**3GPP TSG CT WG3 Meeting #138 C3-246185**

**Orlando, US, 18 – 22 November, 2024 (revision of C3-246abc)**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.520** | **CR** | **0985** | **rev** | **-** | **Current version:** | **19.0.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | Corrections on the Nnwdaf\_MLModelProvision service | | | | | | | | | |
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| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eNetAE19 | | | | |  | ***Date:*** | | | 2024-10-25 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | There are some errors in the service descriptions of Nnwdaf\_MLModelProvision service need to be corrected. | | | | | | | | |
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| ***Summary of change:*** | | Correct the clause reference number and other errors. | | | | | | | | |
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| ***Consequences if not approved:*** | | The stage 2 requirement is missing in stage 3. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.5.2.2.3, 4.5.2.4.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 does not impact the OpenAPI file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\*\*\* 1st Change \*\*\*

##### 4.5.2.2.3 Update subscription for event notifications

Figure 4.5.2.2.3-1 shows a scenario that the NF service consumer sends an HTTP PUT request to the NWDAF to modify an existing subscription (as shown in 3GPP TS 23.288 [17]).



Figure 4.5.2.2.3-1: Modification of events subscription information using HTTP PUT

The NF service consumer shall invoke the Nnwdaf\_MLModelProvision\_Subscribe service operation to modify an existing ML Model subscription. The NF service consumer shall send an HTTP PUT request with: "{apiRoot}/nnwdaf-mlmodelprovision/<apiVersion>/subscriptions/{subscriptionId}" as Resource URI, where "{subscriptionId}" is the event subscription identifier of the existing subscription to be modified, to update an "Individual NWDAF ML Model Provision Subscription" according to the information in the message body. The NwdafMLModelProvSubsc data structure provided in the request body shall include the same contents as described in clause 4.5.2.2.2.

Upon receipt of an HTTP PUT request with: "{apiRoot}/nnwdaf-mlmodelprovision/<apiVersion>/subscriptions/{subscriptionId}" as Resource URI and NwdafMLModelProvSubsc data type as request body, if the request is successfully processed and accepted, the NWDAF shall:

- modify the concerned subscription; and

- store the subscription.

NOTE: The "notifUri" attribute within the NwdafMLModelProvSubsc data structure can be modified to request that subsequent notifications are sent to a new NF service consumer.

If the NWDAF successfully processed and accepted the received HTTP PUT request, the NWDAF shall update an "Individual NWDAF ML Model Provision Subscription" resource, and shall respond with:

- HTTP "204 No Content" response (as shown in figure 4.5.2.2.3-1, step 2a); or

- HTTP "200 OK" response (as shown in figure 4.5.2.2.3-1, step 2b) with a response body containing a representation of the updated subscription in the NwdafMLModelProvSubsc data type.

If not all the requested events in the subscription are modified successfully, then the NWDAF may include the "failEventReports" attribute indicating the event(s) for which the subscription failed and the associated reason(s).

If other errors occur when processing the HTTP PUT request, the NWDAF shall send an HTTP error response as specified in clause 5.4.7.

If the NWDAF determines that the received HTTP PUT request needs to be redirected, the NWDAF shall send an HTTP redirect response as specified in clause 6.10.9 of 3GPP TS 29.500 [6].

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

##### 4.5.2.4.2 Notification about subscribed event

Figure 4.5.2.4.2-1 shows a scenario where the NWDAF sends a request to the NF Service Consumer to notify for event notifications (see also 3GPP TS 23.288 [17]).



Figure 4.5.2.4.2-1: NWDAF notifies the subscribed event

The NWDAF shall invoke the Nnwdaf\_MLModelProvision\_Notify service operation to notify the subscribed event. The NWDAF shall send an HTTP POST request with "{notifUri}" received in the Nnwdaf\_MLModelProvision\_Subscribe service operation as Resource URI, as shown in figure 4.5.2.2.2-1, step 1. The NwdafMLModelProvNotif data structure provided in the request body that shall include:

- an event subscription identifier as "subscriptionId" attribute; and

- description of the notified event as "eventNotifs" attribute, that for each event, the MLEventNotif data type shall include:

* an event identifier as the "event" attribute;
* an address (e.g. a URL or an FQDN) of the ML model file as the "mLFileAddr" attribute or if the "ModelProvisionExt"feature is supported, the ADRF (Set) information of the ML Model as the "mLModelAdrf" addtribute and an unique identifier for the ML model as "modelUniqueId" attribute; and

the MLEventNotif data type may include:

* a notification correlation identifier as "notifCorreId" attribute; and
* a time period when the provided ML model applies as the "validityPeriod" attribute; and
* an area where the provided ML model applies as the "spatialValidity" attribute; and
* if the feature "ModelProvisionExt" is supported, the additional ML model information as "addModelInfo" attribute; and
* if the feature "ModelProvisionExt" is supported, the filtering information of the ML Model as the "mLEventFilter" attribute; and
* if the feature "ModelProvisionExt" is supported, the target UEs of the ML Model as the "tgtUe" attribute.

Upon the reception of an HTTP POST request, if the NF service consumer successfully processed and accepted the received HTTP POST request, the NF Service Consumer shall store the notification and respond with HTTP "204 No Content" status code.

If the NF service consumer receives the ADRF ID as the "adrfId" attribute or the ADRF Set ID as the "adrfSetId" attribute in the NwdafMLModelProvNotif data structure of the HTTP POST request, it may invoke Nadrf\_MLModelManagement\_RetrievalRequest service operation to retrieve ML Model from the ADRF (Set) as specified in 3GPP TS 29.575 [27].

If the NF service consumer determines the received HTTP POST request needs to be redirected, the NF service consumer shall send an HTTP redirect response as specified in clause 6.10.9 of 3GPP TS 29.500 [6].

If errors occur when processing the HTTP POST request, the NWDAF shall send an HTTP error response as specified in clause 5.4.7.

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