**3GPP TSG-SA5 Meeting #140-e *S5-216274***

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

**Source: China Mobile**

**Title: pCR draft TS28.104 add MDA related data and usecase requirements**

**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), v0.1.0, Management and orchestration; Management Data Analytics (MDA).

# 3 Rationale

In the first modification, the title of TS 28.552 is Performance Measurements. In some cases, such as the throughput predictions, some auxiliary information is needed. For example, some hot news events or breaking events may increase the throughput, and should be considered when performing the prediction and the root cause analysis of throughput. These events information may be got by using web crawlers. Considering that NWDAF can get the data from the application layer, MDA may leverage the data offered by NWDAF.

In the second modification, the purpose of service experience analysis is make users have a better experience. There fore, we add a new requriment, that is, 3GPP management system should have the capability to provide the recommendation for improving service experience. For example, provide more bandwidth when the user experience decreased due to the high throughput.

In the third modification, 3GPP management system should have the capability to provide the alarm when the throughput exceeds a certain threshold, and then some action can be taken in time.

# 4 Detailed proposal

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| **1st modification** |

5.1 General framework

The internal business logic related to MDA leverages the current and historical data related to:

- Performance Measurements (PM) as per TS 28.552 [4] and Key Performance Indicators (KPIs) as per TS 28.554 [5].

- Trace data, including MDT/RLF/RCEF, as per TS 32.422 [6] and TS 32.423 [7].

- QoE and service experience data as per TS 28.405 [8] and TS 28.406 [9].

- Analytics data offered by NWDAF as per 23.288 [10] including 5GC data and external web/app-based information (e.g., web crawler that provides online news) from AF.

- Alarm information and notifications as per TS 28.532 [11].

- CM information and notifications.

- MDA reports from other MDA MnS producers.

- Management data from non-3GPP systems.

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| **Next modification** |

7.2.2.1 Service experience analysis (UC-Ser\_Exp\_MDA)

7.2.2.1.1 Description

The 3GPP management system shall have the capability to provide the service experience analysis.

7.2.2.1.2 Use case

Service experience of end user is key indicator directly reflects the user satisfaction degree. In 5G system, the diversity of network service are explored and the requirements of different service especially form vertical users are standardized. Considering these diverse requirements (e.g., priorities of SLA related attributes such as latency, throughput, maximum user number or different required values of these attributes), the service experience as a comprehensive indicator is analysed.

7.2.2.1.3 Requirements

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| **Requirement label** | **Description** | **Related use case(s)** |
| **REQ-Ser\_Exp\_MDA\_CON-1** | 3GPP management system should have the capability to identify the type of the service experience issue, e.g., RAN issue, CN issue, TN issue, UE issue, service provider issue. | (UC-Ser\_Exp\_MDA) Service experience analysis |
| **REQ-Ser\_Exp\_MDA\_CON-2** | 3GPP management system should have the capability to provide the analytics output with following information describing the current service experience aspects and potentially future prediction:  - The predictive service experience or observed service experience statistics, may split into subcounters in different levels, e.g., per S-NSSAI, per 5QI, per UE, etc.  - Service experience root cause analysis. | (UC-Ser\_Exp\_MDA) Service experience analysis |
| **REQ-Ser\_Exp\_MDA\_CON-3** | 3GPP management system should have the capability to provide the level of service experience | (UC-Ser\_Exp\_MDA) Service experience analysis |
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| **REQ-Ser\_Exp\_MDA\_CON-4** | 3GPP management system shall have the capability to provide the recommendation for improving service experience. | (UC-Ser\_Exp\_MDA) Service experience analysis |

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| **Next modification** |

7.2.2.2 Network slice throughput analysis (UC-THR\_MDA)

7.2.2.2.3 Requirements

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| **Requirement label** | **Description** | **Related use case(s)** |
| **REQ-THR\_MDA\_CON-1** | 3GPP management system should have the capability to identify the network slice throughput issue, e.g., RAN issue, CN issue | (UC-THR\_MDA) Network slice throughput analysis |
| **REQ-THR\_MDA\_CON-2** | 3GPP management system should have the capability to provide the root cause analysis of the network slice throughput issue | (UC-THR\_MDA) Network slice throughput analysis |
| **REQ-THR\_MDA\_CON-3** | 3GPP management system should have the capability to provide the analytics output of the network slice throughput should which contain the following information:  - Network slice throughput statistics;  - Network slice throughput predictions. | (UC-THR\_MDA) Network slice throughput analysis |
| **REQ-THR\_MDA\_CON-4** | 3GPP management system shall have the capability to provide the prompt when the network slice throughput exceeds or falls below a certain threshold. | (UC-THR\_MDA) Network slice throughput analysis |

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| **End of modifications** |