3GPP TSG-RAN WG3 #125bis R3-245753

Hefei, China, 15th – 19th October, 2024

Agenda Item: 12.2

Source: NTTDOCOMO (moderator)

Title: Summary of Offline Discussion on WAB

Document for: Approval

# Introduction

This document provides a summary of the offline discussion on WAB.

**CB: # WAB**

* **Decide in which Stage 2 specs text reflecting the agreements shall be included**
* **Based on the agreements taken, draft stage 2 CRs**
* **Discuss solutions on multi hop WAB and down select, if possible**
* **Draft LS to SA2 on ULI. Reply LS in R3-245752 (Qualcomm)**

(Moderator - DoCoMo)

Summary of offline disc R3-245753

# Discussion

**RAN3 to consider the following RAN based solutions to avoid multi hop WAB:**

**Solution 1: The WAB-gNB uses dedicated frequencies and/or PCIs. FFS on any other legacy OTA parameters.**

**Solution 2: Use the slice dedicated for backhauling, i.e. use a list of S-NSSAIs in RRCsetupcomplete to do access control and/or use a list of S-NSSAIs in handover signalling. No involvement of 5GC is expected**

**Solution 3: WAB-gNB-cells broadcast a new indicator in SIB to bar WAB-MT, and the WAB-MT avoids (re)selection of cells broadcasting this indicator.**

**Solution4: BH-gNB broadcasts a new indicator “WAB allowed” in SIB. WAB-gNB does not broadcast “WAB allowed”.**

**Solution5: In case of handover for a WAB-node, the WAB-node indication is included in the HO request, then the target BH-RAN node can perform access control for this WAB-node.**

**To be continued…**

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| **solutions** | **Pros** | **Cons** |
| **Solution 1: The WAB-gNB uses dedicated frequencies and/or PCIs. FFS on any other legacy OTA parameters.** | **No stage3 impact.** | * **Since operators have limited Frequencies/PCI resources, it is difficult to realize it in reality.** |
| **Solution 2: Use the slice dedicated for backhauling, i.e. use a list of S-NSSAIs in RRCsetupcomplete to do access control and/or use a list of S-NSSAIs in handover signalling. No involvement of 5GC is expected** | **No stage3 impact.** | * **In legacy, list of S-NSSAIs in RRCSetupComplete is used for AMF selection. If the list of S-NSSAIs is not supported by AMF. RAN node release the WAB-MT by RRCRelease.** * **WAB-MT may re-access the WAB-gNB after the waitTimer is expired. If the WAB-MT is stationary, then it may re-access the WAB-gNB endless.** * **Hence, access control is done at AMF rather than RAN node.** |
| **Solution 3: WAB-gNB-cells broadcast a new indicator in SIB to bar WAB-MT, and the WAB-MT avoids (re)selection of cells broadcasting this indicator.** | **This solution explicitly bar the WA-MT, so it is a clean solution.** | * **There is stage3 impact.** * **This solution only work for initial access.** * **For handover, it is not workable.** |
| **Solution4: BH-gNB broadcasts a new indicator “WAB allowed” in SIB. WAB-gNB does not broadcast “WAB allowed”.** |  | * **There is stage3 impact.** * **It requires legacy gNB to support new indicator in SIB.** |
| **Solution5: In case of handover for a WAB-node, the WAB-node indication is included in the HO request, then the target BH-RAN node can perform access control for this WAB-node.** |  | * **There is stage3 impact.** * **This solution only for work for handover.** |

Q1: Please fill your companies views (Pros/Cons) for each solution (only add comments that are not reflected in the table above)

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| Company name | Comments |
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Q2: which solutions are preferred? Please explain the reasons.

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| Company name | Comments |
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# Conclusion, Recommendations

# References

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| --- | --- | --- |
| [R3-245402](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245402.zip) | Functional Aspects of WAB-Nodes (Ericsson) | discussion |
| [R3-245391](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245391.zip) | (TPs for TS 38.300/38.413) Architecture and Access control for WAB (Huawei) | other |
| [R3-245247](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245247.zip) | (draft Reply LS to SA2) Discussion on SA2 questions on multi-hop WAB and UE ULI (Qualcomm Inc.) | other |
| [R3-245175](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245175.zip) | (TP for TS 38.401) Discussion on high level aspects for WAB (Nokia, Nokia Shanghai Bell) | other |
| [R3-245176](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245176.zip) | (TP for TS 38.423) Discussion on WAB mobility (Nokia, Nokia Shanghai Bell) | other |
| [R3-245248](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245248.zip) | Discussion on assumptions and architecture for WAB (Qualcomm Inc.) | other |
| [R3-245252](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245252.zip) | Discussion on stage-2 aspects for WAB (CATT) | discussion |
| [R3-245253](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245253.zip) | Other issues for WAB (CATT) | discussion |
| [R3-245286](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245286.zip) | (TP to BL CR of 38.423 on WAB) Discussion on the reliability and mobility for WAB (NEC) | other |
| [R3-245381](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245381.zip) | Discussion on Wireless Access Backhaul (NTTDOCOMO, INC.) | discussion |
| [R3-245383](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245383.zip) | Discussion on enhancements for WAB (CANON Research Centre France) | discussion |
| [R3-245392](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245392.zip) | (TP for TS 38.300) Discussion on WAB related procedures (Huawei) | other |
| [R3-245155](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245155.zip) | Discussion on WAB mobility (Samsung) | discussion |
| [R3-245156](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245156.zip) | Discussion on other aspects for the support of WAB (Samsung) | discussion |
| [R3-245403](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245403.zip) | Reply to SA2 Regarding WAB-MT Access Control and Additional ULI for WAB-Nodes (Ericsson) | discussion |
| [R3-245446](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245446.zip) | Architecture and configuration for WAB-node (Lenovo) | discussion |
| [R3-245447](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245447.zip) | Integration and migration for WAB node (Lenovo) | discussion |
| [R3-245637](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245637.zip) | Access control and location information in WAB (LG Electronics) | discussion |
| [R3-245640](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245640.zip) | Discussion on RAN2 impact of WAB (China Telecom) | discussion |
| [R3-245641](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245641.zip) | On Xn and NG interface management (China Telecom) | discussion |
| [R3-245655](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245655.zip) | (TP to 38.300) Discussion on supporting WAB and the reply LS to SA2 (ZTE Corporation) | other |
| [R3-245656](file:///D:\会议硬盘\TSGR3_125-bis\Docs\R3-245656.zip) | (TP to 38.305 38.455) Support of location service involving WAB (ZTE Corporation) | other |