by the XX interfaces are FFS. It is also FFS whether this interface represents a new logical interface or is equal to NG.

**XX/NG**: interface between AIoT RAN and the AIoT CN.

Editor’s Note: “XX/NG” is used as an intermediate term for representing the simplified system architecture supporting topologies 1&2. For topology 1 it may only represent “XX”, for topology 2 it might represent either 2 interface instances, one for “XX” one for NG, or NG alone.



Figure 6.4-1: Simplified System Architecture supporting topology 1 and topology 2.

Editor’s Note: whether Figure 6.4-1 applies also for topology 2 is FFS.

<<<<<<<<<<<<<<<<<<<< End of Changes >>>>>>>>>>>>>>>>>>>>