**TSG-CT WG3 Meeting #111-e *C3-204351***

**E-Meeting, 19th – 28th August 2020 (Revision of C3-204244)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.122** | **CR** | **0283** | **rev** | **1** | **Current version:** | **16.6.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Removal of an established AS session | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NAPS-CT | | | | |  | ***Date:*** | | | 2020-08-10 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **A** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | During removal of an established AS session, the PCRF may include the accumulated usage to the SCEF, and then the SCEF shall send the information (if received) to the SCS/AS in the HTTP DELETE response.  ==== TS 29.122 Subclause 4.4.4 ====  In order to remove the established AS session, the SCS/AS shall send an HTTP DELETE message to the SCEF for the "Individual Chargeable Party Transaction" resource. After receiving the HTTP DELETE message, the SCEF shall remove all properties of the resource and interact with the PCRF to terminate the Rx session (as defined in 3GPP TS 29.214 [10] or 3GPP TS 29.201 [13]). After receiving the response from the PCRF, the SCEF shall send an HTTP response to the SCS/AS with a 204 No Content status code and the accumulated usage.  ==== TS 29.122 Subclause 4.4.13 ====  *In order to remove the established AS session, the SCS/AS shall send an HTTP DELETE message to the SCEF for the "Individual AS Session with Required QoS Subscription" resource. After receiving the HTTP DELETE message, the SCEF shall remove all properties and interact with the PCRF to terminate the Rx session (as defined in 3GPP TS 29.214 [10] or 3GPP TS 29.201 [13]). After receiving the response from the PCRF, the SCEF shall send an HTTP response to the SCS/AS with a corresponding status code and include the accumulated usage (if received from the PCRF).*  However, the HTTP DELETE response only support 204 No Content without any paypoad. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | * Coorect subclause 4.4.4, that in the HTTP DELETE response, not only 204 No Content can be provided; * Define a new response code 200 OK with a data type to include the accumulated usage (if received) for ChargeableParty API and AsSessionWithQoS API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The SCS/AS can’t received the accumulated usage if removal of the established AS session. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.4.4; 5.5.3.3.3.5; 5.14.3.3.3.5; A.5; A.14 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 introduces backward compatible corrections on the OpenAPI files for ChargeableParty API and AsSessionWithQoS API.  This CR is not an exact mirror as it use UserPlaneNotificationData not NotificationData in subclauses 5.14.3.3.3.5 and A.14. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**…**

**Proposed changes:**

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

### 4.4.4 Procedures for changing the chargeable party at session set up or during the session

This procedure is used by an SCS/AS to either request to sponsor the traffic from the beginning or to request becoming the chargeable party at a later point in time via the T8 interface.

When setting up the connection between the AS and UE via the SCEF, the SCS/AS shall send an HTTP POST request to the SCEF for the "Chargeable Party Transactions" resource requesting to become the chargeable party for the session to be set up. The body of the HTTP POST message shall include SCS/AS Identifier, UE IP address, IP Flow description, Sponsor ID, ASP ID, Sponsoring Status, notification destination URI identifying the recipient of notification within the "notificationDestination" attribute and may include time period and/or traffic volume used for sponsoring. The SCS/AS may also request to activate a previously selected policy of background data transfer by including Reference ID in the body of the HTTP POST message.

After receiving the HTTP POST message, if the authorization performed by the SCEF is successful, the SCEF shall act as an AF to interact with the PCRF via the Rx interface as defined in 3GPP TS 29.214 [10] or 3GPP TS 29.201 [13] to trigger a PCRF initiated IP-CAN Session Modification. The SCEF may map the SCS/AS Identifier to AF Application Identifier and may request to be notified about the traffic plane status. If the time period and/or traffic volume are received from the AF, the SCEF should subscribe to the PCRF on the USAGE\_REPORT event.

After receiving a successful response from the PCRF, the SCEF shall create a resource "Individual Chargeable Party Transaction", which represents the chargeable party transaction, addressed by a URI that contains the SCS/AS identity and an SCEF-created transaction identifier, and shall respond to the SCS/AS with a 201 Created message, including a Location header field containing the URI for the created resource. The SCS/AS shall use the URI received in the Location header in subsequent requests to the SCEF to refer to this chargeable party transaction. If the SCEF receives a response with an error code from the PCRF, the SCEF shall not create the resource and respond to the SCS/AS with a status code set to 500 Internal Server Error.

