**3GPP TSG- WG3 Meeting # *r1***

**Xiamen, China, 9 - 13 October, 2023**

|  |
| --- |
| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **29.122** | **CR** | **0772** | **rev** | **-** | **Current version:** | **18.3.0** |  |
|  |
| *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:***  | Add validityTime to AppExpUeBehaviour Data Type in CpProvisioning API |
|  |  |
| ***Source to WG:*** | Ericsson |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | AIMLsys |  | ***Date:*** | 2023-09-27 |
|  |  |  |  |  |
| ***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 canbe 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:*** | In TS 23.502 clause 4.15.6.3f, the description was updated to:"When AF provisions the Application-Specific Expected UE Behaviour parameters, the AF shall provide application traffic descriptors (i.e. the corresponding Packet Filters or Application ID). Each parameter within the Application-Specific Expected UE Behaviour shall have an associated validity time and may have a confidence and/or accuracy level associated with it as defined in the clause 4.15.6.2 and clause 4.15.6.3."This CR proposes to add "validityTime" to the "AppExpUeBehaviour" Data Type and update the CpProvisioning API, to align with the changes in stage 2. |
|  |  |
| ***Summary of change:*** | The changes include:* Corrected editorial errors in clause 5.10.2.2.2.
* Added "validityTime" attribute to the "AppExpUeBehaviour" Data Type in clause 5.10.2.2.6.
* Added NOTE 1 to Table 5.10.2.2.6-1.
* Updated the corresponding place of the CpProvisioning API in A.10.
 |
|  |  |
| ***Consequences if not approved:*** | Misalignment with stage 2 for the AppExpUeBehaviour Data Type in the CpProvisioning API. |
|  |  |
| ***Clauses affected:*** | 5.10.2.2.2, 5.10.2.2.6, A.10 |
|  |  |
|  | **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 backwards compatible feature to the CpProvisioning API. |
|  |  |
| ***This CR's revision history:*** |  |

**Additional discussion(if needed):**

**Proposed changes:**

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

##### 5.10.2.2.2 Type: CpParameterSet

This data type represents an offered communication pattern parameter set sent from the SCC/AS to the SCEF.

