**3GPP TSG-SA5 Meeting #141-e *S5-221139***

**e-meeting, 17 -26 January 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **32.130** | **CR** | **0019** | **rev** | **-** | **Current version:** | **17.3.0** |  |
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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:*** | Solution description for the requirements for the management of the shared NG-RAN NE(s) in MOCN network sharing scenario | | | | | | | | | |
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| ***Source to WG:*** | Huawei,Orange,China Mobile, China Unicom,China Telecom, Deutsche Telekom,Ericsson, Telefonica | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | MANS | | | | |  | ***Date:*** | | | 2022-01-03 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror correspo.nding 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 can be 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:*** | | The NR NRM to support NG-RAN MOCN network sharing is defined in TS 28.541, however, the description on how to use such NRM to support MOCN network sharing scenario/requirements is missing. | | | | | | | | |
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| ***Summary of change:*** | | Add workflows for the management of the shared NG-RAN MOCN network sharing. | | | | | | | | |
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| ***Consequences if not approved:*** | |  | | | | | | | | |
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| ***Clauses affected:*** | | X(new) | | | | | | | | |
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|  | | **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 ... | | |
|  | |  | | | | | | | | |
| ***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 32.101: "Telecommunication management; Principles and high level requirements".

[3] 3GPP TS 32.102: "Telecommunication management; Architecture".

[4] 3GPP TS 36.300: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description; Stage 2".

[5] 3GPP TS 23.251: "Network sharing; Architecture and functional description".

[6] 3GPP TS 36.314: "Evolved Universal Terrestrial Radio Access (E-UTRA); Layer 2 – Measurements"

[7] 3GPP TS 23.501: "System architecture for the 5G System (5GS); Stage2".

[X] 3GPP TS 28.541: "Management and orchestration; 5G Network Resource Model (NRM); Stage 2 and stage 3".

[Y] 3GPP TS 28.552: "Management and orchestration; 5G performance measurements".

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| **2nd Change** |

# X Management workflows for requirements for the management of the shared NG-RAN NE(s) in MOCN network sharing scenario

## X.1 Management of the shared NG-RAN NE(s) in MOCN network sharing scenario with the same cell Identity broadcast

The NG-RAN MOCN Network Sharing with same cell identity broadcast scenario is illustrated in Figure 4.1-2 and corresponding requirements is defined in clause 5.1.4. This clause describes the workflows for the management of the shared NG-RAN NE(s) in MOCN network sharing scenario with the same cell identity broadcast.

In this workflow, the radio access network (i.e. one or multiple shared NG-RAN NE(s)) is shared between two POPs (POP A identified by PLMN#1and POP B identified by PLMN#2). Both MnS consumer and MnS producer for the management of shared NG-RAN NE(s) belong to MOP.

For the **Req-MOCN\_SameCellId\_Cfg-CON-1:**

MnS consumer determines the individual EP\_NgC MOI and EP\_NgU MOI (see the attributes of NgC and NgU in TS 28.541[X]) for each POP (POP A and POP B), and requests MnS producer to create and configure EP\_NgC MOI and EP\_NgU MOI for each POP.

MnS producer creates and configures the EP\_NgC MOI and EP\_NgU MOI for each POP based on the requests from MnS consumer. The EP\_NgC MOI and EP\_NgU MOI are name containe by same GNBCUCPFunction MOI and GNBCUUPFunction MOI which is shared for different POPs.

For the **Req- MOCN\_SameCellId\_Cfg-CON-2**:

MnS consumer determines the attribute "PLMNInfoList" in NRCellDU MOI and NRCellCU MOI (see the attribute definition in TS 28.541[X]), which includes the PLMN#1 and PLMN#2, and requests MnS producer to configure NRCellDU MOI and NRCellCU MOI with attribute "PLMNInfoList".

MnS producer configures the NG-RAN NE(s) (i.e. subtree of ManagedElement MOI) based on the requests from MnS consumer, including configuring the NRCellDU MOI and NRCellCU MOIwith attribute "PLMNInfoList" to include PLMN#1 and PLMN#2.

For the **Req- MOCN\_SameCellId\_Per-CON-3:**

MnS producer collects the individual measurements for POP A and POP B in PLMN granularity by utilizing PLMN granularity subcounter. For the concrete PLMN granularity measurements, see TS 28.552[Y].

