3GPP TSG SA WG5 Meeting 136-e S5-212212

electronic meeting, online, 1 - 9 March 2021

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **32.130** | **CR** | **0009** | **rev** | **-** | **Current version:** | **16.0.0** |  |
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| *For* [***HE******LP***](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 |  |

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| ***Title:***  | Update role definition and business requirements for network sharing |
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| ***Source to WG:*** | S5 |
| ***Source to TSG:*** | Huawei, China Telecom, China Unicom |
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| ***Work item code:*** | MANS |  | ***Date:*** | 2021-02-03  |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | Rel-17 |
|  | *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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | 1. Current the origanizational role definition in clause 3.1 needs to be revisted to be applicabl for NR-RAN network sharing and align with Roles related to 5G networks and network slicing management defined in clause 4.8.
2. Current requirements for the OAM&P of shared RAN in clause 5.1.1 is system specific requirement, instead of business level requirements. Also these requirments are not applicable for 5G SBMA.
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| ***Summary of change:*** | 1. Update the organizational role definition in clause 3.1
2. Update the requirements for the OAM&P of shared RAN in clause 5.1.1
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| ***Consequences if not approved:*** |  |
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| ***Clauses affected:*** | 2, 3.1, 5.1.1 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  |  |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  |  |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  |  |  O&M Specifications | TS/TR ... CR ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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| **1st Change** |

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 36.300: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description; Stage 2".

[3] 3GPP TS 23.501: "System Architecture for the 5G System; Stage 2".

[4] 3GPP TS 38.401: "NG-RAN; Architecture description".

[5] 3GPP TS 33.501: "Security Architecture and Procedures for 5G System".

[6] 3GPP TS 38.321: "NR; Medium Access Control (MAC) protocol specification".

[7] 3GPP TS 38.322: "NR; Radio Link Control (RLC) protocol specification".

[8] 3GPP TS 38.323: "NR; Packet Data Convergence Protocol (PDCP) specification".

[9] 3GPP TS 37.324: " E-UTRA and NR; Service Data Protocol (SDAP) specification".

[10] 3GPP TS 38.304: "NR; User Equipment (UE) procedures in Idle mode and RRC Inactive state".

[11] 3GPP TS 38.306: "NR; User Equipment (UE) radio access capabilities".

[12] 3GPP TS 38.331: "NR; Radio Resource Control (RRC); Protocol specification".

[13] 3GPP TS 38.133: "NR; Requirements for support of radio resource management".

[14] 3GPP TS 22.168: "Earthquake and Tsunami Warning System (ETWS) requirements; Stage 1".

[15] 3GPP TS 22.268: "Public Warning System (PWS) Requirements".

[16] 3GPP TS 38.410: "NG-RAN; NG general aspects and principles".

[17] 3GPP TS 38.420: "NG-RAN; Xn general aspects and principles".

[18] 3GPP TS 38.101-1: "NR; User Equipment (UE) radio transmission and reception; Part 1: Range 1 Standalone".

[19] 3GPP TS 22.261: "Service requirements for next generation new services and markets".

[20] 3GPP TS 38.202: "NR; Physical layer services provided by the physical layer"

[21] 3GPP TS 37.340: "NR; Multi-connectivity; Overall description; Stage-2".

[22] 3GPP TS 23.502: "Procedures for the 5G System; Stage 2".

[23] IETF RFC 4960 (2007-09): "Stream Control Transmission Protocol".

[24] 3GPP TS 26.114: "Technical Specification Group Services and System Aspects; IP Multimedia Subsystem (IMS); Multimedia Telephony; Media handling and interaction".

[25] Void.

[26] 3GPP TS 38.413: "NG-RAN; NG Application Protocol (NGAP)".

[27] IETF RFC 3168 (09/2001): "The Addition of Explicit Congestion Notification (ECN) to IP".

[28] 3GPP TS 24.501: "NR; Non-Access-Stratum (NAS) protocol for 5G System (5GS)".

[29] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification".

[30] 3GPP TS 38.415: "NG-RAN; PDU Session User Plane Protocol".

[31] 3GPP TS 38.340: "NR; Backhaul Adaptation Protocol (BAP) specification".

[32] 3GPP TS 38.470: "NG-RAN; F1 application protocol (F1AP) ".

[33] 3GPP TS 38.425: "NG-RAN; NR user plane protocol".

[34] 3GPP TS 23.216: "Single Radio Voice Call Continuity (SRVCC); Stage 2".

[35] 3GPP TS 38.101-2: "User Equipment (UE) radio transmission and reception; Part 2: Range 2 Standalone".

