3GPP TSG-RAN WG2 Meeting #118-e R2-2206663

Electronic Meeting, 9 – 20 May, 2022

**Agenda item: 6.10.1.1**

**Source: CMCC**

**Title:** **TP for 38.304 on PLMNs not allowed**

**Document for: Decision**

# Introduction

This contribution provides a text proposal to TS 38.304 to capture indicate the impact of the list of PLMNs not allowed to operate at the present UE location in 4.2 (Functional division between AS and NAS in RRC\_IDLE state and RRC\_INACTIVE state).

*First Modified Subclause*

## 4.2 Functional division between AS and NAS in RRC\_IDLE state and RRC\_INACTIVE state

Table 4.2-1 presents the functional division between UE non-access stratum (NAS) and UE access stratum (AS) in RRC\_IDLE state and RRC\_INACTIVE states. The NAS part is specified in TS 23.122 [9] and the AS part in the present document.

Table 4.2-1: Functional division between AS and NAS in RRC\_IDLE state and RRC\_INACTIVE state

| RRC\_IDLE and RRC\_INACTIVE state Process | UE Non-Access Stratum | UE Access Stratum |
| --- | --- | --- |
| PLMN Selection and SNPN Selection | **For a UE not operating in SNPN access mode, perform the following:**  Maintain a list of PLMNs in priority order according to TS 23.122 [9]. Select a PLMN using automatic or manual mode as specified in TS 23.122 [9] and request AS to select a cell belonging to this PLMN. For each PLMN, associated RAT(s) may be set.  Evaluate reports of available PLMNs and any associated CAG-IDs from AS for PLMN selection.  Maintain a list of equivalent PLMN identities.  Maintain a list of "PLMNs not allowed to operate at the present UE location".  Maintain applicable disaster roaming information for available PLMNs including potential disaster PLMNs for available PLMNs.  To support manual CAG selection, provide request to search for available CAGs and evaluate reports of available CAGs from AS for CAG selection.  **For a UE operating in SNPN access mode, perform the following:**  Maintain a list of SNPNs according to TS 23.122 [9]. Select a SNPN using automatic or manual mode as specified in TS 23.122 [9] and request AS to select a cell belonging to this SNPN.  Evaluate reports of available SNPNs from AS for SNPN selection. | For a UE not operating in SNPN access mode, search for available PLMNs.  If associated RAT(s) is (are) set for the PLMN, search in this (these) RAT(s) and other RAT(s) for that PLMN as specified in TS 23.122 [9].  For a UE operating in SNPN access mode, search for available SNPNs only consider NR cells.  Perform measurements to support PLMN/SNPN selection.  Synchronise to a broadcast channel to identify found PLMNs/SNPNs.  Report available PLMNs and any associated CAG-IDs with associated RAT(s) to NAS on request from NAS or autonomously.  Report applicable disaster roaming information for available PLMNs autonomously including potential disaster PLMNs.  For a UE operating in SNPN access mode, report available SNPNs to NAS autonomously; report information related to SNPN access with subscription of a different Credentials Holder, indicator whether onboarding is enabled, and the list of supported GINs to NAS autonomously, as specified in TS 38.331 [3].  **To support manual CAG selection, perform the following:**  Search for cells broadcasting a CAG-ID.  Read the HRNN (if broadcast) for each CAG-ID if a cell broadcasting a CAG-ID is found.  Report CAG-ID(s) of found cell(s) broadcasting a CAG-ID together with the associated manual CAG selection allowed indicator, HRNN and PLMNto NAS.  On selection of a CAG by NAS, select any acceptable or suitable cell belonging to the selected CAG and give an indication to NAS that access is possible (for the registration procedure)  To support manual SNPN selection, report available SNPNs together with associated HRNNs (if available) to NAS on request from NAS. |
| Cell  Selection | Control cell selection for example by indicating RAT(s) associated with the selected PLMN to be used initially in the search of a cell in the cell selection.  Maintain a list of "Forbidden Tracking Areas" and provide the list to AS.  Maintain a list of "PLMNs not allowed to operate at the present UE location" and provide the list to AS.  For a UE not operating in SNPN access mode: Maintain Allowed CAG list and optional CAG-only indication along with associated PLMN ID(s) on which the UE is allowed access and provide these lists to AS. To support manual CAG selection, select a CAG and request AS to select a cell belonging to this CAG. | Perform measurements needed to support cell selection.  Detect and synchronise to a broadcast channel. Receive and handle broadcast information. Forward NAS system information to NAS.  Search for a suitable cell. The cells broadcast one or more 'PLMN identity' or 'SNPN identity' (for a UE operating in SNPN access mode) in the system information. Respond to NAS whether such cell is found or not.  If associated RATs is (are) set for the PLMN, perform the search in this (these) RAT(s) and other RATs for that PLMN as specified in TS 23.122 [9].  If a cell is found which satisfies cell selection criteria, camp on that cell. |
| Cell  Reselection | For a UE not operating in SNPN access mode,  maintain a list of equivalent PLMN identities and provide the list to AS.  Maintain a list of "Forbidden Tracking Areas" and provide the list to AS.  Maintain a list of "PLMNs not allowed to operate at the present UE location" and provide the list to AS.  For a UE not operating in SNPN access mode, maintain Allowed CAG list and optional CAG-only indication along with associated PLMN ID(s) on which the UE is allowed access and provide these lists to AS.  Maintain slice information including slice/slice group priorities and provide this information to AS. | Perform measurements needed to support cell reselection.  Detect and synchronise to a broadcast channel. Receive and handle broadcast information. Forward NAS system information to NAS.  Change cell if a more suitable cell is found.  Derive cell reselection priorities for slice-based cell reselection. |
| Location registration | Register the UE as active after power on.  Register the UE's presence in a registration area, for instance regularly or when entering a new tracking area.  Deregister UE when shutting down.  Maintain a list of "Forbidden  Tracking Areas".  Maintain a list of "PLMNs not allowed to operate at the present UE location" and provide the list to AS.  Control and restrict location registration for a UE in eCall Only Mode. | Report registration area information to NAS. |
| RAN Notification Area Update | Not applicable. | Register the UE's presence in a RAN-based notification area (RNA), periodically or when entering a new RNA. |

*End of Modified Subclause*