**3GPP TSG-CT3 Meeting #130C3-234278**

**Xiamen, China, 9 - 13 October, 2023 (Revision of C3-23xxxx)**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.552** | **CR** | **0073** | **rev** | **-** | **Current version:** | **18.2.0** |  |
|  | | | | | | | | |
| *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:*** | Updates to PFD Determination Analytics | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eNA\_Ph3 | | | | |  | ***Date:*** | | | 2023-09-20 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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 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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The PFD Determination Analytics figure is not completely shown, missing 8b and 8c, and the PFD Determination Analytics output condition is missing. | | | | | | | | |
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| ***Summary of change:*** | | Update the PFD Determination Analytics figure to show the complete procedures, update the PFD Determination Analytics output description and some editorial updates. | | | | | | | | |
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| ***Consequences if not approved:*** | | Not complete PFD Determination Analytics procedures and not fully aligned with stage 2 requirement. | | | | | | | | |
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| ***Clauses affected:*** | | 5.7.17 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

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

### 5.7.17 PFD Determination Analytics

This procedure is used by the NWDAF service consumer e.g. NEF(PFDF) to obtain PFD determination analytics for the know application(s), which is calculated by the NWDAF based on the information collected from the UPF and the NEF(PFDF).

Figure 5.7.17-1: Procedure for PFD Determination Analytics

1a. In order to obtain the PFD determination analytics, the consumer NF may invoke Nnwdaf\_AnalyticsInfo\_Request service operation as described in clause 5.2.3.1.

1b-1c. In order to obtain the PFD determination analytics, the consumer NF may invoke Nnwdaf\_EventsSubscription\_Subscribe service operation as described in clause 5.2.2.1.

2a-2b. The NWDAF invokes Nnef\_PFDManagement\_Fetch service operation as described in clause 4.2.2 of 3GPP TS 29.551 [39] by sending an HTTP POST request targeting the resource "Individual application PFD" to retrieve PFDs for an Application Identifier(s) from the NEF (PFDF). The NEF (PFDF) responds to the NWDAF an HTTP "200 OK" response, with the contentcontaining a representation of an "Individual application PFD" resource or a "PFD of applications" resource for the requested application identifier(s).

3. The NWDAF determines whether it needs to collect data and, if needed, it collects the data either directly from the UPF or indirectly via the SMF and identifies the SMF(s) and/or UPF(s) to retrieve the data.

3a-3b. [Option 1] The NWDAF invokes Nsmf\_EventExposure\_Subscribe service operation by sending an HTTP POST request targeting the resource "SMF Notification Subscriptions" to retrieve the IP flow related information for the application. The SMF responds to the NWDAF an HTTP "201 Created" response.

4a-4b. The SMF invokes Nupf\_EventExposure\_Subscribe service operation as described in clause 5.2.2.2 of 3GPP TS 29.564 [40] to retrieve the IP flow related information for the application from UPF. The UPF responds to the SMF an HTTP "201 Created" response.

5a-5b. [Option 2] The NWDAF directly invokes Nupf\_EventExposure\_Subscribe service operation as described in clause 5.2.2.2 of 3GPP TS 29.564 [40] to retrieve the IP flow related information for the application from UPF. The UPF responds to the NWDAF an HTTP "201 Created" response.

6a-6b. The UPF invokes Nupf\_EventExposure\_Notify service operation by sending an HTTP POST request to the NWDAF identified by the notification URI received in step 4a or step 5a. The NWDAF responds to the UPF an HTTP "204 No Content" response.

7. The NWDAF calculates the PFD determination analytics based on the data collected from UPF and NEF (PFDF).

8a. If step 1a is performed, the NWDAF sends the Nnwdaf\_AnalyticsInfo\_Request response as described in clause 5.2.3.1, with HTTP "204 No Content" response if the NWDAF decides no PFD data to be updated or newly reported; or with HTTP "200 OK" response containing the PFD determination analytics in the case that the NWDAF decides the PFD information for the existing Application ID is new or to be updated.

8b-8c. If step 1b and step 1c are performed, the NWDAF invokes Nnwdaf\_EventsSusbcription\_Notify service operation as described in clause 5.2.2.1 containing the PFD determination analytics information in the case that the NWDAF decides the PFD information for the existing Application ID is new or to be updated.

NOTE 1: For details of Nsmf\_EventExposure\_Subscribe/Notify service operations refer to 3GPP TS 29.508 [6].

NOTE 2: For details of Nnwdaf\_EventsSubscription\_Subscribe/Unsubscribe/Notify or Nnwdaf\_AnalyticsInfo\_Request service operations refer to 3GPP TS 29.520 [5].

NOTE 3: For details of Nnef\_PFDManagement\_Fetch service operation refer to 3GPP TS 29.551 [39].

NOTE 4: For details of Nupf\_EventExposure\_Subscribe/Unsubscribe/Notify service operations refer to 3GPP TS 29.564 [40].

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