**3GPP TSG-SA5 Meeting #158 *S5-247099***

Orlando, USA, 18 - 22 November 2024

**Source: China Mobile, Huawei, Nokia, Ericssion, Samsung**

**Title: Add the conclusion and recommendation for TR28.915**

**Document for: Approval**

**Agenda Item: 6.19.5**

# 1 Decision/action requested

***In this box give a very clear / short /concise statement of what is wanted.***

# 2 References

[1] 3GPP draft TR 28.915: “Management and orchestration; Study on management aspects of Network Digital Twin v1.1.0”.

[2] SP-231727 "New Study on management aspects of Network Digital Twin"

# 3 Rationale

This contribution proposes to complete the conclusion and recommendation in TR 28.915 based on SP-231727 [2].

# 4 Detailed proposal

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| **First Changes** |

# 6 Conclusions and Recommendations

This technical report is the output of a study on management aspect of Network Digital Twin (NDT). It describes the terms and concepts of NDT. It also identified and documented the use cases and corresponding potential requirements, possible solutions by using the NDT.

There are multiple valid and valuable use cases which may benefit from NDT. Solutions are proposed which are based on a new Management Service and associated network resource modelling.

1. NDT support for network automation including signalling storm analysis, emergency preparedness, network failure and risk prediction and network issue inducement.
2. NDT support for verification including RAN energy saving policy verification, configuration verification.
3. NDT support for generation including generating data for ML model training and measuring customer satisfaction with the network services
4. Advanced NDT capabilities including nested NDTs.

NDT may consume management services exposed by different MnFs. How NDT can consume management services exposed by different MnFs to provide required NDT outputs is for further study.

Based on the concluded use case and management capabilities, it is recommended for the normative work to:

- Define the terms, concepts Network Digital Twin in 3GPP management system

- Develop requirements and solution for life-cycle management of an NDT instance as a general use case, including creating, configuration, activation, de-activation, re-configuration and termination of an NDT.

- Specify the above use cases, requirements and solutions for NDT , which includes the procedure, management operations and management information (e.g., NDT modelling).

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| **End of Changes** |