**3GPP TSG-SA5 Meeting #143-e *S5-223398***

**e-meeting, 9- 17May 2022**

**Source: Huawei, CMCC**

**Title: pCR 28.830 Add framework of FSEV**

**Document for: Approval**

**Agenda Item: 6.5.7**

# 1 Decision/action requested

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

# 2 References

[1]  [SP-220153](https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3693): "New SID on Fault Supervision Evolution"

[2] S5-222733: "draft TR 28.830 Fault supervision evolution"; v0.1.0

# 3 Rationale

This document describes the deployment position of anomaly event management in the 3GPP management domains and the functional framework of the anomaly event MnS Producer to achieve fault supervision evoluation.

# 4 Detailed proposal

This document proposes the following changes in TR 28.830.

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| **1st Change** |

# 4 Background and concepts

## 4.1 Background

## 4.2 Concepts

### 4.2.x Fault supervision evolution framework

According to the background, concept and use case descriptions related to the anomaly event, the anomaly event MnS producer is introduced for the following purposes:

* Provides the management capabilities of mass alarms handling from one or multiple management domains, predictive and proactive management of performance degradation or data service failure etc;
* Provides the management capabilities of anomaly event identification, analysis, demarcation and recovery;
* Provides the management capabilities of monitoring and query of anomaly event and its processing status.

The anomaly event MnS producer uses one or multiple data sources from existing fault management, performance management, configuration management and anomaly events from other anomaly event MnS producer etc to identify, report and recover the anomaly event.

To achieve the goal for fault supervision evolution, based on the Service based management architecture, anomaly event management service could reside on 3GPP cross domain, RAN domain or CN domain as shown in the following figure. Anomaly event management in 3GPP cross domain coordinates with anomaly event management in RAN domain and CN domain. Anomaly event management in RAN domain and CN domain provide domain specific anomaly events to anomaly event management in 3GPP cross domain for further processing.



**Figure 1: Deployment of anomaly event management for fault supervision evolution**

The following figure shows the functional framework of anomaly event MnS producer.

**Figure 2: Anomaly event MnS Producer**

The closed loop of anomaly event management contains the following steps:

**Awareness**: collects data from multiple data sources and supports standard data types such as alarm, performance, configuration or anomaly event information from other anomaly event MnS producer.

**Analytics**: provides correlation analysis and optionally recommendation capabilities. Multiple alarms or performance data or anomaly event information from other anomaly event MnS producer that meet anomaly event characteristics can be correlated and analyzed for anomaly event identification, risk prediction, service impact analysis, and demarcation.

**Decision**: provides anomaly event evaluation, and resolution.

**Execution**: provides the execution of automatic anomaly event handling and anomaly event verification functions. The anomaly event status is updated according to the execution results.

The anomaly event MnS producer provides following capabilities:

anomaly event monitoring such as the name, status, service impacts and correlation information of the anomaly event

anomaly event subscription and query.

Editor Notes: This clause describes the working assumption for the architecture and work flow of anomaly eventn MnS producer for fault supervision evolution. The generic workflow in clause 7.3 ”Generic autonomous network level for fault management” in TS 28.100 could be considered as reference. This working assumption may be revisited.

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| **End of change** |