[36] 3GPP TS 38.101-3: "User Equipment (UE) radio transmission and reception; Part 3: Range 1 and Range 2 Interworking operation with other radios".

[37] 3GPP TS 37.213: "Physical layer procedures for shared spectrum channel access".

[38] 3GPP TS 38.213: "NR; Physical layer procedures for control".

[39] 3GPP TS 22.104 "Service requirements for cyber-physical control applications in vertical domains".

[40] 3GPP TS 23.287: "Architecture enhancements for 5G System (5GS) to support Vehicle-to-Everything (V2X) services".

[41] 3GPP TS 23.285: "Technical Specification Group Services and System Aspects; Architecture enhancements for V2X services".

[42] 3GPP TS 38.305: "NG Radio Access Network (NG-RAN); Stage 2 functional specification of User Equipment (UE) positioning in NG-RAN".

[43] 3GPP TS 37.355: "LTE Positioning Protocol (LPP)".

[X] 3GPP TS 28.530: "Concepts, use cases and requirements".

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| **2nd Change** |

## 4.X Roles related to management aspect for RAN sharing scenarios

Based on the roles related to 5G networks and network slicing management defined in clause 4.8 of TS 28.530 [X], following roles are defined for management aspect for RAN sharing scenarios:

**MOP Shared RAN Network Operator (MOP-SR-NOP):** Network Operator (NOP) of the Master Operator, the detailed description for NOP see clause 4.8 in TS 28.530 [X].

**MOP Shared RAN NEP (MOP-SR-NEP):** Network Equipment Provider (NEP) of the Master Operator to supplies Shared-RAN. The detailed description for NEP see clause 4.8 in TS 28.530 [X].

**POP Shared RAN Network Operator (MOP-SR-NOP):** Network Operator (NOP) of the Participating Operator, the detailed description for NOP see clause 4.8 in TS 28.530 [X].



Figure 4.X-1 roles related to management aspect for RAN sharing scenarios

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| **3rd Changes** |

### 5.1.1 Requirements for the OAM&P of shared RAN

**REQ-NS\_GEN-CON-1** The **MOP-SR-NEP** shall support a capability allowing the **MOP-SR-NOP** to manage **S-RAN** of any of the following radio access technologies:

i/ GERAN;

ii/ UTRAN;

iii/ E-UTRAN.

**REQ-NS\_GEN-CON-2** The **MOP-SR-NEP** shall support a capability allowing the **MOP-SR-NOP** to manage **S-RAN** according to any of the following scenarios:

i/ Multi-Operator Core Network

ii/ Gateway Core Network.

**REQ-NS\_GEN-CON-3** The **MOP-SR-NEP** shall support a capability allowing the **MOP-SR-NOP** to know which POPs the shared resources belong to.

**REQ-NS\_GEN-CON-4** The **MOP-SR-NEP** shall support a capability allowing the **MOP-SR-NOP** to configure which POPs share each cell.

**REQ-NS\_GEN-CON-5**  Any POP shall be able to activate a signaling-based trace / MDT session on its subscribers, whether they are attached to the POP own RAN or to the **S-RAN**, provided:

a/ this is compliant with the RAN sharing contract; and

b/ user consent for participation in MDT is respected.

**REQ-NS\_GEN-CON-6** The MOP shall be able, on behalf of any POP, to activate an area-based trace / MDT session, on the portion of the **S-RAN** that the POP shares and on the POP subscribers only, from the MOP-SR-NEP or MOP-SR-NOP, provided

a/ only the POP related subscriber data are collected;

b/ this is compliant with the RAN sharing contract; and

c/ user consent for participation in MDT is respected.

**REQ-NS\_GEN-CON-7**  The MOP shall be able, on behalf of multiple POPs, to activate an area-based trace / MDT session, on the portion of the **S-RAN** that each POP shares and on each POP subscribers only, from the MOP-SR -NEP or MOP-SR-NOP, provided:

a/ each POP has access only to its subscriber data (i.e. not to other POPs' subscriber data);

b/ this is compliant with the RAN sharing contract; and

c/ user consent for participation in MDT is respected.

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| **4th Changes** |

## 5.2 Actor roles

MOP-SR-DM: An entity performing an MOP-SR-NEP role in MOCN and in GWCN.

MOP-SC-DM: An entity performing an IRPAgent role in GWCN.

MOP-NM: An entity performing the MOP-SR-NOP role in MOCN and in GWCN.

## 5.3 Telecommunications resources

For MOCN and GWCN, the managed GERAN, UTRAN, E-UTRAN, NG-RAN network elements are viewed as relevant telecommunications resources in the present document.

For GWCN, MSC, SGSN and MME are viewed as relevant telecommunications resources in the present document.

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| **End of Changes** |