Table 5.10.2.2.2-1: Definition of type CpParameterSet

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | Cardinality | Description | Applicability (NOTE 1) |
| setId | string | 1 | SCS/AS-chosen correlator provided by the SCS/AS in the request to create a resource fo CP parameter set(s).(NOTE 4) |  |
| self | Link | 0..1 | Link to the resource "Individual CP set Provisioning". This parameter shall be supplied by the SCEF in HTTP responses. |  |
| validityTime | DateTime | 0..1 | Identifies when the CP parameter set expires and shall be deleted. If absent, it indicates that there is no expiration time for this CP parameter set. |  |
| periodicCommunicationIndicator | CommunicationIndicator | 0..1 | Identifies whether UE communicates periodically or on demand. |  |
| communicationDurationTime | DurationSec | 0..1 | Identifies duration time of periodic communication. |  |
| periodicTime | DurationSec | 0..1 | Identifies interval time of periodic communication. |  |
| scheduledCommunicationTime | ScheduledCommunicationTime | 0..1 | Identifies time zone and day of the week when the UE is available for communication. |  |
| scheduledCommunicationType | ScheduledCommunicationType | 0..1 | Indicates the Scheduled Communication Type.May only be present if the "scheduledCommunicationTime" attribute is provided. | ScheduledCommType\_5G |
| stationaryIndication | StationaryIndication | 0..1 | Identifies whether the UE is stationary or mobile. |  |
| batteryInds | array(BatteryIndication) | 0..N | Indicates the power consumption type(s) of the UE.(NOTE 3) |  |
| trafficProfile | TrafficProfile | 0..1 | Identifies the type of data transmission. |  |
| expectedUmts | array(UmtLocationArea5G) | 0..N | Identifies the UE's expected geographical movement. The attribute is only applicable in 5G.(NOTE 2) | ExpectedUMT\_5GExpectedUmtTime\_5G |
| expectedUmtDays | DayOfWeek | 0..6 | Identifies the day of the week. If absent, it indicates every day of the week. | ExpectedUmtTime\_5G |
| expectedUmtDaysAdd | array(DayOfWeek) | 0..5 | Identifies the additional day(s) of the week.(NOTE 5) | ExpectedUmtTime\_Add |
| appExpUeBehvs | array(AppExpUeBehaviour) | 0..N | Contains the Application Specific Expected UE Behaviour parameters. | AppExpUeBehaviour |
| confidenceLevel | string | 0..1 | When present, this IE indicates the Confidence level for the associated Expected UE Behaviour parameter.The value shall be between 0.01 and 1.00 with a step size of 0.01, represented as string.If not present, confidence level 1.00 applies.Pattern: '^[0]\.[0-9]{2}|[1.00]$' | ConfAccuLevels |
| accuracyLevel | string | 0..1 | When present, this IE indicates the accuracy level for the associated Expected UE Behaviour parameter.The value shall be between 0.01 and 1.00 with a step size of 0.01, represented as string.If not present, accuracy level 1.00 applies.Pattern: '^[0]\.[0-9]{2}|[1.00]$' | ConfAccuLevels |
| NOTE 1: Properties marked with a feature as defined in clause 5.10.4 are applicable as described in clause 5.2.7. If no features are indicated, the related property applies for all the features.NOTE 2: The first instance of the attribute represents the start of the location, and the last one represents the stop of the location. NOTE 3: If "BATTERY\_RECHARGE" is provided, "BATTERY\_NO\_RECHARGE" shall not be provided simultaneously, vice versa; If "BATTERY\_REPLACE" is provided, "BATTERY\_NO\_REPLACE" shall not be provided simultaneously, vice versa; If "NO\_BATTERY" is provided, any value indicating UE powered with battery shall not be provided simultaneously, vice versa. NOTE 4: A setId can only belong to one "Individual CP Provisioning Subscription" resource.NOTE 5: The "expectedUmtDaysAdd" attribute may only be provided to indicate the additional day(s) if the "expectedUmtDays" attribute is also provided. |

\*\*\* 2nd Change \*\*\*

##### 5.10.2.2.6 Type: AppExpUeBehaviour

Table 5.10.2.2.6-1: Definition of type AppExpUeBehaviour

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| appId | string | C | 0..1 | Indicates the Application Identifier.(NOTE 1) |  |
| expPduSesInacTm | TimeWindow | O | 0..1 | Identifies the expected PDU Session Inactivity time during which the UE will not have traffic related to the application. |  |
| flowDescriptions | array(string) | C | 0..N | Represents a 3-tuple with protocol, server ip and server port for UL/DL application traffic. The content of the string has the same encoding as the IPFilterRule AVP value as defined in IETF RFC 6733 [46].(NOTE 1) |  |
| confidenceLevel | string | O | 0..1 | When present, this IE indicates the Confidence level for the associated Application-Specific Expected UE Behaviour parameter.The value shall be between 0.01 and 1.00 with a step size of 0.01, represented as string.If not present, confidence level 1.00 applies.Pattern: '^[0]\.[0-9]{2}|[1.00]$' | ConfAccuLevels |
| accuracyLevel | string | O | 0..1 | When present, this IE indicates the accuracy level for the associated Application-Specific Expected UE Behaviour parameter.The value shall be between 0.01 and 1.00 with a step size of 0.01, represented as string.If not present, accuracy level 1.00 applies.Pattern: '^[0]\.[0-9]{2}|[1.00]$' | ConfAccuLevels |
| validityTime | DateTime | O | 0..1 | Identifies when the Application-Specific Expected UE Behaviour parameter expires.If absent, the value of the "validityTime" attribute in the higher-level "CpParameterSet" data type shall be used.(NOTE 2) |  |
| NOTE 1: One of the "appId" attribute or "flowDescriptions" attribute shall be included.NOTE 2: The attribute if provided, take precedence over the "validityTime" attribute in the higher-level "CpParameterSet" data type. |

\*\*\* 3rd Change \*\*\*

# A.10 CpProvisioning API

openapi: 3.0.0

info:

 title: 3gpp-cp-parameter-provisioning

 version: 1.3.0-alpha.3

 description: |

 API for provisioning communication pattern parameters.