In order to update the sponsoring status of an established AS session, the SCS/AS shall send an HTTP PATCH message to the SCEF for the "Individual Chargeable Party Transaction" resource requesting to change Sponsoring Status. When receiving the HTTP PATCH message, the SCEF shall make the change and interact with the PCRF to modify the Rx session as defined in 3GPP TS 29.214 [10] or 3GPP TS 29.201 [13]. After receiving the response with successful result code from the PCRF, the SCEF shall send an HTTP response to the SCS/AS with a 200 OKstatus code and the result in the body of the HTTP response. The accumulated usage received from the PCRF shall be included if the SCS/AS requested to disable the sponsoring. If the SCEF receives a response with an error code from the PCRF, the SCEF shall not update the resource and respond to the SCS/AS with a status code set to 500 Internal Server Error.

If the SCEF receives a traffic plane notification (e.g. the usage threshold is reached or transmission resource lost), or if the SCEF gets informed that the Rx session is terminated (e.g. due to a release of PDN connection), the SCEF shall send an HTTP POST message including the notified event (e.g. session terminated) and the accumulated usage to the SCS/AS identified by the notification destination URI received during session setting up. The SCS/AS shall respond with an HTTP response to confirm the received notification.

In order to remove the established AS session, the SCS/AS shall send an HTTP DELETE message to the SCEF for the "Individual Chargeable Party Transaction" resource. After receiving the HTTP DELETE message, the SCEF shall remove all properties of the resource and interact with the PCRF to terminate the Rx session (as defined in 3GPP TS 29.214 [10] or 3GPP TS 29.201 [13]). After receiving the response from the PCRF, the SCEF shall send an HTTP response to the SCS/AS with a corresponding status code and the accumulated usage (if received from the PCRF).

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

###### 5.5.3.3.3.5 DELETE

The DELETE method allows to delete an active chargeable party transaction resource and to terminate the related chargeable party transaction. The SCS/AS shall initiate the HTTP DELETE request message and the SCEF shall respond to the message.

This method shall support request and response data structures, and response codes, as specified in the table 5.5.3.3.3.5-1.

Table 5.5.3.3.3.5-1.: Data structures supported by the DELETE request/response by the resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Request body | Data type | Cardinality | Remarks | |
| none |  |  | |
| Response body | Data type | Cardinality | Response  codes | Remarks |
| none |  | 204 No Content | The subscription was deleted successfully. |
| NotificationData | 1 | 200 OK | The subscription was deleted successfully. The notification data shall be included in the response. |
| NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.6-1 also apply. | | | | |

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

###### 5.14.3.3.3.5 DELETE

The DELETE method deletes the AsSessionWithQoSSubscription resource and terminates the related subscription. The SCS/AS shall initiate the HTTP DELETE request message and the SCEF shall respond to the message.

This method shall support the URI query parameters, request and response data structures, and response codes, as specified in the table 5.14.3.3.3.5-1 and table 5.14.3.3.3.5-2.

Table 5.14.3.3.3.5-1: URI query parameters supported by the DELETE method on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Data type | Cardinality | Remarks |
|  |  |  |  |

Table 5.14.3.3.3.5-2: Data structures supported by the DELETE request/response by the resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Request body | Data type | Cardinality | Remarks | |
| none |  |  | |
| Response body | Data type | Cardinality | Response  codes | Remarks |
| none |  | 204 No Content | The subscription was terminated successfully.  The response body shall be empty. |
| UserPlaneNotifcationData | 1 | 200 OK | The subscription was terminated successfully. The user plane notification data shall be included in the response. |
| NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.6-1 also apply. | | | | |

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

## A.5 ChargeableParty API

openapi: 3.0.0

info:

title: 3gpp-chargeable-party

version: 1.1.0

description: |

API for Chargeable Party management.

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externalDocs:

description: 3GPP TS 29.122 V16.6.0 T8 reference point for Northbound APIs

url: 'http://www.3gpp.org/ftp/Specs/archive/29\_series/29.122/'

security:

- {}

- oAuth2ClientCredentials: []

servers:

- url: '{apiRoot}/3gpp-chargeable-party/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

paths:

/{scsAsId}/transactions:

get:

summary: Read all chargeable party transaction resources for a given SCS/AS

tags:

- Chargeable Party Transaction Operation

parameters:

- name: scsAsId

in: path

description: Identifier of SCS/AS

required: true

schema:

type: string

responses:

'200':

description: OK (successful query of Chargeable Party resource)

content:

application/json:

schema:

type: array

items:

$ref: '#/components/schemas/ChargeableParty'

minItems: 0

description: individual BDT policy subscription.

