**3GPP TSG-SA5 Meeting #154 *S5-241501***

Changsha, China, 15 - 19 April 2024

**Source: China Telecom**

**Title: Adding use case and requirement related to NWDAF data collection efficiency**

**Document for: Approval**

**Agenda Item: 6.19.18**

# 1 Decision/action requested

***In this box give a very clear / short /concise statement of what is wanted.***

# 2 References

*(Reference - in list form - should be made to previous related SA5/3GPP/etc. documents.)*

*(For changes against a draft TS/TR, a pseudo CR - a.k.a. pCR - will be provided using this Tdoc template. In this case, the number, name and version of the draft TS/TR used as base must be provided and the version must be the latest available version of the draft TS/TR.)*

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

# 3 Rationale

The NWDAF Data Collection feature permits NWDAF to retrieve data from various sources (e.g. NF such as AMF, SMF, etc.), as a basis of the computation of network analytics. The procedures of data collection of NWDAF is defined in clause 6.2 of TS 23.288[1].

The NWDAF data collection will increase the data throughput of NWDAF. However, in the other hand, it will also increase the overhead of NWDAF related to the procedures of NWDAF data collection.

In a period of time, if the data collection of the NWDAF from one specific data source comprises hundreds of time of collection, but for each time of the aforesaid collection, only a small amount of data is collected, this will dramatically increase the overhead of the entire data collection of NWDAF and these overhead may become an extra burden which needs to be considered for deploying NWDAF.

Therefore, it is meaningful for the operators to consider both the amount of the data collected from one specific data source and the corresponding overhead related to the procedures of the NWDAF data collection, i.e., the efficiency of the data collection of NWDAF from one specific data source.

If a low NWDAF data collection efficiency is observed frequently, or there is a large amount of data being collected with low NWDAF data collection efficiency, the operator may need to be informed. So that the operator can investigate the cause or apply the enhanced procedures for NWDAF data collection if necessary. The enhanced NWDAF data collection procedures supported by the 3GPP are described in clause 6.2.6 in TS 23.288[1].

In SA5, the WT-2 of FS\_NWDAF\_OAM\_Ph2 study is:

WT-2 Study how to evaluate the efficiency of the network data collection of NWDAF, data volume related to the data related services provided by NWDAF and the existed measurement about the number of NWDAF services invoked.

As a conclusion, based on the discussion above, it is proposed to add a new use case and corresponding requirement to TR 28.877 on NWDAF data collection efficiency.

# 4 Detailed proposal

*(For pseudo CR, include the complete clause(s) or subclause(s) of the latest draft TS/TR to be modified, with clear clause and sub-clause headings included and* ***all modifications shown with revision marks****, unambiguously showing where the changes shall be made or inserted in the draft TS/TR. It is not sufficient to just state, for example, “add the following text to the draft TS/TR…”.)*

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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.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

…

[x] <doctype> <#>[ ([up to and including]{yyyy[-mm]|V<a[.b[.c]]>}[onwards])]: "<Title>".

[z] 3GPP TS 23.288 V18.5.0 (2024-03): "Architecture enhancements for 5G System (5GS) to support network data analytics services".

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| **2nd Change: All new text** |

# X Use cases, potential requirements and possible solutions

## X.Y Use case #Y: Management enhancement to related to NWDAF data collection efficiency

## X.Y.1 Descriptions

The NWDAF Data Collection feature permits NWDAF to retrieve data from various sources (e.g. NF such as AMF, SMF, etc.), as a basis of the computation of network analytics. The procedures of NWDAF performing the NWDAF data collection is defined in TS 23.288[z] clause 6.2.

The NWDAF data collection will increase the data throughput of NWDAF. However, in the other hand, it will also increase the overhead of NWDAF related to the procedures of the NWDAF data collection.

In a period of time, if the data collected from one specific data source comprises hundreds of time of collection, but for each time of the aforesaid collection, only a small amount of data is collected, this will dramatically increase the accumulated overhead of the transmission forNWDAF data collection and these overhead may become an extra burden which needs to be considered for deploying NWDAF.

Therefore, it is meaningful for the operators to consider both the amount of the data collected from one specific data source and the corresponding accumulated transmission overhead related to the procedures of the NWDAF data collection. The later can be monitored or evaluated based on the frequency of the data collection of NWDAF from one specific data source.

If the NWDAF data collection works in an inefficient way where, for example, a small amount of data is collected while the accumulated transmission overhead for NWDAF data collection is very high, the operator may need to be informed. So that the operator can consider optimize the NWDAF data collection if necessary.

NOTE: Some enhanced NWDAF data collection procedures supported by the 3GPP which can help optimize the NWDAF data collection are described in TS 23.288[z] clause 6.2.6.

## X.Y.2 Potential requirements

**REQ-NWDAF-PM-DCE-1**: the 3GPP management system shall have a capability to provide the measurement reflect the relationship between the amount of data collected by NWDAF and the accumulated transmission overhead of the data collection of NWDAF from one specific data source