**SA WG2 Meeting #S2-160AHE S2-2400387r01**

**22 - 29 January, 2024, Electronic *revision of S2-24xx***

|  |
| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **23.288** | **CR** | **1027** | **rev** |  | **Current version:** | 18.4.0 |  |
|  |
| *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)*.* |
|  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |
| --- |
|  |
| ***Title:***  | Clarification on E2E data volume transfer time analytics |
|  |  |
| ***Source to WG:*** | Samsung |
| ***Source to TSG:*** | SA2 |
|  |  |
| ***Work item code:*** | AIMLsys |  | ***Date:*** |  2024-01-12 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-18 |
|  | *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 canbe 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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | As it has been agreed in S2-2313630 in SA2 160 meeting, ‘*data volume UL/DL*’ and ‘*A request for geographical distribution (i.e. the AoIs) of the UEs*' are newly introduced mandatory parameters in the request or subscription of NWDAF consumer for E2E data volume transfer time analytics. However, in the current spec, it is not clear how the NWDAF will use the *data volume UL/DL* to derive the statistics and prediction of the end-to-end data volume transfer time.This CR clarifies that the NWDAF derives the end-to-end data volume transfer time for the *data volume UL/DL* indicated by the consumer by using the data volume UL/DL as reference to collected the relevant input data.  |
|  |  |
| ***Summary of change:*** | * Clarify that the NWDAF will derive the end-to-end data volume transfer time for the data volume UL/DL indicated by the analytics consumer.
 |
|  |  |
| ***Consequences if not approved:*** | * It is not clear how the NWDAF will use the data volume UL/DL to derive the outputs of end-to-end data volume transfer time analytics.
 |
|  |  |
| ***Clauses affected:*** | 6.18.1 |
|  |  |
|  | **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:*** |  |

\* \* \*Start of Changes \* \* \*

### 6.18.1 General

Clause 6.18 describes how NWDAF can provide E2E data volume transfer time analytics, in the form of statistics or predictions or both, to a service consumer. NWDAF collects E2E data volume transfer time related input data from 5GC NFs, OAM and AF. The consumer can either subscribe to analytics notifications (i.e. a Subscribe-Notify model) or request a single notification (i.e. a Request-Response model).

The E2E data volume transfer time refers to a time delay for completing the transmission of a specific data volume from UE to AF, or from AF to UE. The data volume might be the expected data volume to be transferred from UE to AF or from AF to UE of an AI/ML-based service, or the observed or measured data volume transferred from UE to AF or from AF to UE based on consumer’s preliminary knowledge. The NWDAF uses the data volume indicated by the consumer as a reference to collect the input data for deriving the statistics and prediction of the end-to-end data volume transfer time. If a target repetition number of data transmissions or a target time interval between data transmissions is given, the E2E data volume transfer time can be provided as an average value of the data volume transfer times within the Analytics target period. The E2E data volume transfer time analytics may be used to assist an AF or NEF with AI/ML-based services, e.g. for member UE selection of federated learning.

The E2E data volume transfer time analytics may be provided as defined in clause 6.18.3 for a single UE or a list of UEs.

More than one E2E data volume transfer time classes might be assigned by operator or AF to a list of UEs. The UEs might be classified into high-, medium- and low-transfer time classes with respect to the threshold(s) of the corresponding class.

The service consumer may be an NF (e.g. AF, or NEF).

The consumer of these analytics indicates in the request or subscription:

- Analytics ID = "E2E data volume transfer time ".

- Target of Analytics Reporting: a single UE (SUPI/GPSI) or a group of UEs (a list of SUPIs/GPSIs).

- Analytics Filter Information, including:

- Optionally, DNN;

- Optionally, S-NSSAI;

- Optionally, Application ID;

- Optionally, Area of Interest (AOI(s)): restricts the scope of the E2E data volume transfer time analytics to the provided area;

- Optionally, a list of analytics subsets that are requested (see clause 6.18.3);

- QoS requirements (e.g. 5QI, QoS Characteristics);

- Optionally, either a target number of repeating data transmissions or a target time interval between data transmissions within the Analytics target period;

- Data Volume UL/DL: indicates a specific data volume transmitted from UE to AF and/or from AF to UE;

- A request for geographical distribution (i.e. the AoIs) of the UEs.

An Analytics target period indicates the time period over which the statistics or predictions are requested.

- In a subscription, the Notification Correlation Id and the Notification Target Address are included.

- Optionally, preferred level of accuracy of the analytics.

- Optionally, preferred level of accuracy per analytics subset (see clause 6.18.3).

- Optionally, preferred order of results for the list of E2E data volume transfer time:

- ordering criterion: "E2E data volume transfer time",

- order: ascending or descending.

- Optionally, Reporting Thresholds, which apply only for subscriptions and indicate conditions on the levels to be reached for the respective analytics subsets (see clause 6.18.3)

- Optionally, maximum number of UEs.

\* \* \*End of Changes \* \* \*