**3GPP TSG-WG SA2 Meeting #160-Ad Hoc-e *S2-2400562r21***

**Online, Jan 22 – 29, 2024 (revision of S2-240xxxx)**

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**Title: New key issue for NWDAF enhancements to support network abnormal behaviours (i.e. Signalling storm) mitigation**

**Document for: Approval**

**Agenda Item: 19.15**

**Work Item / Release: FS\_AIML\_CN / Rel-19**

*Abstract: It is proposed a new Key Issue for WT #3.2.*

# 1. Introduction/Discussion

Based on the last SA#102 Plenary meeting for approved R19 FS\_AIML\_CN (SP-231800), this paper proposes a KI related to WT3.2.

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| - WT3: Study enhancements to support NWDAF-assisted policy control and address network abnormal behaviour  - WT3.1 – Study whether and what additionally needs to be supported in order to enhance 5GC NF operations (i.e. policy control and QoS) assisted by NWDAF. The work will firstly identify the specific use cases to be considered, in order to identify the appropriate scope. The work will analyse the result impacts on NWDAF (e.g. the need to understand specific NF functionality), and the compatibility of new solutions wrt existing analytics, in order to determine the need and benefits of new solutions.  - WT3.2 – Study prediction, detection, prevention, and mitigation of network abnormal behaviours i.e. signalling storm with the assistance of NWDAF.  NOTE I: The study will consider the study/work done by SA WG5 and CT WG4 in this regard already and collaborate with SA WG5/CT WG4 regarding the handling of abnormal network behaviours. |

Signalling storm will heavily consume network resources and result in service outages. The signalling storm mitigation study is to leverage AI/ML Technology to mitigate network abnormal behaviours/signalling storm happened with the assistance of NWDAF.

# 2. Text Proposal

It is proposed to capture the following changes vs. TR 23.700-84.

\* \* \* \* First change \* \* \* \*All new

### X.1 Key Issue #X: NWDAF enhancements to support network abnormal behaviours (i.e. Signalling storm) mitigation and prevention

#### X.1.1 Description

This Key issue aims to provide solutions for prediction, detection, prevention, and mitigation of network abnormal behaviours, i.e. signalling storm, with the assistance of NWDAF. In particular, the following aspects will be addressed:

- Identify scenarios that can result in a signalling storm situation

* Whether and how existing analytics or new analytics can be used to assist detection and prediction of signalling storm, including aspects of input /output data that needs to be collected/provided by the NWDAF.
* What NF(s) will be consumer of such analytics and whether and how they can use them.
* Whether and how signalling storm can be prevented and mitigated.

NOTE 1: In terms of data access right, privacy and security improvement, cooperation with SA3 is needed.

NOTE 2: The study of this key issue will consider the study/work done by SA WG5 and CT WG4 in this regard already and collaborate with SA WG5/CT WG4 regarding the handling of abnormal network behaviours.

\* \* \* \* End of changes \* \* \* \*