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

post:

summary: Create a new chargeable party transaction resource

tags:

- Chargeable Party Transaction Operation

parameters:

- name: scsAsId

in: path

description: Identifier of SCS/AS

required: true

schema:

type: string

requestBody:

description: representation of the Chargeable Party resource to be Created in the SCEF

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/ChargeableParty'

callbacks:

eventNotification:

'{$request.body#/notificationDestination}':

post:

requestBody: # contents of the callback message

required: true

content:

application/json:

schema:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/NotificationData'

responses:

'200':

description: OK (The successful acknowledgement of the notification with a body)

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

responses:

'201':

description: successful creation of a chargeable party resource

content:

application/json:

schema:

$ref: '#/components/schemas/ChargeableParty'

headers:

Location:

description: 'Contains the URI of the newly created resource'

required: true

schema:

type: string

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/{scsAsId}/transactions/{transactionId}:

get:

summary: read a chargeable party resource for a given SCS/AS and a transaction Id

tags:

- Individual chargeable party resource Operation

parameters:

- name: scsAsId

in: path

description: Identifier of SCS/AS

required: true

schema:

type: string

- name: transactionId

in: path

description: Identifier of transaction

required: true

schema:

type: string

responses:

'200':

description: OK (successful query of a chargeable party resource)

content:

application/json:

schema:

$ref: '#/components/schemas/ChargeableParty'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

patch:

summary: Updates a existing chargeable party resource for a given SCS/AS and transaction Id.

tags:

- Individual chargeable party resource Operation

parameters:

- name: scsAsId

in: path

description: Identifier of SCS/AS

required: true

schema:

type: string

- name: transactionId

in: path

description: Identifier of transaction

required: true

schema:

type: string

requestBody:

description: representation of the chargeable party resource to be udpated in the SCEF

required: true

content:

application/merge-patch+json:

schema:

$ref: '#/components/schemas/ChargeablePartyPatch'

responses:

'200':

description: successful update of a chargeable party resource

content:

application/json:

schema:

$ref: '#/components/schemas/ChargeableParty'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

delete:

summary: deletes a chargeable party resource for a given SCS/AS and a transcation Id.

tags:

- Individual chargeable party resource Operation

parameters:

- name: scsAsId

in: path

description: Identifier of SCS/AS

required: true

schema:

type: string

- name: transactionId

in: path

description: Identifier of transaction

required: true

schema:

type: string

responses:

'204':

description: successful deletion of an resouce of chargeable party

'200':

description: OK (Successful deletion of the existing subscription)

content:

application/json:

schema:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/NotificationData'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{tokenUrl}'

scopes: {}

schemas:

ChargeableParty:

type: object

properties:

self:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Link'

supportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

notificationDestination:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Link'

requestTestNotification:

type: boolean

description: Set to true by the SCS/AS to request the SCEF to send a test notification as defined in subclause 5.2.5.3. Set to false or omitted otherwise.

websockNotifConfig:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/WebsockNotifConfig'

ipv4Addr:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Ipv4Addr'

ipv6Addr :

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Ipv6Addr'

macAddr:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/MacAddr48'

flowInfo:

type: array

items:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/FlowInfo'

minItems: 1

description: Describes the application flows.

ethFlowInfo:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'

minItems: 1

description: Identifies Ethernet packet flows.

sponsorInformation:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/SponsorInformation'

sponsoringEnabled:

type: boolean

description: Indicates sponsoring status.

referenceId:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/BdtReferenceId'

usageThreshold:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/UsageThreshold'

required:

- notificationDestination

- sponsorInformation

- sponsoringEnabled

ChargeablePartyPatch:

type: object

properties:

flowInfo:

type: array

items:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/FlowInfo'

minItems: 1

description: Describes the application flows.

ethFlowInfo:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'

minItems: 1

description: Identifies Ethernet packet flows.

sponsoringEnabled:

type: boolean

description: Indicates sponsoring status.

referenceId:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/BdtReferenceId'

usageThreshold:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/UsageThresholdRm'

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

## A.14 AsSessionWithQoS API

openapi: 3.0.0

info:

title: 3gpp-as-session-with-qos

version: 1.1.0

description: |

API for setting us an AS session with required QoS.

