3GPP TSG-RAN WG3 #123bis R3-24xxxxx

Changsha, 15 – 19 Apr. 2024

Agenda Item: 12.2

Source: NTTDOCOMO

Title: TP for WAB general requirements and architecture

Document for: Agreement

# Introduction

This document provides a TP for WAB general requirements and architecture.

# Discussion

Proposal1: RAN3 to agree the TP for WAB general requirements and architecture in ANNEX.

# ANNEX (WAB TP for TR 38.799)

**Start of Change**

# X Wireless Access and Backhaul (WAB)

## X.1 General

* The study is based on the following requirements:The WAB-node includes a gNB component (WAB-gNB) and an MT component (WAB-MT).
* The WAB-gNB is based on the gNB functionality specified in TS 38.300 [x] and TS 38.401 [y].
* CU-DU split is not considered in this study.
* The WAB-MT can support a subset of UE functionality.
* NR Uu is used for the radio link between an WAB-gNB and served UEs.
* The NR Uu radio link between the WAB-gNB and served UE does not use NTN.
* In-band scenario for access and backhaul is not precluded to be studied.
* The study precludes the scenario where the access and the backhaul are in-band and the backhaul uses NTN.
* The study focuses on the use of PDU session via NR Uu backhaul. Other non-NR Uu (including non-3GPP radio technology) for the backhaul by implementation is not precluded (but not a part of the study).
* The WAB only supports single hop backhauling, which means that a WAB-gNB does not serve WAB-MTs.
* The study includes a scenario where the WAB-gNB and the WAB-MT connect to the same PLMN or different PLMNs.
* The WAB-MT may connect to a PLMN or an SNPN.
* The WAB-gNB may connect to a PLMN or an SNPN.

- Legacy UEs can connect to the WAB-gNB, and there are no WAB-specific enhancements to Rel-19 UEs.

## X.2 WAB Architecture

Figure X.Y-1 shows an example of WAB architecture for 5GS when the WAB-gNB traffic is transported via PDU session backhaul:

Figure X.Y-1: The WAB architecture for 5GS when the WAB-gNB traffic is transported via PDU session backhaul



 Figure X.Y-2 shows an example of WAB architecture for 5GS when the WAB-gNB traffic is transported via non-3GPP backhaul:

Figure X.Y-: The WAB architecture for 5GS when the WAB-gNB traffic is transported via non-3GPP backhaul

Figure X.Y-3 shows protocol stack examples of control plane and user plane transport for a UE connected to the network via a WAB-node.



Figure X.Y-3: Protocol stack examples of control plane and user plane transport for UEs connected via WAB-node

**End of Change**