**3GPP TSG-SA5 Meeting #155 *S5-243322d1***

Jeju, South Korea, 27 - 31 May 2024 was S5-242640

**Source: China Telecom**

**Title: Add use case and corresponding requirements for measuring the amount of data collected by NWDAF through DCCF**

**Document for: Approval**

**Agenda Item: 6.19.18**

# 1 Decision/action requested

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

# 2 References

[1] 3GPP TS 23.288-i40: "Architecture enhancements for 5G System (5GS) to support network data analytics services".

[2] 3GPP TS 28.877-010: "Study on Enhancement of the management aspects related to Network Data Analytics Functions (NWDAF) Phase 2".

# 3 Rationale

According to TS 23.288 [1], Data Collection Coordination and Delivery coordinates the collection and distribution of data requested by NF consumers. It prevents data sources from having to handle multiple subscriptions for the same data and send multiple notifications containing the same information due to uncoordinated requests from data consumers. Data Collection Coordination and Delivery is supported by a DCCF via or by an NWDAF hosting DCCF.

With enhanced procedures for data collection defined in TS 23.288[1] clause 6.2.6.3, data collection may be performed via DCCF. The procedure is used by a data consumer (e.g. NWDAF) to obtain data and be notified of events via the DCCF using Ndccf\_DataManagement\_Subscribe service operation. Two options are supported: data delivered via the DCCF, and data delivered via a messaging framework. Which option to be used is determined by DCCF configuration.

Whether the NWDAF directly contacts the Data Source or goes via the DCCF is based on configuration of the data consumer. NWDAF directly collects data from NFs via the Nnf\_EventExposure\_Subscribe service operation, while data collection through DCCF is achieved by subscribing to the DCCF using the Ndccf\_DataManagement\_Subscribe service operation. Therefore, in the case where NWDAF collects data via DCCF, the total amount of data collected from all NFs by NWDAF through DCCF are potentially meaningful performance measurements for operators. These measurements can reflect the transmission pressure of NWDAF collecting data through DCCF, and further calculate the total amount of data collected by NWDAF from different NFs.

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 measuring amount of data collected via DCCF for an NWDAF.

# 4 Detailed proposal

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| **Start of 1st Change** |

4 Use cases, potential requirements and possible solutions

4.3 Use case #3: Management enhancement on measuring the amount of data related to NWDAF data collection efficiency

4.3.1 Description

As described in TS 23.288 [1] clause 6.2, 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.

For NWDAF data collection, operators may need to know the amount of data in a period of time to estimate the pressure on network resources caused by NWDAF data collection and to optimize the allocation of network resources such as storage, or to provide a new NWDAF instance.

On the one hand, operators may need to know the total amount of data collected by the NWDAF from all data sources over a period of time. This measurement intuitively reflects how much data is collected by NWDAF and can be used as a reflection to evaluate the workload of the NWDAF.

On the other hand, operators may need to know the amount of data collected by the NWDAF from a specific data source over a period of time. This measurement can reflect how much data is collected by the NWDAF from a specific data source and can be used to optimize the data collection procedure. This measurement may indicate whether data collection from this data source is the primary factor influencing the workload of the NWDAF by comparing with the total amount of data.

According to TS 23.288 [1] clause 6.2.6, NWDAF is able to directly collect data from NFs via the Nnf\_EventExposure\_Subscribe service operation, or collect data through DCCF by subscribing to the DCCF using the Ndccf\_DataManagement\_Subscribe service operation. Data Collection Coordination and Delivery coordinates the collection and distribution of data requested by NF consumers. It prevents data sources from having to handle multiple subscriptions for the same data and send multiple notifications containing the same information due to uncoordinated requests from data consumers. Data Collection Coordination and Delivery is supported by a DCCF or by an NWDAF hosting DCCF.

Therefore, in the case where NWDAF collects data via DCCF, the total amount of data collected from NFs by NWDAF via DCCF is a potentially meaningful performance measurement for operators. Data collection through the DCCF uses different service operations, thus, this measurement is part of the total amount of data collected by NWDAF. This measurement reflects how much data is collected by NWDAF via DCCF, and can help operators monitor NWDAF data collection more comprehensively when DCCF or an NWDAF hosting DCCF is deployed.

4.3.2 Potential requirements

**REQ-NWDAF-PM-DCVOLUME-01：**the 3GPP management system shall have a capability to provide the total amount of data for NWDAF data collection from all data sources over a period of time.

**REQ-NWDAF-PM-DCVOLUME-02：**the 3GPP management system shall have a capability to provide the amount of data for NWDAF data collection from a specific data source over a period of time.

**REQ-NWDAF-PM-DCVOLUME-03：**the 3GPP management system shall have a capability to provide a measurement of the total amount of data collected by an NWDAF via DCCF or NWDAF hosting DCCF from all NFs over a period of time.