MnS producer sends the individual measurements for POP A and POP B in PLMN granularity to MnS consumer.

## X.2 Management of the shared NG-RAN NE(s) in MOCN network sharing scenario with the multiple cell Identity broadcast

The NG-RAN MOCN Network Sharing with multiple cell identity broadcast scenario is illustrated in Figure 4.1-3 and corresponding requirements is defined in clause 5.1.5. This clause describes the workflows for the management of the shared NG-RAN NE(s) in MOCN network sharing scenario with the muliple cell identity broadcast.

In this workflow, the radio access network (i.e. one or multiple shared NG-RAN NE(s)) is shared between two POPs (POP A identified by PLMN#1and POP B identified by PLMN#2). Both MnS consumer and MnS producer for the management of shared NG-RAN NE(s) belong to MOP.

For the **Req-MOCN-MultiCellId-Cfg-CON-1:**

MnS consumer determines the individual EP\_NgC MOI and EP\_NgU MOI (see the attributes of NgC and NgU in TS 28.541[X]) for each POP (POP A and POP B), and requests MnS producer to create and configure EP\_NgC MOI and EP\_NgU MOI for each POP.

MnS producer creates and configures the EP\_NgC MOI and EP\_NgU MOI for each POP based on the requests from MnS consumer. The EP\_NgC MOI and EP\_NgU MOI are name containe by corresponding POP's GNBCUCPFunction MOI and GNBCUUPFunction MOI.

For the **Req-MOCN-MultiCellId-Cfg-CON-2**

MnS consumer determines the individual OperatorDU MOI and NROperatorCellDU MOI (see the attributes of OperatorDU and NROperatorCellDU in TS 28.541[X]) for each POP (POP A and POP B), and requests MnS producer to create and configure OperatorDU MOI and NROperatorCellDU MOI for each POP.

MnS producer configures the NG-RAN NE(s) (i.e. subtree of ManagedElement) based on the requests from MnS consumer, including creates and configures OperatorDU and NROperatorCellDU MOI for each POP.

MnS consumer determines the individual NRCellCU MOI (see the attributes of NRCellCU in TS 28.541[X]) for each POP (POP A and POP B), and requests MnS producer to create and configure NRCellCU MOI for each POP.

MnS producer configures the NG-RAN NE(s) (i.e. subtree of ManagedElement) based on the requests from MnS consumer, including creates and configures NRCellCU MOI for each POP.

For the **Req-MOCN-MultiCellId-Cfg-CON-3**

MnS producer collects the individual measurements for POP A and POP B in PLMN granularity by utilizing PLMN granularity subcounter or associated with OperatorDU and NROperatorCellDU. For the concrete PLMN granularity measurements, see TS 28.552[Y].

MnS producer sends the individual measurements for POP A and POP B in PLMN granularity to MnS consumer.

For the **Req-MOCN-MultiCellId-Cfg-CON-4** and **Req-MOCN-MultiCellId-Cfg-CON-5**

MnS consumer determines the individual EP\_F1C MOI and EP\_F1U MOI (see corresponding attributes in TS 28.541[X]) for each POP (POP A and POP B), and requests MnS producer to create and configure these MOIs for each POP. In case of common F1 intertface configuration, the values of the EP\_F1C MOI and EP\_F1U MOI attributes (including localAddress and remoteAddress) contained by different POP's OperatorDU MOI of the same GNBDUFunction MOI should be same.

MnS producer creates and configures the individual EP\_F1C MOI and EP\_F1U MOI for each POP based on the requests from MnS consumer. The EP\_F1C MOI and EP\_F1U MOI are name contained by corresponding POP's OperatorDU and associated to it's own GNBCUCPFunction MOI and GNBCUUPFunction MOI.

For the **Req-MOCN-MultiCellId-Cfg-CON-6**

MnS consumer determines the NRCellRelation MOI(s) (see corresponding attributes in TS 28.541[X]) for each POP (POP A and POP B), and requests MnS producer to create and configure NRCellRelation MOI(s) for each POP.

MnS producer configures the NG-RAN NE(s) (i.e. subtree of ManagedElement) based on the requests from MnS consumer, including creates and configures the individual NRCellRelation MOI for each POP.

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| **End of Change** |