**3GPP TSG-SA5 Meeting #140-e *S5-216125***

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

**Source: ZTE**

**Title: Replace alarm incident with alarm information**

**Document for: Approval**

**Agenda Item: 6.4.18**

# 1 Decision/action requested

***The group is asked to discuss and approve the proposals.***

# 2 References

[1] 3GPP TR 28.104: “Management and orchestration; Management Data Analytics” V0.2.0

# 3 Rationale

The term alarm incident hasn’t been defined in 3GPP specifications, but it is used in the use case MDA assisted fault management, which may cause ambiguous.

# 4 Detailed proposal

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| **1st Change** |

##### 7.2.3.1.2 Use case

There are multiple types of faults in the 5G system and it needs long-time troubleshooting. In order to reduce network and service failure time and performance degradation by faults, it is necessary to supervise the status of various network functions and resources, and predict the running trend of network and potential faults to intervene in advance.

Due to the fact that fault prediction could depend on the existing alarm information and relevant historical and real-time data (performance measurement information, configuration data, network topology information, etc.), there is a possibility for MDA to be in conjunction with AI/ML technologies for model training and potential faults prediction.

In order to avoid the occurrence of faults and abnormal network states, it is necessary for users to obtain the required details of potential fault and the corresponding degradation trend (abnormal KPI, performance measurement information, possible alarm type, fault root cause, etc,). Therefore, MDA, may in conjunction with AI/ML technology, is required to obtain basic health maintenance knowledges (e.g., the relationship between the faults or potential faults and the related maintenance actions) through predefined expertise or model training, so as to effectively predict fault details. The basic health maintenance knowledges could be updated with feedback.

If necessary, MDA could provide corresponding recommended actions for fault prevention.

##### 7.2.3.1.3 Requirements

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| **Requirement label** | **Description** | **Related use case(s)** |
| **REQ-FAULT\_PRED\_MDA-01** | MDA for fault prediction shall be able to collect, correlate, filter and analyse the required data (e.g. alarm information, historical and real-time data, etc.) as inputs for analytics and provide the analytics output. | Fault prediction |
| **REQ-FAULT\_PRED\_MDA-02** | MDA for fault prediction shall be able to obtain basic health maintenance knowledges (e.g., the relationship between the faults or potential faults and the related maintenance actions) through predefined expertise or model training. | Fault prediction |
| **REQ-FAULT\_PRED\_MDA-03** | MDA for fault prediction shall be able to provide the analytics output including the potential fault and predictions, as well as the possible recommendation options.  | Fault Prediction |

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| **End of Changes** |