**3GPP TSG-SA5 Meeting #143-e *S5-223408Rev01***

e-meeting, 9 - 17 May 2022

**Source: China Telecom**

**Title: New KI about performance metrics of NWDAF on data collection aspect**

**Document for: Approval**

**Agenda Item: 6.5.6.2**

# 1 Decision/action requested

***The group is asked to discuss and agree on the proposal.***

# 2 References

[1] 3GPP TS 23.288: "Architecture enhancements for 5G System (5GS) to support network data analytics services".

# 3 Rationale

In SP-211435, it is proposed to study the metrics and KPIs of NWDAF performance on data collection aspect: such as quantifying the data collection, per producer NF, per analytics, per event type, etc.

# 4 Detailed proposal

This document proposes the following changes in TR 28.864.

Start of 1st Change

## 4.Y Key Issue #<A>: Performance Metrics for NWDAF Data Collection

### 4.Y.1 Description

The Data Collection feature permits NWDAF to retrieve data from various data sources (e.g. NF such as AMF, SMF, PCF, UDM and AF; OAM), as a basis of the computation of network analytics [2].

The retrieval of data has impacts on the performance of both the data source and NWDAF. For the data source, all the data required by NWDAF needs to be generated or prepared accordingly before they are retrieved by NWDAF. And for the NWDAF, it needs to distinguish every piece of data received from different data sources and of data received from the same data source but for different network analytic purposes.

The operator may notice that the data collection is the major task of one NWDAF instance, therefore, less computation resource can be allocated to that NWDAF instance, and more storage and network resources may be allocated if necessary. Or on the extreme cases, a new NWDAF instance needs to be provided or we may find out that deploying a DCCF is the optimum solution. The decision making need the measurement data, such as how many and how well the data collection is performed by a NWDAF instance or all NWDAF instances related to some areas of interests, so that the operator could have the understanding and estimation of the working load and working status of the NWDAF instance.

Moreover, it is also beneficial to have the granular measurement of data collection, such as measuring the data collected from different type of data sources. This measurement may provide information about if it is possible to optimize the deployment of NWDAF. For example, the NWDAF instance may be geographically deployed closer to its major data source to reduce the latency and save network resources.

In this key issue, the potential solutions are provided to define the new performance metric reflecting the data collection performed by NWDAF.

### 4.Y.2 Potential solutions

#### 4.Y.2.i Potential solution #<i>: <Potential Solution i Title>

Editor's Note: This clause provides details of the potential solution and any assumptions made.

## 4.Z        Key Issue #<B>: Performance Metric on Data Collection Exposed by NWDAF

### 4.Z.1      Description

Data collection play an important role for the NWDAF providing analytic services and model training services.

In the Rel-17, the enhanced data collection feature is introduced, with which the data collection may be performed via Nnwdaf DataManagement services provided by NWDAF.

The Nnwdaf\_DataManagement services enable the consumer to subscribe/unsubscribe, be notified about data exposed by NWDAF, or fetch the subscribed data. The consumer of the Nnwdaf\_DataManagement services can be the other NWDAF instances.

The operator may be interested in the how often the Nnwdaf\_DataManagement services are requested or how many data are provided via Nnwdaf\_DataManagement services.

On one hand, the service provider NWDAF will prepare the data before they are provided to consumer, and since the preparation includes both collection and processing of the data from the other data sources and historical data having been collected by NWDAF, this measurement will indicate how busy the NWDAF is on data collection related services. Sometime, this measurement will lead to adjusting the network resource allocated to the service provider NWDAF instance to support data exchange with other consumers. And on some other cases, this measurement may indicate that deploying a dedicated DCCF is necessary.

On the other hand, as the enhanced data collection feature is introduced for Rel-17 NWDAF to increases data collection efficiency, this measurement will be a complimentary for the performance measurement of the NWDAFs which does not support DataManagement services. This measurement will also provide information on how many data collection is performed with the more effective manner, which can contribute the potential reduction of the CAPEX.

In this key issue, the potential solutions are provided on the performance metrics about the Nnwdaf\_DataManagement services provided by NWDAF.

End of Changes