**TSG-CT WG3 Meeting #108-e *C3-201xyz***

**E-Meeting, 19th – 28th February 2020 (Revision of C3-201301)**

**Source: Huawei**

**Title: Pseudo-CR on Exception event supported by the AF**

**Spec: 3GPP TS 29.517 1.0.1**

**Agenda item: 16.5**

**Document for: Agreement**

**1. Introduction**

TS 23.288 table 6.7.5.2-1 defines the exceptions information from AF, as shown below:

Table 6.7.5.2-1: Exceptions information from AF

|  |  |
| --- | --- |
| Information | Description |
| IP address 5-tuple | To identify a data flow of a UE via the AF (such as the Firewall or a Threat Intelligence Sharing platform) |
| Exceptions (1..max) (NOTE) |  |
| >Exception ID | Indicating the Exception ID (such as Unexpected long-live/large rate flows and Suspicion of DDoS attack as defined in Table 6.7.5.3-2) of the data flow. |
| >Exception Level | Measured level, compared to the threshold |
| >Exception trend | Measured trend (up/down/unknown/stable) |
| NOTE: The Exceptions information and the UE behavioural information as defined in clauses 6.7.2.2 and 6.7.3.2 could help NWDAF to train an Abnormal classifier, which could be used to classify a UE behaviour data into Normal behaviour or Exception. | |

**2. Reason for Change**

The following open issues need to be solved on exception event:

Editor's note: Whether application identifier is mandatory is FFS.

Editor's note: Others Event Filter information for the feature "Exceptions" are FFS.

**3. Conclusions**

<Conclusion part (optional)>

**4. Proposal**

It is proposed to agree the following changes to 3GPP TS 29.517 v1.0.1.

\* \* \* First Change \* \* \* \*

#### 4.2.2.2 Creating a new subscription

Figure 4.2.2.2-1 illustrates the creation of a subscription.



Figure 4.2.2.2-1: Creation of a subscription

To subscribe to event notifications, the NF service consumer shall send an HTTP POST request to the AF with: "{apiRoot}/naf-eventexposure/{apiVersion}/subscriptions/" as request URI as shown in step 1 of figure 4.2.2.2-1, and the "AfEventExposureSubsc" data structure as request body.

The "AfEventExposureSubsc" data structure shall include:

- description of subscribed event information as "eventsSubs" attribute by using one or more "EventsSubs" data;

- description of the event reporting information as "eventsRepInfo" attribute;

- a URI where to receive the requested notifications as "notifUri" attribute;

- a Notification Correlation Identifier assigned by the NF service consumer for the requested notifications as "notifId" attribute.

The "EventsSubs" data shall include:

- a event to subscribe as a "event" attribute; and

- event filter information as "EventFilter" attribute associated with the event.

The "eventsRepInfo" attribute may include:

- event notification method (periodic, one time, on event detection) as "notifMethod" attribute;

- Maximum Number of Reports as "maxReportNbr" attribute;

- Monitoring Duration as "monDur" attribute;

- repetition period for periodic reporting as "repPeriod" attribute;

- immediate reporting indication as "immRep" attribute;

- sampling ratio as "sampRatio" attribute; and/or

- group reporting guard time as "grpRepTime" attribute.

Depending on the event type:

- if the feature "Exceptions" is supported and the event is "EXCEPTIONS", it may provide:

1) identification of application to which the subscription applies via "appIds" attribute;

2) an area of interest via "locArea" attribute;

If the AF cannot successfully fulfil the received HTTP POST request due to the internal error or an error in the HTTP POST request, the AF shall send the HTTP error response as specified in subclause 5.7.

Upon successful reception of the HTTP POST request with "{apiRoot}/naf-eventexposure/{apiVersion}/subscriptions/" as request URI and "AfEventExposureSubsc" data structure as request body, the AF shall create a new "Individual Application Event Subscription" resource, shall store the subscription and shall send a HTTP "201 Created" response as shown in step 2 of figure 4.2.2.2-1. The AF shall include in the "201 Created" response:

- a Location header field; and

- an "AfEventExposureSubsc" data type in the payload body.

