**3GPP TSG-CT WG3 Meeting #118eC3-215083**

**E-Meeting, 11th – 15th October 2021**

**Source: Huawei**

**Title: Ntsctsf\_QoSandTSCAssistance\_Update service operation**

**Spec: 3GPP TS 29.565**

**Agenda item: 17.16**

**Document for: Decision**

**1. Introduction**

<Introduction part (optional)>

**2. Reason for Change**

Ntsctsf\_QoSandTSCAssistance\_Update service operation needs to be specified.

**3. Conclusions**

**4. Proposal**

It is proposed to agree the following changes to 3GPP TS 29.565.

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

#### 5.3.2.3 Ntsctsf\_QoSandTSCAssistance\_Update

##### 5.3.2.3.1 General

This service operation is used by an NF service consumer to request the network to update the QoS and/or additional Alternative QoS for an AF session.

The following procedures using the Ntsctsf\_QoSandTSCAssistance\_Update service operation are supported:

- Modification of TSC related service information.

Editor's Note: The detail procedures, e.g. Modification of QoS monitoring information, are FFS.

##### 5.3.2.3.2 Modification of TSC related service information

This procedure is used to modify an existing TSC application session context as defined in 3GPP TS 23.501 [2], 3GPP TS 23.502 [3] and 3GPP TS 23.503 [4].

Figure 5.3.2.3.2-1 illustrates the modification of TSC related service information using HTTP PATCH method.



Figure 5.3.2.3.2-1: Modification of TSC related service information using HTTP PATCH

The NF service consumer may modify the TSC application session context information at any time and invoke the Ntsctsf\_QoSandTSCAssistance\_Update service operation by sending the HTTP PATCH request message to the resource URI representing the "Individual TSC Application Session Context" resource, as shown in figure 5.3.2.3.2-1, step 1, with the modifications to apply.

The JSON body within the PATCH request shall include the "TscAppSessionContextUpdateData" data type and shall be encoded according to "JSON Merge Patch", as defined in IETF RFC 7396 [x].

The NF service consumer may include in the "TscAppSessionContextUpdateData" data structure:

* the updated flow information within the "flowInfo" or "ethFlowInfo" attribute;
* the updated application Id within the "appId" attribute;
* the updated QoS reference within the "qosReference" attribute;
* the update URI where the TSCTSF can request to the NF service consumer to delete the "Individual TSC Application Session Context" resource within the "notifUri".
* the updated ordered list of QoS references within the "altQosReferences" attribute;
* the updated TSC QoS requirement within the "tscQosReq" attribute; and
* the updated event subscription information within the "evSubsc" attribute. Within the EventsSubscReqDataRm data structure, the NF service consumer shall include:

- the new complete list of subscribed events within the "events" attribute;

- when the NF service consumer requests to update the additional information related to an event (e.g. the NF service consumer needs to provide new thresholds to the TSCTSF in the "usgThres" attribute related to the "USAGE\_REPORT" event), the additional information within the corresponding attribute(s).

NOTE 1: Note that when the NF service consumer requests to remove an event, this event is not included in the "events" attribute.

NOTE 2: When an event is included in the "events" attribute and its related additional information is set to null, the PCF considers the subscription to this event is active, but the related procedures stop applying.

NOTE 3: When an event is removed from the "events" attribute but its related information is not set to null, the PCF considers the subscription to this event is terminated, the related additional information is removed, and the related procedures stop applying.

The NF service consumer shall remove existing event subscription information by setting to null the "evSubsc" attribute included in "TscAppSessionContextUpdateData".

NOTE 4: The "notifUri" attribute within the EventsSubscReqData data structure can be modified to request that subsequent notifications are sent to a new NF service consumer.

Upon the reception of this HTTP PATCH request, the TSCTSF shall

- if the updated Requested 5GS delay is received from NF service consumer, re-calculate a Requested PDB by subtracting the UE-DS-TT residence time provided by the PCF from the Requested 5GS delay;

- interact with the PCF by triggering a Npcf\_PolicyAuthorization\_Update request to provision the related parameters to the PCF as defined in 3GPP TS 29.514 [x];

- if receiving a successful response from the PCF, the TSCSTF shall update the "Individual TSC Application Session Context" resource and send a "200 OK" or "204 No Content" response to the HTTP POST request to the NF service consumer, as shown in figure 5.3.2.3.2-1, step 2.

Editor's Note: Error and redirection responses are FFS.

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

### 6.2.6 Data Model

#### 6.2.6.1 General

This clause specifies the application data model supported by the API.

Table 6.2.6.1-1 specifies the data types defined for the Ntsctsf\_QoSandTSCAssistance service based interface protocol.

