**3GPP TSG-SA5 Meeting #145e *S5-225491rev1***

**15 Aug to 24 Aug 2022, E-meeting**

**Source: China Telecom**

**Title: New key issue for the performance measurement of the NWDAF related to the analytics result generation**

**Document for: Approval**

**Agenda Item: 6.7.6.2**

# 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

The analytic result provided by the NWDAF may be time sensitive. For those analytics, the consumers of analytics services may indicate to the NWDAF the latest time that they expect to receive the analytics result provided by the NWDAF [1], e.g., "in 10 minutes".

And at the same time, this time should not be set to a value less than the Supported Analytics Delay of the selected NWDAF, if applicable. Otherwise, after NWDAF receives the service requests/subscriptions, the NWDAF does not have enough time to perform the actions related to the analysing.

Not only the service consumers have additional requirements on the time used by NWDAF to generate the analytic result, but the operators may also want to have a close look at how much time is consumed by a NWDAF instance to generate the analytics result. For example, an increasing average time consumed by a NWDAF instance to provide a specific type of analytic, e.g., a specific Analytics ID or a group of Analytics IDs, may indicate efficiency problems which may be caused by inefficient data collection, insufficient resource allocation or even worse: something wrong within the NWDAF instance. With this information, the operators are able to understand the working status of the NWDAF instance under monitoring and make correct decisions on whether they need to provide the management actions to solve the problem or to optimize the situation.

The time consumed by the NWDAF to provide the analytic services reflects the performance of the NWDAF. Monitoring this information is a specific and unique requirement which is particularly important for NWDAF. And it is within the scope of this study item.

As a result, in this contribution, we propose a new KI on investigate how to measure the time consumed by the NWDAF to provide the analytic services. A potential solution is also provided.

# 4 Detailed proposal

|  |
| --- |
| **Start of 1st Change** |

## 4.X Key Issue #X: Performance measurement of the NWDAF related to the analytics result generation

### 4.X.1 Description

The analytic result provided by the NWDAF may be time sensitive. For those analytics, the consumers of analytics services may indicate to the NWDAF the latest time that they expect to receive the analytics result provided by the NWDAF, e.g., "in 10 minutes". And at the same time, this time should not be set to a value less than the Supported Analytics Delay of the selected NWDAF, if applicable. Otherwise, after NWDAF receives the service requests/subscriptions, the NWDAF does not have enough time to perform the actions related to the analysing.

Not only the service consumers have additional requirements on the time used by NWDAF to generate the analytic result, but the operators may also want to have a close look at how much time is consumed by a NWDAF instance to generate the analytics result. For example, an increasing average time consumed by a NWDAF instance to provide a specific type of analytic, e.g., a specific Analytics ID or a group of Analytics IDs, may indicate efficiency problems which may be caused by inefficient data collection, insufficient resource allocation or even worse: something wrong within the NWDAF instance. With this information, the operators are able to understand the working status of the NWDAF instance under monitoring and make correct decisions on whether they need to provide the management actions to solve the problem or to optimize the situation.

The time consumed by the NWDAF to provide the analytic services reflects the performance of the NWDAF. Monitoring this information is a specific and unique requirement which is particularly important for NWDAF.

In this key issue, the potential solution(s) is provided on the performance measurements of the NWDAF related to the time consumed by the NWDAF to provide the analytics services.

4.X.2     Potential requirements

**REQ-NWDAF\_DELAY-1:** the 3GPP management systemshall have a capability to measure the time consumed by the NWDAF to perform the analytics subscription service.

**REQ-NWDAF\_DELAY-2:** the 3GPP management systemshall have a capability to measure the time consumed by the NWDAF to perform the analytics request service.

4.X.3     Potential solutions

4.X.3.1 Potential solution #1: time consumption of NWDAF generating analytics result

4.X.3.1.1 Introduction

This solution is proposed on how to provide the performance measurement of the NWDAF based on the time consumed by the NWDAF to provide the analytics services. In this solution, the proposed performance measurements are defined as the time consumption of NWDAF generating analytics result.

The proposed solution can be a potential solution for the performance measurement of the NWDAF related to the analytics result generation.

4.X.3.1.2 Description

These proposed performance measurements of the NWDAF are defined as the time consumption of the NWDAF generating analytics result.

The time consumption of the NWDAF generating analytics result can be measured as follows:

- The time when the NWDAF receives the Nnwdaf\_AnalyticsSubscription\_Subscribe service operation (See TS 23.288 [2]) from the NWDAF service consumer, minus the time when the NWDAF invokes the Nnwdaf\_AnalyticsSubscription\_Notify service operation (See TS 23.288 [2]) to notify the NWDAF service consumer,

- or the time when the NWDAF receives the Nnwdaf\_AnalyticsInfo\_Request service operation (See TS 23.288 [2]) from the NWDAF service consumer, minus the time when the NWDAF sends the corresponding response to the NWDAF service consumer.

|  |
| --- |
| **End of Modified Sections** |