**3GPP TSG-CT WG3 Meeting #125 *C3-225323***

**Toulouse, France, 14th - 18th, November, 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **29.512** | **CR** | **0982** | **rev** | **-** | **Current version:** | **17.8.0** |  |
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| *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:*** | Clarification of application detection information report | | | | | | | | | |
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| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI18, 5GS\_Ph1-CT | | | | |  | ***Date:*** | | | 2022-11-18 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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 SMF receives the detected application information from the UPF. The SMF so the SMF doesn’t care whether the application traffic was discarded due to the enforcement.  Application instance identifier is reported by the UPF, so it shall be clarified that the application instance identifier is received from the UPF by the SMF. | | | | | | | | |
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| ***Summary of change:*** | | Clarify that the SMF includes received the application id and the application instance identifier within the report. | | | | | | | | |
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| ***Consequences if not approved:*** | | Not clear how to report the detected application info by the SMF | | | | | | | | |
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| ***Clauses affected:*** | | 4.2.4.6, 5.6.2.22 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | The CR does not impact the OpenAPI file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* \* Start of Changes \* \* \* \*

#### 4.2.4.6 Application detection information reporting

If the ADC feature is supported and if the SMF receives the PCC rule for application detection and control, the SMF shall instruct the UPF as defined in 3GPP TS 29.244 [13] to:

- Detect the application traffic.

- Report the detected application's traffic start/stop events along with the application instance identifier and service data flow descriptions when service data flow descriptions are deducible.

When the start of the application`s traffic, identified by an application identifier, is received from the UPF, if PCF has previously provisioned the APP\_STA/APP\_STO policy control request trigger, unless a request to mute such a notification (i.e. the "muteNotif" attribute set to true within the Traffic Control Data decision which the PCC rule refers to), the SMF shall report the start of the application to the PCF.

In order to do so, the SMF shall perform the procedure as defined in clause 4.2.4.2 by including the information regarding the detected application's traffic within the "appDetectionInfos" attribute and the "APP\_STA" within the "repPolicyCtrlReqTriggers" attribute even if the application traffic is discarded due to enforcement actions of the PCC rule. In this case, within the each AppDetectionInfo instance, the SMF shall include the received application identifier within the "appId" attribute, and may include the detected service data flow description within the "sdfDescriptions" attribute if deducible and received and an application instance identifier for the detected service data flow descriptions if received within the "instanceId". The "sdfDescriptions" attribute, if present, shall contain the "flowDescription" attribute and "flowDirection" attribute. The application instance identifier allows the correlation of APP\_STA and APP\_STO policy control request trigger to the specific service data flow descriptions.

When the stop of the application's traffic, identified by an application identifier is received from the UPF and the SMF has reported the start of the application to the PCF, the SMF shall report the stop of the application to the PCF. In order to do so, the SMF shall perform the procedure as defined in clause 4.2.4.2 by including the information regarding the detected application's traffic within the "appDetectionInfos" attribute and the "APP\_STO" within the "repPolicyCtrlReqTriggers" attribute. For each AppDetectionInfo instance, the SMF shall include the received application identifier within the "appId" attribute and the application instance identifier from the UPF within the "instanceId" if it is provided along with the APP\_STA to the PCF.

The PCF then may make policy decisions based on the information received and send the corresponding updated PCC rules to the SMF.

When a PFD provisioned by the PFDF as specified in 3GPP TS 29.551 [46] is removed/modified and the removed/modified PFD was used to detect application traffic related to an application identifier in a PCC rule installed or activated for a PDU session, if the removed/modified PFD results in that the stop of an application or an application instance is not able to be detected, and if the SMF has reported the application start as described in this clause to the PCF for the application or application instance represented by this PFD, the SMF shall report the application stop to the PCF for the corresponding application or the corresponding application instance, if the stop of the application's traffic, identified by the corresponding application or the corresponding application instance, is received from the UPF.

NOTE: Multiple PFDs can be associated with the application identifier. When the removed/modified PFD is the last one which is used to detect traffic identified by the "appId" attribute, the SMF reports application stop.

The PCF is not allowed to update the mute indication of a provisioned PCC rule(s) during the PDU session lifetime, i.e., if for the PCC rule, the application's start or stop notifications are muted, the PCC rule shall remain with the application's start or stop notifications muted along the PDU session lifetime, and viceversa, if for the PCC rule, the application's start or stop notifications are not muted, the PCC rule shall remain with the application's start or stop notifications not muted along the PDU session lifetime. The SMF shall reject the update of the mute indication for a provisioned PCC rule as specified in clause 4.2.6.2.11.

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

#### 5.6.2.22 Type AppDetectionInfo

Table 5.6.2.22-1: Definition of type AppDetectionInfo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| appId | string | M | 1 | A reference to the application detection filter configured at the UPF and reported to the NF service consumer. |  |
| instanceId | string | O | 0..1 | Identifier dynamically assigned by UPF and reported to the NF service consumer in order to allow correlation of application Start and Stop events to the specific service data flow description, if service data flow descriptions are deducible. |  |
| sdfDescriptions | array(FlowInformation) | O | 1..N | Contains the detected service data flow descriptions if they are deducible.  When present, it shall only include the "flowDescription" and the "flowDirection" attributes of the FlowInformation data type. |  |

\* \* \* \* End of change \* \* \* \*