Table 6.2.6.1-1: Ntsctsf\_QoSandTSCAssistance specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| EventsSubscReqData | 6.2.6.2.3 | Identifies the events the application subscribes to within an Individual TSC Application Session Context resource |  |
| EventsSubscReqDataRm | 6.2.6.2.x2 | This data type is defined in the same way as the "EventsSubscReqData" data type, but with the OpenAPI "nullable: true" property. |  |
| TscAppSessionContextData | 6.2.6.2.2 | Represents the Individual TSC Application Session Context resource data. |  |
| TscAppSessionContextUpdateData | 6.2.6.2.x1 | Describes the modifications to an Individual TSC Application Session Context resource. |  |
| TscEvent | 6.2.6.3.3 | Indicates the subscribed event(s). |  |
|  |  |  |  |
|  |  |  |  |

Table 6.2.6.1-2 specifies data types re-used by the Ntsctsf\_QoSandTSCAssistance service based interface protocol from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the Ntsctsf\_QoSandTSCAssistance service based interface.

Table 6.2.6.1-2: Ntsctsf\_QoSandTSCAssistance re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| Dnn | 3GPP TS 29.571 [15] | The DNN the user is connected to. |  |
| EthFlowDescription | 3GPP TS 29.514 [x] | Defines a packet filter for an Ethernet flow. |  |
| FlowInfo | 3GPP TS 29.122 [y] | Contains the IP data flow information. |  |
| Ipv4Addr | 3GPP TS 29.571 [15] | Identifies a period of time in units of seconds. |  |
| Ipv6Addr | 3GPP TS 29.571 [15] | Identifies an IPv6 address. |  |
| MacAddr48 | 3GPP TS 29.571 [15] | MAC Address. |  |
| QosMonitoringInformation | 3GPP TS 29.122 [y] | Contains Qos Monitoring information. |  |
| QosMonitoringInformationRm | 3GPP TS 29.122 [y] | This data type is defined in the same way as the "QosMonitoringInformation" data type, but with the OpenAPI "nullable: true" property. |  |
| Snssai | 3GPP TS 29.571 [15] | Identifies the S-NSSAI. |  |
| SubscribedEvent | 3GPP TS 29.522 [17] | Indicates the subscribed event. |  |
| SupportedFeatures | 3GPP TS 29.571 [15] | Used to negotiate the applicability of the optional features defined in table 5.8-1. |  |
| TscQosRequirement | 3GPP TS 29.122 [y] | Contains the QoS requirements for time sensitive communication. |  |
| TscQosRequirementRm | 3GPP TS 29.122 [y] | This data type is defined in the same way as the "TscQosRequirement" data type, but with the OpenAPI "nullable: true" property. |  |
| UsageThreshold | 3GPP TS 29.122 [y] | Time period and/or traffic volume in which the QoS is to be applied. |  |
| UsageThresholdRm | 3GPP TS 29.122 [y] | This data type is defined in the same way as the "UsageThreshold" data type, but with the OpenAPI "nullable: true" property. |  |
| Uri | 3GPP TS 29.571 [15] | Identifies a referenced resource. |  |

##### 6.2.6.2.x1 Type TscAppSessionContextUpdateData

Table 6.2.6.2.2-1: Definition of type TscAppSessionContextUpdateData

| Attribute name | Data type | P | Cardinality | Description | Applicability |
| --- | --- | --- | --- | --- | --- |
| notifUri | Uri | O | 1 | Notification URI for Individual TSC Application Session Context termination requests. |  |
| appId | string | O | 0..1 | Identifies the external Application Identifier. (NOTE) |  |
| flowInfo | array(FlowInfo) | O | 0..1 | Describe the IP data flow which requires QoS.(NOTE) |  |
| ethFlowInfo | array(EthFlowDescription) | O | 0..1 | Identifies Ethernet packet flows.(NOTE) |  |
| tscQosReq | TscQosRequirementRm | O | 0..1 | Contains the QoS requirements for time sensitive communication. |  |
| qosReference | string | O | 0..1 | Identifies a pre-defined QoS information |  |
| altQoSReferences | array(string) | O | 0..1 | Identifies an ordered list of pre-defined QoS information. The lower the index of the array for a given entry, the higher the priority. |  |
| evSubsc | EventsSubscReqDataRm | O | 0..1 | Identifies the events the application subscribes to at modification of an Individual TSC Application Session Context resource. |  |
| NOTE: One of IP flow information, Ethernet flow information or Application Identifier may be provided. |

##### 6.2.6.2.x2 Type EventsSubscReqDataRm

This data type is defined in the same way as the "EventsSubscReqData" data type, but:

- with the OpenAPI "nullable: true" property; and

- the removable attribute "usgThres" is defined with the removable data type "UsageThresholdRm"; and removable attribute "qosMon" is defined with the removable data type "QosMonitoringInformationRm".

Table 6.2.6.2.5-1: Definition of type EventsSubscReqData

| Attribute name | Data type | P | Cardinality | Description | Applicability |
| --- | --- | --- | --- | --- | --- |
| events | array(TscEvent) | M | 1..N | Subscribed Events. |  |
| notifUri | Uri | O | 0..1 | Notification URI for event notification. |  |
| qosMon | QosMonitoringInformationRm | O | 0..1 | Qos Monitoring information. It can be present when the event "QOS\_MONITORING" is subscribed. |  |
| usgThres | UsageThresholdRm | O | 0..1 | Includes the volume and/or time thresholds for sponsored data connectivity. |  |
| notifCorreId | string | O | 0..1 | It is used to set the value of Notification Correlation ID in the corresponding notification. |  |

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