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externalDocs:

 description: 3GPP TS 29.122 V18.3.0 T8 reference point for Northbound APIs

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

security:

 - {}

 - oAuth2ClientCredentials: []

servers:

 - url: '{apiRoot}/3gpp-cp-parameter-provisioning/v1'

 variables:

 apiRoot:

 default: https://example.com

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

paths:

 /{scsAsId}/subscriptions:

 get:

 parameters:

 - name: scsAsId

 in: path

 description: Identifier of the SCS/AS as defined in clause 5.2.4 of 3GPP TS 29.122.

 required: true

 schema:

 type: string

 summary: Read all active CP parameter provisioning subscription resources for a given SCS/AS.

 operationId: FetchAllCPProvisioningSubscriptions

 tags:

 - CP provisioning Subscriptions

 responses:

 '200':

 description: OK. The subscription information related to the request URI is returned.

 content:

 application/json:

 schema:

 type: array

 items:

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

 minItems: 0

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '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:

 parameters:

 - name: scsAsId

 in: path

 description: Identifier of the SCS/AS as defined in clause 5.2.4 of 3GPP TS 29.122.

 required: true

 schema:

 type: string

 summary: Create a new subscription resource of provisioning CP parameter set(s).

 operationId: CreateCPProvisioningSubscription

 tags:

 - CP provisioning Subscriptions

 requestBody:

 description: >

 Create new subscriptions for a given SCS/AS and the provisioning CP parameter sets.

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: >

 Created. The subscription was created successfully. The SCEF shall return the created

 subscription in the response payload body.

 content:

 application/json:

 schema:

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

 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':

 description: >

 The CP parameters for all sets were not created successfully. CpReport may be included

 with detailed information.

 content:

 application/json:

 schema:

 type: array

 items:

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

 minItems: 1

 application/problem+json:

 schema:

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

 '503':

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

 default:

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

 /{scsAsId}/subscriptions/{subscriptionId}:

 get:

 parameters:

 - name: scsAsId

 in: path

 description: Identifier of the SCS/AS as defined in clause 5.2.4 of 3GPP TS 29.122.

 required: true

 schema:

 type: string

 - name: subscriptionId

 in: path

 description: Subscription ID

 required: true

 schema:

 type: string

 summary: Read a CP parameter provisioning subscription resource.

 operationId: FetchIndCPProvisioningSubscription

 tags:

 - Individual CP Provisioning Subscription

 responses:

 '200':

 description: OK. The subscription information related to the request URI is returned.

 content:

 application/json:

 schema:

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

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '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: Modify a CP parameter provisioning subscription resource.

 operationId: UpdateIndCPProvisioningSubscription

 tags:

 - Individual CP Provisioning Subscription

 requestBody:

 description: Modify a CP parameter provisioning subscription resource.

 required: true

 content:

 application/json:

 schema:

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

 parameters:

 - name: scsAsId

 in: path

 description: Identifier of the SCS/AS as defined in clause 5.2.4 of 3GPP TS 29.122.

 required: true

 schema:

 type: string

 - name: subscriptionId

 in: path

 description: Subscription ID

 required: true

 schema:

 type: string

 responses:

 '200':

 description: >

 OK. The subscription was modified successfully. The SCEF shall return an updated

 subscription in the response payload body.

 content:

 application/json:

 schema:

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

 '204':

 description: >

 No Content. The subscription was modified successfully and no content is to be sent

 in the response message body.