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externalDocs:

description: 3GPP TS 29.122 V16.6.0 T8 reference point for Northbound APIs

url: 'http://www.3gpp.org/ftp/Specs/archive/29\_series/29.122/'

security:

- {}

- oAuth2ClientCredentials: []

servers:

- url: '{apiRoot}/3gpp-as-session-with-qos/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

paths:

/{scsAsId}/subscriptions:

get:

summary: read all of the active subscriptions for the SCS/AS

tags:

- AsSessionWithQoS API SCS/AS level GET Operation

parameters:

- name: scsAsId

in: path

description: Identifier of the SCS/AS

required: true

schema:

type: string

responses:

'200':

description: OK.

content:

application/json:

schema:

type: array

items:

$ref: '#/components/schemas/AsSessionWithQoSSubscription'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

post:

summary: Creates a new subscription resource

tags:

- AsSessionWithQoS API Subscription level POST Operation

parameters:

- name: scsAsId

in: path

description: Identifier of the SCS/AS

required: true

schema:

type: string

requestBody:

description: Request to create a new subscription resource

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/AsSessionWithQoSSubscription'

callbacks:

notificationDestination:

'{request.body#/notificationDestination}':

post:

requestBody: # contents of the callback message

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/UserPlaneNotificationData'

responses:

'204':

description: No Content (successful notification)

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

responses:

'201':

description: Created (Successful creation of subscription)

content:

application/json:

schema:

$ref: '#/components/schemas/AsSessionWithQoSSubscription'

headers:

Location:

description: 'Contains the URI of the newly created resource'

required: true

schema:

type: string

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/{scsAsId}/subscriptions/{subscriptionId}:

get:

summary: read an active subscriptions for the SCS/AS and the subscription Id

tags:

- AsSessionWithQoS API Subscription level GET Operation

parameters:

- name: scsAsId

in: path

description: Identifier of the SCS/AS

required: true

schema:

type: string

- name: subscriptionId

in: path

description: Identifier of the subscription resource

required: true

schema:

type: string

responses:

'200':

description: OK (Successful get the active subscription)

content:

application/json:

schema:

$ref: '#/components/schemas/AsSessionWithQoSSubscription'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

put:

summary: Updates/replaces an existing subscription resource

tags:

- AsSessionWithQoS API subscription level PUT Operation

parameters:

- name: scsAsId

in: path

description: Identifier of the SCS/AS

required: true

schema:

type: string

- name: subscriptionId

in: path

description: Identifier of the subscription resource

required: true

schema:

type: string

requestBody:

description: Parameters to update/replace the existing subscription

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/AsSessionWithQoSSubscription'

responses:

'200':

description: OK (Successful update of the subscription)

content:

application/json:

schema:

$ref: '#/components/schemas/AsSessionWithQoSSubscription'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

patch:

summary: Updates/replaces an existing subscription resource

tags:

- AsSessionWithQoS API subscription level PATCH Operation

parameters:

- name: scsAsId

in: path

description: Identifier of the SCS/AS

required: true

schema:

type: string

- name: subscriptionId

in: path

description: Identifier of the subscription resource

required: true

schema:

type: string

requestBody:

required: true

content:

application/merge-patch+json:

schema:

$ref: '#/components/schemas/AsSessionWithQoSSubscriptionPatch'

responses:

'200':

description: OK. The subscription was modified successfully.

content:

application/json:

schema:

$ref: '#/components/schemas/AsSessionWithQoSSubscription'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

delete:

summary: Deletes an already existing subscription

tags:

- AsSessionWithQoS API Subscription level DELETE Operation

parameters:

- name: scsAsId

in: path

description: Identifier of the SCS/AS

required: true

schema:

type: string

- name: subscriptionId

in: path

description: Identifier of the subscription resource

required: true

schema:

type: string

responses:

'204':

description: No Content (Successful deletion of the existing subscription)

'200':

description: OK (Successful deletion of the existing subscription)

content:

application/json:

schema:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/UserPlaneNotificationData'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{tokenUrl}'

scopes: {}

schemas:

AsSessionWithQoSSubscription:

type: object

properties:

self:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Link'

supportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

notificationDestination:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Link'

flowInfo:

type: array

items:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/FlowInfo'

minItems: 1

description: Describe the data flow which requires QoS.

ethFlowInfo:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'

minItems: 1

description: Identifies Ethernet packet flows.

qosReference:

type: string

description: Identifies a pre-defined QoS information

altQoSReferences:

type: array

items:

type: string

minItems: 1

description: Identifies an ordered list of pre-defined QoS information. The lower the index of the array for a given entry, the higher the priority.

