**3GPP TSG- Meeting #**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **x** |

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| ***Title:*** |  | | | | | | | | | |
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| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | SA2 | | | | | | | | | |
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| ***Work item code:*** |  | | | | |  | ***Date:*** | | | 10.02.2023 |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***Release:*** | | |  |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
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| ***Reason for change:*** | | The CR introduces enhhancements for enabling rating of untrusted AF data sources based on the conclusions for KI#1 in the TR 23.700-81. | | | | | | | | |
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| ***Summary of change:*** | | A new clause is added to introduce a procedure for enabling the NWDAF to rate untrusted AF data sources. | | | | | | | | |
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| ***Consequences if not approved:*** | | Missing feature | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.2.X, 6.2.X.1, 6.2.X.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **x** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* \* First Change \* \* \* \*

## 6.2.x Rating untrusted AF data sources

#### 6.2.X.1 General

Correctness of NWDAF containing AnLF analytics relies on the quality of data collected from data sources. Hence, rating of data sources, especially for untrsusted AF data sources, can be used as criterion when selecting a source to collect data.

Such rating can be based on (i) local estimation/calculation between the predicted and ground-truth data, and (ii) the analytics consumer feedback. In the selection of the appropriate data source, the NWDAF can also use as a criterion the expected confidence degree, i.e., that relates the outcome result with the input data sources.

#### 6.2.X.2 Procedure for rating untrusted AF data sources

The process of rating untrusted AF data sources is depicted in Figure 6.2.x.2. For realizing potential issues, the NWDAF containing AnLF subscribes to the NWDAF containing MTLF, which perfroms an evaluation based on local estimation/calculation between the predicted and ground-truth data at NWDAF containing MTLF.



Figure 6.2.x.2: ANLF-based rating and storage at ADRF

1. NWDAF containing AnLF subscribe to NWDAF containing MTLF for obtaining analytics performance information, via Nnwdaf\_AnalyticsSubscription\_Subscribe.

2a. NWDAF containing MTLF evaluates the ML model correctness and notifies NWDAF containing AnLF.

2b. NWDAF containing AnLF receives the notification from NWDAF containing MTLF, which indicates possible low performance or low correctness, and requests NWDAF containing AnLF to further check the inference data and data sources Nnwdaf\_AnalyticsSubscription\_Notify.

3a-3b. NWDAF containing AnLF initiates rating of a data source by requesting and receiving supplementary data, i.e., via Nnwdaf\_DataManagement\_Fetch / Ndccf\_DataManagement\_Notify, from different data sources (if available) to verify the data source quality or correctness. Such data can be for example performance data from the OAM which are supplementary to data from untrusted AF, or data from UPF supplementary to data from untrusted AF. The determination to initiate data source rating for a data source is based on NWDAF containing AnLF implementation.

4. NWDAF containing AnLF updates the rating for the sources where untrusted data is deviated from the supplementary trusted data (or in case step 3 is not implemented) the rating is automatically changed based on the analytics feedbacks in 2b.

5. NWDAF containing AnLF sends the rating into a DataTag that is stored to the ADRF.

6. A new analytics request arrives from an analytics consumer for analytics service with a certain Analytics ID = “xx”, i.e., Nnwdaf\_AnalyticsSubscription\_Subsribe (Analytics ID)

7. NWDAF containing AnLF retrieves the rating of the data sources required before collecting data for the requested Analytic ID if available at the NRF via Nnrf\_NFDiscovery

8. If the rating of one or more data sources is below a threshold (pre-set), then NWDAF containing AnLF can: (i) select an alternative data source with higher rating or (ii) request supplementary data from other trusted data sources

9. NWDAF containing AnLF subscribes to a new data source to receive data if a new data source is selected in step 8, Nnwdaf\_DataManagement\_Subscribes / Ndccf\_DataManagement\_Notify.

10. NWDAF containing AnLF obtains the data and the corresponding data source rating which may impact the confidence level of the respective analytics.

11. NWDAF containing AnLF provides the analytics output to the analytics consumer, i.e., Nnwdaf\_AnalyticsSubscription\_Notify

NOTE: It shall be noted that step 3-5 can alternatively be performed by the NWDAF containing MTLF instead of the NWDAF containing AnLF. In this case the NWDAF containing MTLF provides the rating related to the untrusted AF data sources to the NRF.

\* \* \* \* End of Change \* \* \* \*