**3GPP TSG-SA5 Meeting #157 *S5-246037***

Hyderabad, India, 14 Oct - 18 Oct 2024

**Source: Nokia**

**Title: New use case on recommendation for management data collection for predicted failure**

**Document for: Approval**

**Agenda Item: 6.19.2**

# 1 Decision/action requested

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

# 2 References

None

# 3 Rationale

This pCR provides use case description, potential solution and conclusion for the new use case on recommendation for management data collection for predicted failure.

# 4 Detailed proposal

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| **First Change** |

### 5.7.x Use case X: Management data collection recommendation for predicted failures

#### 5.7.x.1 Description

The current usecase on MDA assisted failure prediction, the following information are provided as output of analytics: the failure type, failure event time, the perceived severity and the recommended actions. The consumer of MDA MnS may choose not to implement the recommended actions for the following reasons.

* There is a confidence degree associated with each analytics output. When the confidence degree of a given fault prediction is not convincing enough
* The confidence degree of analytics output is convincing enough, but the consumer cannot implement the recommendations proposed because:
  + No change in configurations allowed on the identified NFs as those are in the energy efficiency states
  + Perceived sub-optimal performance in the network due to proposed changes. For instance, a recommended action to increase the transmit power in a specific base station might cause increased interference in the serving area of the adjacent base station.

In such scenarios where the recommended actions cannot be implemented, the MDA consumers would not be able to proactively do any action but to just wait and watch the predicted problem to happen. The process of data collection from the deployed entities from the field for any issue is time consuming and heavy resources required. Therefore, it is better to collect the management data that may be helpful to debug and root cause the problem so that the failure is prevented form reoccurring. To aid the root causing activity, it is necessary to collect the required management data which can be helpful in root causing the predicted failure.

#### 5.7.x.2 Potential Requirements

REQ-MGMT\_DATA\_COLLECTION\_PRED\_FAILURE\_MDA-01: MDA capability for failure prediction should have a capability to indicate whether management data collection is suggested for the predicted failure.

REQ-MGMT\_DATA\_COLLECTION\_PRED\_FAILURE\_MDA-02: MDA capability for failure prediction should have a capability to indicate the management data to be collected for the predicted failure.

#### 5.7.x.3 Potential solution

The enabling data specified as part of the failure prediction use case in clause 8.4.3.1.2 in [2] can be reused for this use case.

This potential solution proposes to enhance the output of the use case “MDA assisted failure prediction” with the following attributes. The output of the prediction of each failure may contain the following information.

- an indication whether any management data collection is recommended for the predicted failure. This may be a Boolean variable.

- if the recommendation to collect management data is TRUE, this datatype would indicate the management data need to be collected. The management data can be of any of the following.

- Performance Measurements

- Trace/MDT

- QoE

For each of the management data type, the following information may be provided.

- Management data itself (PMs or Trace/MDT or QoE)

- NFs in which the collection needs to be performed

- Time duration for which the collection needs to be done.

#### 5.7.x.4 Evaluation of solutions

The solution proposed in clause 5.7.x.3 satisfies the requirements, and this solution is feasible for normative work.

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| **End of changes** |