ueIpv4Addr:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Ipv4Addr'

ueIpv6Addr:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Ipv6Addr'

macAddr:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/MacAddr48'

usageThreshold:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/UsageThreshold'

sponsorInfo:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/SponsorInformation'

qosMonInfo:

$ref: '#/components/schemas/QosMonitoringInformation'

requestTestNotification:

type: boolean

description: Set to true by the SCS/AS to request the SCEF to send a test notification as defined in subclause 5.2.5.3. Set to false or omitted otherwise.

websockNotifConfig:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/WebsockNotifConfig'

required:

- notificationDestination

AsSessionWithQoSSubscriptionPatch:

type: object

properties:

flowInfo:

type: array

items:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/FlowInfo'

minItems: 1

description: Describe the data flow which requires QoS.

ethFlowInfo:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'

minItems: 1

description: Identifies Ethernet packet flows.

qosReference:

type: string

description: Pre-defined QoS reference

altQoSReferences:

type: array

items:

type: string

minItems: 1

description: Identifies an ordered list of pre-defined QoS information. The lower the index of the array for a given entry, the higher the priority.

usageThreshold:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/UsageThresholdRm'

qosMonInfo:

$ref: '#/components/schemas/QosMonitoringInformationRm'

QosMonitoringInformation:

type: object

properties:

reqQosMonParams:

type: array

items:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/RequestedQosMonitoringParameter'

minItems: 1

repFreqs:

type: array

items:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/ReportingFrequency'

minItems: 1

repThreshDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uinteger'

repThreshUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uinteger'

repThreshRp:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uinteger'

waitTime:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DurationSec'

repPeriod:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DurationSec'

required:

- reqQoSMonParams

- reqFreqs

QosMonitoringInformationRm:

type: object

properties:

reqQosMonParams:

type: array

items:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/RequestedQosMonitoringParameter'

minItems: 1

repFreqs:

type: array

items:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/ReportingFrequency'

minItems: 1

repThreshDl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UintegerRm'

repThreshUl:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UintegerRm'

repThreshRp:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/UintegerRm'

waitTime:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DurationSecRm'

repPeriod:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DurationSecRm'

QosMonitoringReport:

type: object

properties:

ulDelays:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uinteger'

minItems: 1

dlDelays:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uinteger'

minItems: 1

rtDelays:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uinteger'

minItems: 1

UserPlaneNotificationData:

type: object

properties:

transaction:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Link'

eventReports:

type: array

items:

$ref: '#/components/schemas/UserPlaneEventReport'

minItems: 1

description: Contains the reported event and applicable information

required:

- transaction

- eventReports

UserPlaneEventReport:

type: object

properties:

event:

$ref: '#/components/schemas/UserPlaneEvent'

accumulatedUsage:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/AccumulatedUsage'

flowIds:

type: array

items:

type: integer

minItems: 1

description: Identifies the IP flows that were sent during event subscription

appliedQosRef:

type: string

description: The currently applied QoS reference. Applicable for event QOS\_NOT\_GUARANTEED.

qosMonReports:

type: array

items:

$ref: '#/components/schemas/QosMonitoringReport'

minItems: 1

description: Contains the QoS Monitoring Reporting information

required:

- event

UserPlaneEvent:

anyOf:

- type: string

enum:

- SESSION\_TERMINATION

- LOSS\_OF\_BEARER

- RECOVERY\_OF\_BEARER

- RELEASE\_OF\_BEARER

- USAGE\_REPORT

- FAILED\_RESOURCES\_ALLOCATION

- QOS\_GUARANTEED

- QOS\_NOT\_GUARANTEED

- QOS\_MONITORING

- type: string

description: >

This string provides forward-compatibility with future

extensions to the enumeration but is not used to encode

content defined in the present version of this API.

description: >

Possible values are

- SESSION\_TERMINATION: Indicates that Rx session is terminated.

- LOSS\_OF\_BEARER : Indicates a loss of a bearer.

- RECOVERY\_OF\_BEARER: Indicates a recovery of a bearer.

- RELEASE\_OF\_BEARER: Indicates a release of a bearer.

- USAGE\_REPORT: Indicates the usage report event.

- FAILED\_RESOURCES\_ALLOCATION: Indicates the resource allocation is failed.

- QOS\_GUARANTEED: The QoS targets of one or more SDFs are guaranteed again.

- QOS\_NOT\_GUARANTEED: The QoS targets of one or more SDFs are not being guaranteed.

- QOS\_MONITORING: Indicates a QoS monitoring event.

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