**SA WG2 Meeting #152E e-meeting *S2-22xxxxx***

**Elbonia, August 17th – 26th, 2022**

**Source: Orange**

**Title: KI#4, New Sol: Optimizing data collection and storage by NWDAF registration in UDM for all Analytics IDs**

**Document for: Approval**

**Agenda Item: 9.23**

**Work Item / Release: FS\_eNA\_ph3 / Rel-18**

*Abstract: This contribution proposes a solution to the KI#4 based on the registration of NWDAF in UDM to further reduce data collection signaling and storage volume.*

# Discussion

This solution addresses Key Issue #4 “How to Enhance Data collection and Storage”, in particular the following points:

- Whether and what other enhancements are required for storage of data and/or analytics in ADRF, NWDAF and/or data source NF.

- Whether and what other enhancements can be made to further reduce signalling and data traffic and the impact of obtaining data on data sources related to network analytics.

As stated in TS 23.288 clause 6.1.C, NWDAF triggers a registration in UDM, e.g. based on local configuration in the NWDAF, the reception of a new Analytics subscription request, start of collection of UE related data or an OAM configuration action.

The procedures in this clause are applicable to UE-related analytics (e.g., UE mobility analytics) for some network deployments.

The proposed solution consists in making the registration in the UDM possible and configurable in the NWDAF whatever the analytic ID is.

# Proposed Solution

The following text is proposed to be added to TR 23.700-81.

\* \* \* \* Start of changes \* \* \* \*

## 6.0 Mapping Solutions to Key Issues

Table 6.0-1: Mapping of solutions to key issues

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Key Issues | | | | | | | | | |
| Solutions | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | X |  |  |  |  |  |  |  |  |  |
| 2 | X |  |  |  |  |  |  |  |  |  |
| 3 | X |  |  |  |  |  |  |  |  |  |
| 4 | X |  |  |  |  |  |  |  |  |  |
| 5 | X |  |  |  |  |  |  |  |  |  |
| 6 | X |  |  |  |  |  |  |  |  |  |
| 7 | X |  |  |  |  |  |  |  |  |  |
| 8 |  | X |  |  |  |  |  |  |  |  |
| 9 |  | X |  |  |  |  |  |  |  |  |
| 10 |  |  | X |  |  |  |  |  |  |  |
| 11 |  |  | X |  |  |  |  |  |  |  |
| 12 |  |  |  | X |  |  |  |  |  |  |
| 13 |  |  |  |  | X |  |  |  |  |  |
| 14 |  |  |  |  | X |  |  |  |  |  |
| 15 |  |  |  |  | X |  |  |  |  |  |
| 16 |  |  |  |  |  | X |  |  |  |  |
| 17 |  |  | X |  |  | X |  |  |  |  |
| 18 |  |  |  |  |  |  | X |  |  |  |
| 19 |  |  |  |  |  |  | X |  |  |  |
| 20 |  |  |  |  |  |  | X |  |  |  |
| 21 |  |  |  |  |  |  |  | X |  |  |
| 22 |  |  |  |  |  |  |  | X |  |  |
| 23 |  |  |  |  |  |  |  | X |  |  |
| 24 |  |  |  |  |  |  |  | X |  |  |
| 25 |  |  |  |  |  |  |  |  | X |  |
| 26 |  |  |  |  |  |  |  |  | X |  |
| 27 |  |  |  |  |  |  |  |  | X |  |
| 28 | X |  |  |  |  |  |  |  |  |  |
| 29 | X |  |  |  |  |  |  |  |  |  |
| 30 | X |  |  |  |  |  |  |  |  |  |
| 31 | X |  |  |  |  |  |  |  |  |  |
| 32 | X |  |  |  |  |  |  |  |  |  |
| 33 | X |  |  |  |  |  |  |  |  |  |
| 34 | X |  |  |  |  |  |  |  |  |  |
| 35 | X |  |  |  |  |  |  |  |  |  |
| 36 | X |  |  |  |  |  |  |  |  |  |
| 37 |  |  | X |  |  |  |  |  |  |  |
| 38 |  |  | X |  |  |  |  |  |  |  |
| 39 |  |  | X |  |  |  |  |  |  |  |
| 40 |  |  | X |  |  |  |  |  |  |  |
| 41 |  |  |  | X |  |  |  |  |  |  |
| 42 |  |  |  | X |  |  |  |  |  |  |
| 43 |  |  |  | X | X |  |  |  |  |  |
| 44 |  |  |  | X |  |  |  |  |  |  |
| 45 |  |  |  | X |  |  |  |  |  |  |
| 46 |  |  |  | X |  |  |  |  |  |  |
| 47 |  |  |  |  | X |  |  |  |  |  |
| 48 |  |  |  |  |  | X |  |  |  |  |
| 49 |  |  |  |  |  | X |  |  |  |  |
| 50 |  |  |  |  |  |  | X |  |  |  |
| 51 |  |  |  |  |  |  |  | X |  |  |
| 52 |  |  |  |  |  |  |  | X |  |  |
| 53 |  |  |  |  |  |  |  | X |  |  |
| 54 |  |  |  |  |  |  |  |  | X |  |
| 55 |  |  |  |  |  |  |  |  | X |  |
| 56 |  |  |  |  |  |  |  |  | X |  |
| 57 |  |  |  |  |  |  |  |  | X |  |
| 58 |  |  |  |  |  |  |  |  | X |  |
| 59 |  |  |  |  |  |  |  |  | X |  |
| 60 |  |  |  |  |  |  |  |  |  | X |
| XX |  |  |  | X |  |  |  |  |  |  |

