**3GPP TSG-CT WG3 Meeting #135 *C3-243288r1***

**Hyderabad, IN, 27 - 31 May, 2024 (Revision of C3-24xxxx)**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **29.552** | **CR** | **0110** | **rev** | **1** | **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)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | Updates to UPF event exposure procedures in PDU Session Traffic Analytics | | | | | | | | | |
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| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | UPEAS | | | | |  | ***Date:*** | | | 2024-05-07 |
|  |  | | | |  | |  | | |  |
| ***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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19) Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | TS 23.501 clause 5.8.2.17 and TS 23.502 clause 4.15.4.5 defined the conditional option for direct or indirect subscription to Nupf\_EventExposure which needs to be aligned in clause 5.7.19 that is also referred by other related procedures. Also the detail parameters to be removed to general applied.  SA2#162 agreed TS 23.502 CR 4703 (S2-2405691) updated the condition for any UE direct subscription to Nupf\_EventExposure API. | | | | | | | | |
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| ***Summary of change:*** | | Updates the conditional direct or indirect subscription to Nupf\_EventExposure service procedure and figure in clause 5.7.19. | | | | | | | | |
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| ***Consequences if not approved:*** | | Not aligned with stage 2 requirement on direct or indirect UPF event subscription conditions and procedures. | | | | | | | | |
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| ***Clauses affected:*** | | 5.7.19 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 23.502 CR 4703 | | |
| ***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 \*\*\*

### 5.7.19 PDU Session Traffic Analytics

This procedure is used by the NWDAF service consumer (e.g. PCF) to subscribe or request PDU Session Traffic analytics statistics on whether traffic of UEs via one or multiple PDU sessions is according to the information provided by the service consumer.

Figure 5.7.19-1: Procedure for PDU Session Traffic Analytics

1a. In order to obtain the PDU Session Traffic analytics, the NWDAF service consumer (e.g. PCF) may invoke Nnwdaf\_AnalyticsInfo\_Request service operation as described in clause 5.2.3.1.

1b-1c. In order to obtain the PDU Session Traffic analytics, the NWDAF service consumer (e.g. PCF) may invoke Nnwdaf\_EventsSubscription\_Subscribe service operation as described in clause 5.2.2.1.

2. The NWDAF determines whether it needs to collect the 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. [Conditional Option 1] The NWDAF shall invoke the Nsmf\_EventExposure\_Subscribe service operation by sending an HTTP POST request targeting the resource "SMF Notification Subscriptions" as described in 3GPP TS 29.508 [6] to subscribe via the SMF to UPF to retrieve "UserDataUsageMeasures" UPF event. The SMF responds to the NWDAF an HTTP "201 Created" response after having received HTTP "201 Created" response from the UPF.

4a-4b. The SMF subscribes to the UPF on behalf of the NWDAF by invoking Nupf\_EventExposure\_Subscribe service operation as described in clause 5.2.2.2 of 3GPP TS 29.564 [40] to retrieve "UserDataUsageMeasures" UPF event from the UPF. The UPF responds to the SMF an HTTP "201 Created" response.

5a-5b. [Conditional Option 2] The NWDAF may directly invoke the Nupf\_EventExposure\_Subscribe service operation as described in clause 5.2.2.2 of 3GPP TS 29.564 [40] to retrieve "UserDataUsageMeasures" UPF event from the UPF. The UPF responds to the NWDAF an HTTP "201 Created" response.

NOTE 1: The conditions for subscribing to UPF events directly at the UPF or via the SMF, i.e. the conditions for invoking step 3 or step 5 are described in 3GPP TS 29.564 [40].

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 derives analytics indicating a list of UEs and the traffic they route according to the provided information provided by the consumer (i.e. Traffic Descriptor, S-NSSAI and DNN), including its volume and the traffic they route and a list of UEs which route traffic that it is not expected according to the information provided by the consumer (i.e. Traffic Descriptor, S-NSSAI and DNN) including its volume.).

8a. If step 1a is performed, the NWDAF sends the Nnwdaf\_AnalyticsInfo\_Request response containing the PDU Session Traffic analytics as described in clause 5.2.3.1.

8b-8c. If step 1b and step 1c are performed, the NWDAF invokes Nnwdaf\_EventsSusbcription\_Notify service operation containing the PDU Session Traffic analytics as described in clause 5.2.2.1.

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 Nsmf\_EventExposure\_Subscribe/Notify service operations refer to 3GPP TS 29.508 [6].

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