**3GPP TSG-SA5 Meeting #156 *S5-243695***

Maastricht, Netherlands, 19 - 23 August 2024

**Source: Huawei**

**Title: Add solution evaluation and conclusion for threshold statistics UC**

**Document for: Approval**

**Agenda Item: 6.19.2**

# 1 Decision/action requested

***The group is asked to discuss and approval.***

# 2 References

[1] 3GPP TR 28.866: “Study on Management Data Analytics (MDA) – Phase 3”.

# 3 Rationale

This potention solution for Use case 1: Providing threshold statistics information for fault management is approved and added in [1] in SA5#155 meeting. This contribution provides the solution evaluation and conclusion for this UC.

# 4 Detailed proposal

It proposes to make the following changes to TR 28.866[1].

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| **1st Change** |

### 5.7.1 Use case 1: Providing threshold statistics information for fault management

#### 5.7.1.1 Description

Threshold crossing statistics information is very helpful to know the running state of a NF. However, the threshold which impacts the network and service may not be known by the MDAS producer. In this use case, the consumer (e.g., Operator) provides the performance crossing threshold information and resource usage threshold information to MDAS producer for calculating and collecting the statistics information, e.g., percentage of time when the performance KPI exceeds the threshold, and percentage of time when resource usage of the NF is beyond the threshold. Such statistics information helps to tell whether the NF is in the overloaded state. Furthermore, the statistics information can be combined with historical data and AI/ML model for MDAS producer to perform fault prediction of the NF.

#### 5.7.1.2 Potential Requirements

**REQ-STATISTICS\_MDA-01:** The MDAS producer should have a capability allowing the consumer to provide threshold information for calculating and collecting statistics information.

**REQ-STATISTICS\_MDA-02:** The MDAS producer should have a capability to predict a fault in a network function based on calculated statistics information.

#### 5.7.1.3 Potential Solutions

It is proposed to enhance the current MDAS solution as specified in TS 28.104 [2], following are the proposed enhancements to support the potential requirements as defined in clause 5.7.1.2:

Proposal to support **REQ-STATISTICS\_MDA-01:**

Introduce new attribute in the MDARequest IOC. The new attribute indicates the threshold information that the consumer cares about. The threshold information could be the thresholds of one or more performance metrics or the DN of already existed ThresholdMonitor instance created by the consumer.

Proposal to support **REQ-STATISTICS\_MDA-02:**

Extend the Analytics output for fault prediction analysis as specified in Table 8.4.3.1.3-1 in TS 28.104 [2] to include:

new information element to express the calculated statistics information which are used for fault prediction, e.g., percentage of time when the performance KPI exceeds the threshold.

#### 5.7.1.4 Evaluation of solutions

Only potential solution #1 is proposed, the requirements are satisfied and this solution is feasible for normative work.

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| **2nd Changes** |

# 6 Conclusions

## 6.x Fault management related analytics and alarm prediction

The use case, requirements and solution for Use case: Providing threshold statistics information for fault management is described in clause 5.7.1. It is recommended to add new attribute for threshold information in the MDARequest in TS 28.104 [2] to support providing statistics information in the analytics output.

The detailed solution is described in clause 5.7.1.3.

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| **End of Changes** |