The Location header field shall contain the URI of the created individual application session context resource i.e. "{apiRoot}/naf-eventexposure/{apiVersion}/subscriptions/{subscriptionId}".

The "AfEventExposureSubsc" data type payload body shall contain the representation of the created "Individual Application Event Subscription".

When the "monDur" attribute is included in the response, it represents AF selected expiry time that is equal or less than the received expiry time in the request.

When the "immRep" attribute is included and sets to "true" in the subscription and the subscribed events are available, the AF shall immediately notify the NF service consumer using the Naf\_EventExposure\_Notify service operation, as described in subclause 4.2.4.2.

When the sampling ratio as the "sampRatio" attribute is included in the subscription, the AF shall select a random subset of UEs among target UEs according to the sampling ratio and only report the event(s) related to the selected subset UEs.

When the group reporting guard time as the "grpRepTime" attribute is included in the subscription, the AF shall accumulate all the event reports for the target UEs until the group reporting guard time expires. Then the AF shall notify the NF service consumer using the Naf\_EventExposure\_Notify service operation, as described in subclause 4.2.4.2.

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

#### 5.6.2.5 Type EventFilter

Table 5.6.2.5-1: Definition of type EventFilter

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| gpsis | array(Gpsi) | O | 1..N | Each elements represents external UE identifier.  (NOTE 1, NOTE 2) |  |
| exterGroupIds | array(GroupId) | O | 1..N | Each element represents a group of UEs.  (NOTE 1, NOTE 2) |  |
| anyUeInd | boolean | O | 0..1 | Identifies whether the AF request applies to any UE.  This attribute shall set to "true" if applicable for any UE, otherwise, set to "false".  May only be present and sets to "true" if "AfEvent" sets to "SVC\_EXPERIENCE".  (NOTE 1) | ServiceExperience |
| appIds | array(string) | O | 1..N | Each element indicates an application identifier.  May be present if "AfEvent" sets to "UE\_COMM", "SVC\_EXPERIENCE" or "EXCEPTIONS".  If absent, the EventFilter data applies to any application (i.e. all applications)  (NOTE 3) | ServiceExperience  Exceptions  UeCommunication |
| locArea | LocationArea5G | O | 0..1 | Represents area of interest.  May only be present if "AfEvent" sets to "SVC\_EXPERIENCE", "UE\_COMM" or "EXCEPTIONS". | ServiceExperience  Exceptions  UeCommunication |
| NOTE 1: If "AfEvent" sets to "SVC\_EXPERIENCE", only one of the "gpsi", "exterGroupIds" or "anyUeInd" attributes shall be present.  NOTE 2: If "AfEvent" sets to "UeMobility" or "UeCommunication", either the "gpsis" or "exterGroupIds" attribute shall be present.  NOTE 3: For event "EXCEPTIONS", the "appIds" attribute shall include only one element. | | | | | |

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

#### 5.6.2.14 Type ExceptionInfo

Table 5.6.2.14-1: Definition of type ExceptionInfo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| ipTrafficFilter | FlowInfo | O | 0..1 | Identifies IP flow.(NOTE 1) |  |
| ethTrafficFilter | EthFlowDescription | O | 0..1 | Identifies Ethernet flow.(NOTE 1) |  |
| exceps | array(Exception) | M | 1..N | Contains the description of one or more exception information.(NOTE 2) |  |
| NOTE 1: Either "ipTrafficFilter" or "ethTrafficFilter" shall be provided.  NOTE 2: Only "excepId", "excepLevel" and "excepTrend" within the Exception data type as defined in 3GPP TS 29.520 [19] apply to the ExceptionInfo data type. | | | | | |

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