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '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':

 description: >

 The CP parameters for all sets were not updated successfully. CpReport may be included

 with detailed information.

 content:

 application/json:

 schema:

 type: array

 items:

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

 minItems: 1

 application/problem+json:

 schema:

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

 '503':

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

 default:

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

 delete:

 parameters:

 - name: scsAsId

 in: path

 description: Identifier of the SCS/AS as defined in clause 5.2.4 of 3GPP TS 29.122.

 required: true

 schema:

 type: string

 - name: subscriptionId

 in: path

 description: Subscription ID

 required: true

 schema:

 type: string

 summary: Delete a CP parameter provisioning subscription resource.

 operationId: DeleteIndCPProvisioningSubscription

 tags:

 - Individual CP Provisioning Subscription

 responses:

 '204':

 description: >

 No Content. The subscription was deleted successfully. The payload body shall be empty.

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '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'

 /{scsAsId}/subscriptions/{subscriptionId}/cpSets/{setId}:

 get:

 parameters:

 - name: scsAsId

 in: path

 description: Identifier of the SCS/AS as defined in clause 5.2.4 of 3GPP TS 29.122.

 required: true

 schema:

 type: string

 - name: subscriptionId

 in: path

 description: Subscription ID

 required: true

 schema:

 type: string

 - name: setId

 in: path

 description: Identifier of the CP parameter set

 required: true

 schema:

 type: string

 summary: Read CP at individual CP set(s) level associated with a CP parameter set Id.

 operationId: FetchIndCPSetProvisioning

 tags:

 - Individual CP set Provisioning

 responses:

 '200':

 description: OK. The subscription information related to the request URI is returned.

 content:

 application/json:

 schema:

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

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '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: Update CP at individual CP set(s) level associated with a CP parameter set Id.

 operationId: UpdateIndCPSetProvisioning

 tags:

 - Individual CP set Provisioning

 requestBody:

 description: Change information for a CP parameter set.

 required: true

 content:

 application/json:

 schema:

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

 parameters:

 - name: scsAsId

 in: path

 description: Identifier of the SCS/AS as defined in clause 5.2.4 of 3GPP TS 29.122.

 required: true

 schema:

 type: string

 - name: subscriptionId

 in: path

 description: Subscription ID

 required: true

 schema:

 type: string

 - name: setId

 in: path

 description: Identifier of the CP parameter set

 required: true

 schema:

 type: string

 responses:

 '200':

 description: >

 OK. The CP parameter set resource was modified successfully. The SCEF shall return an

 updated CP parameter set resource in the response payload body.

 content:

 application/json:

 schema:

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

 '204':

 description: >

 No Content. The CP parameter set resource was modified successfully and no content

 is to be sent in the response message body.

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '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'

 '409':

 description: The CP parameters for the CP set were not updated successfully.

 content:

 application/json:

 schema:

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

 application/problem+json:

 schema:

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

 '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':

 description: The CP parameters for the CP set were not updated successfully.

 content:

 application/json:

 schema:

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

 application/problem+json:

 schema:

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

 '503':

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

 default:

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

 delete:

 parameters:

 - name: scsAsId

 in: path

 description: Identifier of the SCS/AS as defined in clause 5.2.4 of 3GPP TS 29.122.

 required: true

 schema:

 type: string

 - name: subscriptionId

 in: path

 description: Subscription ID

 required: true

 schema:

 type: string

 - name: setId

 in: path

 description: Identifier of the CP parameter set

 required: true

 schema:

 type: string

 summary: Delete CP at individual CP set(s) level associated with a CP parameter set Id.

 operationId: DeleteIndCPSetProvisioning

 tags:

 - Individual CP set Provisioning

 responses:

 '204':

 description: >

 No Content. The subscription was deleted successfully. The payload body shall be empty.

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '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:

 CpInfo:

 description: Represents the resources for communication pattern parameter provisioning.

 type: object

 properties:

 self:

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

 supportedFeatures:

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

 mtcProviderId:

 type: string

 description: Identifies the MTC Service Provider and/or MTC Application.

 dnn:

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

 externalId:

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

 msisdn:

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

 externalGroupId:

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

 cpParameterSets:

 type: object

 additionalProperties:

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

 minProperties: 1

 description: >

 Identifies a set of CP parameter information that may be part of this CpInfo structure.

