**3GPP TSG-SA5 Meeting #145-e *S5-225xxx***

**e-meeting, 15 - 24 August 2022**

**Source: CMCC, Huawei**

**Title: pCR TR 28.830 Add relation description with existing MnS**

**Document for: Approval**

**Agenda Item: 6.7.7.1**

# 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] S5-224406: "TR 28.830 Fault supervision evolution"; v0.2.0

# 3 Rationale

In current SA5 specifications, an alarm signifies an undesired condition of a resource (e.g. network element, link) for which an operator action is required. It emphasizes a key requirement that operators (above Itf-N) should not be informed about an undesired condition unless it requires operator action. Use of this emphasis does not exclude this case: In certain context, it is not possible for alarm reporters (below Itf-N) to know whether a particular undesired condition requires operator action or not. In such context, the NM may receive alarms that do not require operator action. To solve this potential issue, analysing of alarms and other related data for a period of time and/or from one or multiple managed objects may be needed. The concept of anomaly event is introduced to represent the analysing result of the identified deviation from what is standard, normal, or expected that affects services or is about to affect services on the network and needs to be resolved. The anomaly event and its status is reported to the consumer. The management system would also try to recover from the anomaly event automatically.

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It is proposed to add description of the above concepts in draft TR 28.830.

# 4 Detailed proposal

This document proposes the following changes in TR 28.830.

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| **1st Change** |

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

[1] TR 28.830 “Fault Supervision Evolution”

[2] ITU-T Recommendation X.731 (1992) | ISO/IEC 10164-2 : 1992, *Information technology – Open Systems Interconnection – Systems Management – State management function*.

[3] TS 28.625 State Management Data Definitions

[4] ITU-T Recommendation X.733 (1992) | ISO/IEC 10164-4 : 1992, *Information technology – Open Systems Interconnection – Systems Management – Alarm reporting function*.

[5] TS 28.532 Generic management srvices

[6] ITU-T Recommendation X.739 (1993), *Information technology – Open Systems Interconnection – Systems Management – Metric Objects and attributes*.

[7] ITU-T Recommendation E.880 (1993), *Telephone network and ISDN Quality of service, network management and traffic engineering. Field data collection and evaluation on the performance of equipment, networks and services*

[8] TS 28.552 5G performance measurements

[9] TS 28.554 5G end to end Key Performance Indicators (KPI)

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| **Next modification** |

# 4 Background and concepts

## 4.1 Background

## 4.2 Concepts

### 4.2.1 Concept of anomaly event

The anomaly event is deviation from what is standard, normal, or expected that affects services or is about to affect services on the network and needs to be resolved. The anomaly event can be service outage (e.g., unavailability of network or services), performance degradation (e.g., degradation of performance or service experience) and risks (e.g., predicted service outage, performance degradation or customer complaint). The anomaly event may concern resource aspects and/or service aspects etc.

Anomaly event is the analytics result from multiple data sources, e.g. alarms, performance measurements, configuration data and historical data etc. The anomaly event is considered as a new type of managed data. Its occurrence and status need to be reported to the consumer. The management system should resolve it and mitigate its impacts on the network and/or services.

In comparison, an alarm is related to a specific managed object, while an anomaly event may be related to one or multiple managed object. The severity level of an anomaly event may be critical, major or minor.

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| **End of change** |