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**Source: Qualcomm Incorporated**

**Title: TR 23.700-06 conclusion proposals based on NWM discussions**

**Document for: Discussion**

**Agenda Item: 19.6**

**Work Item / Release: FS\_VMR\_Ph2 / Rel-19**

*Abstract of the contribution: this contribution proposed the conclusions for the FS\_VMR\_Ph2 study in TR 23.700-06 based on the NWM discussions.*

# 1. Discussion

Details of the NWM discussion on FS\_VMR\_Ph2 study conclusions were captured at:

<https://nwm-trial.etsi.org/#/documents/8863>

Based on consensus derived from the summary, overall non-controversial study conclusions are proposed to be captured in TR 23.700-06.

# 2. Text proposal

It is proposed to agree the following changes vs. TS 23.700-06

>>>>BEGINNING OF CHANGES<<<<

# 8 Conclusions

## 8.1 KI#1 Conclusion

The system architectures as shown in Figure 6.1.1-1 to 6.1.1-3 are agreed to be used as the basis for normative work for the cases where PLMNs are involved. Following additional aspects to be addressed in normative phase:

- Naming of the entities, e.g. MWAB-UE UDM vs. HPLMN UDM;

- Clarifications that the MWAB’s HPLMN and PLMN2 can be the same PLMN;

The system architecture as shown in Figure 6.7.1-1 and 6.7.1-2 are agreed to be used as the basis for normative work for the case of SNPN(s) are involved. Additionally, the architecture also supports the following option:

- SNPN 1 is replaced by PLMN, and SNPN 2 is a SNPN.

The following general principles are agreed to be used as the basis for normative work:

- MWAB-gNB connection with OAM server is over the IP connectivity provided by the PDU session of MWAB-UE.

- MWAB-gNB N2 interface with UE-AMF is provided over the IP connectivity offered by the PDU session of MWAB-UE.

- MWAB-gNB N3 interface with UE-UPF is over the IP connectivity provided by the PDU session of MWAB-UE.

- Same or different PDU Sessions of MWAB-UE can be used for carrying the above traffic.

NOTE 1: The use of multiple PDU Sessions for N2 vs. N3 vs. OAM access, and whether some enhancement is needed will be addressed in normative phase.

NOTE 2: Support of Xn interface between MWAB-gNB and other gNBs will be handled in normative phase based on RAN3 feedback.

- An explicit indication from MWAB-gNB to UE’s AMF (to indicate that it is a MWAB cell) is assumed.

NOTE 3: It will be addressed in normative phase on whether the indication is per MWAB-gNB (i.e. N2 est. signaling), or per UE signaling.

- OAM server address is assumed to be configured on MWAB-gNB.

- The AMF address is assumed to be configured by the OAM server to the MWAB-gNB.

- MWAB-UE’s PLMN should NOT be assumed to have control of MWAB-gNB’s configurations (as it can be serving a different PLMN).

- MOCN should be supported by MWAB-gNB.

NOTE 4: Whether any specification impact is needed for MOCN support can be decided in normative phase.

## 8.2 KI#2 Conclusion

It is proposed to proceed normatively based on these principles.

1) From SA2 perspective there is no need to specify AS level indication in RRC connection establishment that the MWAB-UE intends to operate as MWAB.

Editor's note: the current majority view is that to detect a UE intends to operate as MWAB, dedicated S-NSSAI(s) for MWAB operation may be used for a MWAB-UE. If dedicated S-NSSAIs for MWAB operation are used, then the location and time restriction can be based on related slicing features. The MWAB UE, may deregister any S-NSSAI for MWAB operation and request only S-NSSAI(s) that are not dedicated to MWAB Operation if it does not need to use BH PDU sessions.

2) From SA2 perspective there is no need to indicate to NG-RAN serving a MWAB-UE that the MWAB-UE is authorized to act as MWAB-UE.

3) The MWAB-gNB releases the NG connections when it is no longer authorized to operate. The MWAB-gNB should hand over the UE(s) it serves to other cells before it releases the NG connection. For the case that the BH PDU sessions are released by the MWAB-UE, the MWAB-UE does it only if the MWAB-gNB instructs the MWAB-UE that it may do so.

4) The authorization operations also support the update of authorization status.

NOTE: MWAB-UE authorization (by AMF based on subscription) is separate from that of the MWAB-gNB authorization (can be handled by a different PLMN and OAM).

## 8.3 KI#3 Conclusion

The following principles are agreed to be used as the basis for normative work:

* The existing CAG mechanism (as defined in Rel-18 for MBSR) can be used as an optional method for managing UE’s access to MWAB-gNB, for PNI-NPN deployment cases.
* Existing SNPN control mechanism can be used to manage the UE’s access to MWAB-gNB, in case the MWAB-gNB is serving a SNPN.
* When there are mixed deployment of fixed gNB and MWAB-gNB for SNPN, existing SNPN control mechanism can be reused to differentiate the cells, and no standards impact is expected

## 8.4 KI#4 Conclusion

The following principles are agreed to be used as the basis for normative work:

* MWAB-gNB’s configurations (e.g. Cell ID/TAC, AMF address, etc.) are managed by OAM of the PLMN it serves, based on the location information of the MWAB.
* The detailed interactions between MWAB-gNB and OAM, e.g. the location information, is out of scope of SA2.
* The existing mobility procedures can be reused to handle UE’s mobility to/from a MWAB-gNB without enhancements.
* No specific enhancements will be introduced to support the mobility scenario F (Figure 6.9.2.1-2) with UEs kept in CONNECTED mode.

NOTE 1: Any enhancements on this based on other WGs’ input should be handled in normative phase as alignment work.

NOTE 2: the solution based on instantiating multiple virtual cells by the same MWAB-gNB needs to wait for RAN3 confirmation.

## 8.5 KI#5 Conclusion

The principles presented in solution#11 (clause 6.11 of TR 23.700-06) should be used as the basis for normative work.

## 8.6 KI#6 Conclusion

The following principles are agreed for emergency service support in normative work:

- Emergency services can be supported by MWAB based on the configuration of OAM.

- Some dedicated PDU sessions (with specific S-NSSAI and DNN) may be established by MWAB-UE when the MWAB-gNB serves an emergency session.

- MWAB-gNB will handover the UEs to other cells before stopping operating as MWAB.

- The ”specific S-NSSAI and DNN” can be operator configured, and S-NSSAI does not require a new standardized SST.

- No enhancements will be introduced for the case where the MWAB-UE itself has an emergency service session and continue to serve the MWAB-gNB.

NOTE: Clarification on the operation support for international roaming, e.g. how to route the emergency service to local PSAP, will be handled in normative phase.

>>>>END OF CHANGES<<<<