3GPP TSG-RAN WG3 Meeting #129-bis R3-257240

**Prague, Czech Republic, 13 – 17 October 2025**

Agenda Item: 10.3.1

Source: Huawei (moderator)

Title: (TP to TR 38.760-3) RAN-CN interface principles and functions

Document for: Agreement

# 1 Introduction

This contribution provides the TP to the TR 38.760-3 on the RAN-CN interface principles and functions based on the discussion of the following CB:

**CB: # 20\_6GRAN-CNinf**

**- TP for section 6.1.1 & 6.1.2 (RAN-CN interface general principles and functions)**

**- Capture open issues for next meeting**

**- Introduce new sections in the TR, if agreeable**

(Huawei - moderator)

# 2 TP to TR 38.760-3

***---------------Start of the Change------------------***

## 6.1 RAN-CN Interface

### 6.1.1 General Principles

*Editor’s note: The aim of this section is to describe general design principles and requirements for RAN-CN Interface.*

The general principles for the specification of the 6G RAN-CN interface are as follows:

[Easy ones, same as NG]

- the 6G RAN-CN interface supports the exchange of signalling information between the RAN and CN;

- the 6G RAN-CN interface supports control plane and user plane separation;

- the 6G RAN-CN interface separates Radio Network Layer and Transport Network Layer;

- the 6G RAN-CN interface shall be future proof to fulfil different new requirements and support of new services and new functions;

- the 6G RAN-CN interface is decoupled with the possible NG-RAN deployment variants;

[Easy ones\_new principles proposed by the online treated papers]

- the 6G RAN-CN interface supports RAN sharing between multiple operators;

- the 6G RAN-CN interface supports the operation of network slicing.

- the 6G RAN-CN interface supports enhanced service awareness in RAN;- the 6G RAN-CN interface supports reliable signalling transmission;

- the 6G RAN-CN interface supports large scale of RAN nodes deployment;

- the 6G RAN-CN interface supports clear boundaries between RAN and CN;

[To be discussed]

- The 6G RAN-CN interface uses different procedures for different functionalilties, as needed;

- the 6G RAN-CN interface, from logical standpoint, is a point-to-point interface between an RAN node and a CN node. A point-to-point logical interface is feasible even in the absence of a physical direct connection between the RAN node and CN node;

Editor’s note: Principles for mobility and new services (e.g., sensing, etc) can be added after the discussion of these topics.

### 6.1.2 RAN-CN Interface Functions

**RAN-CN control plane interface supports following functions:**

[Easy ones, same as NG]

- Interface management: The functionality to manage the RAN-CN Control Plane interface;

- UE context management : The functionality to manage the UE context between the RAN and CN;

- Transport of NAS messages: The functionality to transfer NAS messages between the CN and UE;

- PDU Session Management: The functionality to establish, manage and remove PDU sessions and respective RAN resources.

- Configuration Transfer: The functionality to transfer the RAN configuration information (e.g., transport layer addresses for establishment of Xn\* interface) between two RAN nodes via the CN.

- UE mobility management: The functionality to manage the UE mobility for connected mode between the RAN and CN;

- Warning Message Transmission: The functionality to transfer warning messages via RAN-CN interface or cancel ongoing broadcast of warning messages;

[To be discussed]

- Paging: The functionality to send paging requests to the RAN nodes involved in the paging area;

- New service management: The functionality to manage the new services (e.g., data collection, AI, sensing) between the RAN and CN;

**RAN-CN user plane interface supports following functions:**

- Non-guaranteed delivery of user plane PDUs;

### 6.1.3 RAN-CN Interface Options

*Editor’s note: This chapter includes description of RAN-CN interface options including protocol stacks, considering new and existing services.*

### 6.1.4 Evaluation of RAN-CN Interface Options

*Editor’s note: This chapter includes evaluation and comparison of RAN-CN interface options described in clause 6.1.3.*

***---------------End of the Change------------------***