\* \* \* \* Next change (all new text) \* \* \* \*

## 6.X Solution #X: Optimizing data collection and storage by NWDAF registration in UDM for all Analytics IDs

### 6.X.1 Description

As stated in TS 23.288 clause 6.1.C, NWDAF triggers a registration in UDM, e.g. based on local configuration in the NWDAF, the reception of a new Analytics subscription request, start of collection of UE related data or an OAM configuration action. During NWDAF discovery (clause 5.2) a consumer may select the same NWDAF.

The procedures in clause 6.1.C are applicable to UE-related analytics (e.g., UE mobility analytics) for some network deployments, e.g. such with an NWDAF co-located to an AMF or SMF, where the NWDAF is configured to register in UDM for the UEs that it is serving or collecting data for, and for the related Analytics ID(s). This enables NWDAF service consumers to discover the NWDAF instance that is already serving the UE for one or more Analytics ID(s).

The value of UDM registration is to minimize the multiple NWDAF instances serving a given UE, and thus reduce the data collection signaling and storage volume.

However, the principle is limited to cases of UE-related analytics. These analytics are defined in clause 6.1.7 as UE-mobility, UE-communication, Abnormal behavior. However, many other analytics provide data specific to a UE, and collect data on NFs that serve this UE (e.g. Observed Service Experience, User Data Congestion).

This solution consists in allowing the NWDAF to register in the UDM for the served UE (as specified in TS 23.288 clause 6.1C.2), also for Analytics IDs that are not UE-related. The NWDAF may do this when the NWDAF is collecting data specific to the UE for the indicated Analytics ID. The trigger to do so is still based on local configuration.

This further reduces signaling due to data collection and storage volume.

### 6.X.2 Procedures

This solution does not require new procedures.

The procedure in TS 23.288 clause 6.1C.2 is used without modification but the text introducing this procedure needs to be updated to make the procedure applicable to all Analytics ID.

### 6.X.3 Impacts on services, entities and interfaces

No impact on services since no restriction is specified on the Analytics ID(s) that can be indicated in Nudm\_UECM\_Registration service.

NWDAF is impacted to support UDM registration for all Analytics IDs, triggered by local configuration.

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