**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 ... | | |
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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 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 Solution description for the 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 (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 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 with 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.

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 GNBCUCPFunction 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** |