**3GPP TSG-CT3 Meeting #112e *C3-205146***

**E-Meeting, 04th – 13th November 2020 (Revision of C3-204xyz)**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.551** | **CR** | 0044 | **rev** | **-** | **Current version:** | **15.6.0** |  |
|  | | | | | | | | |
| *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:*** | Correction to PFD retrieval in PULL mode | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GS\_Ph1-CT | | | | |  | ***Date:*** | | | 2020-11-04 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-15 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Currently, the NF service consumer only can request PFD(s) for a specific application id or a collection of the application ids.  But there are still descriptions that the NF service consumer shall remove all the PFD(s) existing in the NF service consumer if the request is for PFD of all application identifiers.  It is also not clear when the NF service consumer requests the PFD(s) from the PFDF.  It is aslo not defined how the SMF deals with the PFD when the last PCC rule for the application identifier is removed. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. Add the condition where the NF service consumer requests the PFD(s). 2. Remove the descriptions that the NF service consumer shall remove all the PFD(s) existing in the NF service consumer if the request is for PFD of all application identifiers 3. Remove the description that GET is used to request the PFD for all the application identifiers. 4. Add the description of the handling of the PFDs when the last PCC rule for the application identifier is removed. | | | | | | | | |
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| ***Consequences if not approved:*** | | Wrong descriptions. The NF service consumer removes all the PFD(s) | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.2.2.2, 5.3.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 doesn’t impact the OpenAPI file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**…**

**Proposed changes:**

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

#### 4.2.2.2 Retrieval of PFDs

This procedure as shown in Figure 4.2.2.2-1 is used to retrieve PFDs for an application identifier from the PFDF. This procedure enables the NF service consumer to retrieve PFDs for an Application Identifier(s) from the PFDF:

* when a PCC rule with this application identifier is provided/activated by the PCF and the PFDs provided by the PFDF are not available at the NF service consumer;
* when the caching timer for an application identifier elapses and a PCC rule for this application identifier is still active.

When the SMF removes the last PCC rule that refers to the corresponding application identifier, or when the caching timer expires and no PCC rule refers to the application identifier, the SMF may remove the PFD(s) related with the application identifier.

The PFDs retrieved from PFDF take precedence over any PFDs pre-configured in the SMF. If all PFDs retrieved from the PFDF are removed for an application identifier, the pre-configured PFDs shall be applied again for the application identifier.



Figure 4.2.2.2-1: Retrieval of PFDs

1. The NF service consumer (i.e. SMF) shall send a GET request to the resource representing the PFD for application identifier(s) to be required:

- for PFD of individual application identifier, the request URI shall include "{apiRoot}/nnef‑pfdmanagement/v1/applications/{appId}"; and

- for PFD of a collection of application identifiers, the request URI shall include "{apiRoot}/nnef‑pfdmanagement/v1/applications/" with query parameters indicating the requested application identifier(s).

2. On success, "200 OK" shall be returned; the payload body of GET response shall contain a representation of "Individual application PFD" resource or "PFD of applications" resource for the requested application identifier(s). The NF service consumer shall replace the stored PFD(s) retrieved from the PFDF with the new received PFD(s) for the requested application identifier(s). If the resource of one or more requested application identifier(s) is not provided in the response, the NF service consumer shall remove the PFD(s) of the requested application identifier(s) which is not included in the response and re-apply the pre-configured PFDs.  
  
On failure, one of the HTTP status code listed in table 5.3.2.3.1-3 or table 5.3.3.3.1-3 shall be returned. For "404 Not Found", the NF service consumer shall remove the PFD(s) of the requested application identifier(s) in the NF service consumer and re-apply the pre-configured PFDs.

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

### 5.3.1 Resource Structure



Figure 5.3.1-1: Resource URI structure of the Nnef\_PFDmanagement API

Table 5.3.1-1 provides an overview of the resources and applicable HTTP methods.

Table 5.3.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method or custom operation | Description |
| PFD of applications | //{apiRoot}/ nnef-pfdmanagement/v1 /applications | GET | Nnef\_PFDmanagement\_Fetch.  Retrieve PFDs for one or multiple applications with query parameter. |
| Individual application PFD | //{apiRoot}/ nnef-pfdmanagement/v1 /applications/{appId} | GET | Nnef\_PFDmanagement\_Fetch.  Retrieve the PFD for an application. |
| PFD subscriptions | //{apiRoot}/ nnef-pfdmanagement/v1 /subscriptions | POST | Nnef\_PFDmanagement\_Subscribe.  Subscribe the notification of PFD changes. |
| Individual PFD subscription | //{apiRoot}/ nnef-pfdmanagement/v1 /subscriptions/{subscriptionId} | DELETE | Nnef\_PFDmanagement\_Unsubscribe.  Delete a subscription of PFD change notification. |

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