3GPP TSG SA WG2#164 S2-240xxxx

Maastricht, 19-23 August 2024 (revision of)

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
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| *For* [***HELP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **x** | Core Network | **x** |

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| ***Title:***  | Support of UE served by a MWAB: authorization aspects |
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| ***Source to WG:*** |  |
| ***Source to TSG:*** | SA2 |
|  |  |
| ***Work item code:*** | VMR\_Ph2 |  | ***Date:*** | REl-19 |
|  |  |  |  |  |
| ***Category:*** | B |  | ***Release:*** | 2024-07-15 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
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| ***Reason for change:*** | The approved VMR\_Ph2 work item (SP-240632) is set to specify the architecture enhancements, functionalities and procedures to support MWAB based on conclusions of TR 23.700-06 (clause 8).This CR introduces the descriptions on how the MWAB is authorized to operate.  |
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| ***Summary of change:*** | New clause added to describe how the MWAB is auuthorized to operate. |
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| ***Consequences if not approved:*** | MWAB feature cannot be supported. |
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| ***Clauses affected:*** | (new) 5.X.Y  |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **x** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **x** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **x** |  O&M Specifications | TS/TR ... CR ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

*FIRST CHANGE*

### 5.X.3 Authorization aspects

#### 5.x.3.1 General

There are two aspects related to the authorization of a MWAB. One aspect is the authorization of the MWAB-UE to establish a backhaul PDU session in a BH PLMN/SNPN. The other aspect is related to the authorization of the MWAB-gNB to operate as a gNB logically belonging to a MWAB Broadcasted PLMN/SNPN, which the MWAB-gNB's cell(s) broadcasts. These two authorizations are managed by different entities, and the BH PLMN/SNPN and MWAB Broadcasted PLMN/SNPN can be different.

#### 5.x.y.1 MWAB-UE authorization

The BH PLMN authorizes the MWAB-UE based on the subscription information stored in its HPLMN UDM.

The MWAB-UE registers to the BH PLMN following procedures defined in clause 4.2.2 of TS 23.502 [3]. The MWAB-UE may be configured with dedicated S-NSSAI(s)/DNNs for MWAB operation in the BH PLMN. Such dedicated network slices S-NSSAI(s) and PDU sessions DNNs shall be part of the subscription information for the MWAB-UE.

 The MWAB-UE authorization supports time based or location-based control. For time-based control, existing time-based network slice subscription control can be reused (including the enhancements in clause 5.15.16). For location-based control, existing mechanism, e.g. service area restriction, LADN based control (see e.g. clauses 5.6.5.and 5.6.5a) can be reused.

When the MWAB-UE's authorization status changes from "authorized" to "unauthorized", if the AMF recognized the dedicated S-NSSAI/DNN used by the MWAB-UE, e.g. a dedicated S-NSSAI for BH PDU session support, the AMF triggers the BH PDU session handling based on existing mechanism e.g. the AMF sends an UCU to MWAB-UE and may determine to delay the corresponding PDU session release based on an operator configuration (e.g. local configured timer). If the AMF does not recognize the dedicated S-NSSAI/DNN, or is not configured with a timer, the AMF release the PDU session following the procedure described in clause 5.15.

MWAB-UE may be connected to the BH PLMN for other services, even if the BH PDU Session(s) is not authorized.

The AMF may choose to de-register the MWAB-UE, if MWAB-UE's subscription does not allow it to be registered to the BH PLMN.

#### 5.x.y.2 MWAB-gNB authorization

OAM of the MWAB Broadcasted PLMN/SNPN determines when/where the MWAB-gNB can operate or when/where it needs to shut down. The OAM of the MWAB Broadcasted PLMN may pre-configure the MWAB-gNB to turn on/shut down accordingly. When the MWAB-gNB is no longer authorized to operate by OAM of the MWAB Broadcasted PLMN/SNPN, the MWAB-gNB should hand over the UE(s) it serves to other cells.

For the case that the BH PDU session(s) is released by the MWAB-UE, the MWAB-gNB also performs shut-down steps and hand over the UE(s) it serves to other cells. The coordination of the MWAB-gNB service authorization/configuration from OAM and the update of subscription data (e.g. slice/DNN) of the MWAB-UE is handled by OAM/management system.

NOTE: It is expected the HPLMN ensures that the BH PDU sessions authorization does not interfere with the ability of the OAM of the MWAB Broadcasted PLMN/SNPN to manage the MWAB-gNB e.g. the allowed NSSAI for the BH PDU sessions of the MWAB-UE is maintained long enough for the MWAB-gNB to moves the connected UE away.

can also trigger

*End of CHANGES*