**3GPP TSG- Meeting #*****C3-243475***

**, , - (was C3-243199)**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  |
| *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:***  | ML model accuracy monitoring procedures |
|  |  |
| ***Source to WG:*** |  |
| ***Source to TSG:*** |  |
|  |  |
| ***Work item code:*** |  |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***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 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-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
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| ***Reason for change:*** | ML Model Accuracy Monitoring procedures are specified in 23.288 clause 6.2E and the respective stage 3 signalling needs to be specified.There is also an EN about this pending addition. |
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| ***Summary of change:*** | Removed the EN in 5.2.2.2, together with the related text, and referred to the stage 2 procedures for ML Model Accuracy Monitoring, which partially go beyond CT3-defined APIs. |
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| ***Consequences if not approved:*** | Incomplete specification and not fulfilled stage 2 requirements. |
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| ***Clauses affected:*** | 5.2.2.2, 5.12 (new, including subclauses) |
|  |  |
|  | **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 \*\*\*

5.2.2.2 Analytics Subscribe/Unsubscribe/Notify initiated by AFs via the NEF

This procedure is used by the AF to subscribe to/unsubscribe from analytics information from the NWDAF via the NEF, it is also used by the NWDAF to notify the analytics event(s) to the AF via the NEF, if subscribed before.

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**Figure 5.2.2.2-1: Analytics Subscribe/Unsubscribe/Notify initiated by AFs via the NEF**

1. In order to subscribe to notification(s) of analytics exposure via the NEF, the AF invokes the Nnef\_AnalyticsExposure\_Subscribe request by sending an HTTP POST request message targeting the resource "Analytics Exposure Subscriptions" as defined in clause 4.4.14.1 of 3GPP TS 29.522 [10].

 In order to update an existing analytics exposure subscription, the AF shall send an HTTP PUT request message to the NEF to the resource "Individual Analytics Exposure Subscription" requesting to change the subscription.

2. Upon receipt of the HTTP request from the AF, if the AF is authorized with the requested analytics event(s) and the requested parameters comply with the inbound restriction in the analytics exposure mapping, the NEF shall invoke Nnwdaf\_EventsSubscription\_Subscribe service operation as described in step 1 in clause 5.2.2.1.

3. The NWDAF responds to the Nnwdaf\_EventsSubscription\_Subscribe service operation as described in step 2 in clause 5.2.2.1.

4. Upon receipt of the HTTP request response from the NWDAF, the NEF shall invoke the Nnef\_AnalyticsExposure\_Subscribe response message by mapping and forwarding the response to the AF.

5. If the NWDAF observes the subscribed event(s), the NWDAF invokes Nnwdaf\_EventsSubscription\_Notify service operation as described in step 3 in clause 5.2.2.1 to the NEF.

6. If the NEF receives an analytics information notification from the NWDAF indicating that the subscribed analytics event has been detected, the NEF shall invoke the Nnef\_AnalyticsExposure\_Notify request by sending HTTP POST request message provide a notification to the AF request including the AnalyticsEventNotification data structure at least with the detected analytics event identified by the notification URI together with the notification correlation identifier received during creation of the Individual Analytics Exposure Subscription.

7. Upon receipt of the analytics event notification, the AF shall respond the NEF with a "204 No Content" status code to confirm the received notification in Nnef\_AnalyticsExposure\_Notify response message.

8. The NEF shall forward the HTTP "204 No Content" response to the NWDAF.

9. In order to delete an existing analytics exposure subscription, the AF shall invoke the Nnef\_AnalyticsExposure\_Unsubscribe request by sending an HTTP DELETE request message to the NEF to the resource "Individual Analytics Exposure Subscription".

10. If the NEF receives an HTTP DELETE request from the AF, the NEF shall invoke the Nnwdaf\_EventsSubscription\_Unsubscribe service operation as described in step 5 in clause 5.2.2.1.

11. The NWDAF responds to the Nnwdaf\_EventsSubscription\_Unsubscribe service operation as described in step 6 in clause 5.2.2.1.

12. The NEF shall forward the HTTP "204 No Content" response to the AF.

NOTE: Details of AnalyticsExposure API refer to clause 4.4.14 and clause 5.6 of 3GPP TS 29.522 [4].

\*\*\* Next Change \*\*\*

5.12 ML Model Accuracy Monitoring Procedures

5.12.1 General

The services defined in 3GPP TS 29.520 [5], 3GPP TS 29.574 [15], 3GPP TS 29.575 [16], 3GPP TS 29.503 [23], and 3GPP TS 28.104 [38] may be used to perform ML Model accuracy monitoring based on the procedures and the requirements of 3GPP TS 23.288 [17] clauses 6.2E, 6.1.1.1 step 2, and 6.1.1.2 step 4.

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