**3GPP TSG-SA5 Meeting #140-e *S5-216275***

**e-meeting, 15 - 24 November 2021**

**Source: China Mobile**

**Title: pCR draft TS28.104 add slice coverage analysis**

**Document for: Approval**

**Agenda Item: 6.4.18**

# 1 Decision/action requested

***For approval***

# 2 References

[1] 3GPP [TR28.809](https://www.3gpp.org/ftp/Specs/archive/28_series/28.809/28809-h00.zip), v17.0.0, Management and orchestration; Study on enhancement of Management Data Analytics (MDA).

[2] 3GPP [TS28.104](https://www.3gpp.org/ftp/Specs/archive/28_series/28.104/28104-010.zip), v0.2.0, Management and orchestration; Management Data Analytics (MDA).

# 3 Rationale

The MDA use case of slice coverage analysis has bee studied in TR 28.809 [1], and it is included in the outline of TS28.104 [2]. The contribution is to add use case and requirement of slice coverage analysis.

# 4 Detailed proposal

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| **1st modification** |

5.1 General framework

7.2.1.2 Slice coverage analysis (NS-COV\_MDA)

7.2.1.2.1 Description

The 3GPP management system shall have the capability to provide the slice coverage analysis

7.2.1.2.2 Use case

The slice coverage is one of the indicators when a 3rd party (i.e., slice tenant) issues a slice request and is mapped into the desired geographical coverage area with the available radio coverage which depends on the base station planning and deployment. In order to map the desired slice coverage perfectly, MDA can be used to optimize the slice coverage and load distribution on the slice instantiation and runtime considering (i) slice-aware statistics, e.g., slice-UE distributions and mobility patterns, (ii) slice SLA and (iii) access node capabilities.

In 5G the notion of coverage is represented by a set of one or more Tracking Areas (TAs), which are contained in a Registration Area (RA), which is assigned to a UE once it registers to the network. Depending on the MDA MnS producer output, TA and RA planning, i.e., grouping cells to form a TA and then TAs to an RA, can be optimized and the RAN parameters can be adjusted to shape the cell edges and load distribution. The main objective is to fulfill a given slice SLA involving as few cells as possible by leveraging the benefits of adjusting cell configurations for satisfying the desired coverage.

7.2.1.2.3 Requirements

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| **Requirement label** | **Description** | **Related use case(s)** |
| **REQ-** **NS-COV \_MDA-CON-1** | 3GPP management system shall be able to provide the analytics describing the slice coverage, slice availability and slice prediction information. |  (NS-COV\_MDA) Slice coverage analysis |
| **REQ-** **NS-COV \_MDA-CON-2** | 3GPP management system shall be able to provide the mapping between slice coverage and actual radio deployment, |  (NS-COV\_MDA) Slice coverage analysis |
| **REQ-** **NS-COV \_MDA-CON-3** | 3GPP management system shall be able to provide recommended actions that involve options to reconfigure TA and/or RAN attributes including HO parameters, cell reselection parameters, beam configuration, computing resource and slice support in a cell.  | (NS-COV\_MDA) Slice coverage analysis |

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| **End of modifications** |