 Any string value can be used as a key of the map.

 cpReports:

 type: object

 additionalProperties:

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

 minProperties: 1

 description: >

 Supplied by the SCEF and contains the CP set identifiers for which CP parameter(s) are

 not added or modified successfully. The failure reason is also included. Each element

 provides the related information for one or more CP set identifier(s) and is identified

 in the map via the failure identifier as key.

 readOnly: true

 snssai:

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

 ueIpAddr:

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

 ueMacAddr:

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

 required:

 - cpParameterSets

 oneOf:

 - required: [externalId]

 - required: [msisdn]

 - required: [externalGroupId]

 CpParameterSet:

 description: Represents an offered communication pattern parameter set.

 type: object

 properties:

 setId:

 type: string

 description: >

 SCS/AS-chosen correlator provided by the SCS/AS in the request to create a resource

 for CP parameter set(s).

 self:

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

 validityTime:

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

 periodicCommunicationIndicator:

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

 communicationDurationTime:

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

 periodicTime:

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

 scheduledCommunicationTime:

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

 scheduledCommunicationType:

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

 stationaryIndication:

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

 batteryInds:

 type: array

 items:

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

 minItems: 1

 trafficProfile:

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

 expectedUmts:

 type: array

 items:

 $ref: '#/components/schemas/UmtLocationArea5G'

 minItems: 1

 description: >

 Identifies the UE's expected geographical movement. The attribute is only applicable

 in 5G.

 expectedUmtDays:

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

 expectedUmtDaysAdd:

 type: array

 items:

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

 minItems: 1

 maxItems: 5

 description: Identifies the additional day(s) of the week.

 appExpUeBehvs:

 type: array

 items:

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

 minItems: 1

 description: Contains the Application Specific Expected UE Behaviour parameters.

 confidenceLevel:

 type: string

 pattern: '^[0]\.[0-9]{2}|[1.00]$'

 accuracyLevel:

 type: string

 pattern: '^[0]\.[0-9]{2}|[1.00]$'

 required:

 - setId

 ScheduledCommunicationTime:

 description: Represents an offered scheduled communication time.

 type: object

 properties:

 daysOfWeek:

 type: array

 items:

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

 minItems: 1

 maxItems: 6

 description: >

 Identifies the day(s) of the week. If absent, it indicates every day of the week.

 timeOfDayStart:

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

 timeOfDayEnd:

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

 CpReport:

 description: >

 Represents a CP report indicating the CP set identifier(s) which CP parameter(s) are not

 added or modified successfully and the corresponding failure cause(s).

 type: object

 properties:

 setIds:

 type: array

 items:

 type: string

 minItems: 1

 description: >

 Identifies the CP set identifier(s) which CP parameter(s) are not added or modified

 successfully

 failureCode:

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

 required:

 - failureCode

 UmtLocationArea5G:

 description: Represents the user location area describing the UE moving trajectory.

 allOf:

 - $ref: 'TS29122\_CommonData.yaml#/components/schemas/LocationArea5G'

 - type: object

 properties:

 umtTime:

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

 umtDuration:

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

 AppExpUeBehaviour:

 description: Contains the Application Specificf Expected UE Behaviour parameters.

 type: object

 properties:

 appId:

 type: string

 description: Indicates the Application Identifier.

 expPduSesInacTm:

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

 flowDescriptions:

 type: array

 items:

 type: string

 minItems: 1

 description: >

 Represents a 3-tuple with protocol, server ip and server port for UL/DL application

 traffic. The content of the string has the same encoding as the IPFilterRule AVP

 value as defined in IETF RFC 6733.

 confidenceLevel:

 type: string

 pattern: '^[0]\.[0-9]{2}|[1.00]$'

 accuracyLevel:

 type: string

 pattern: '^[0]\.[0-9]{2}|[1.00]$'

 validityTime:

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

 oneOf:

 - required: [appId]

 - required: [flowDescriptions]

 CommunicationIndicator:

 anyOf:

 - type: string

 enum:

 - PERIODICALLY

 - ON\_DEMAND

 - 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: |

 Represents the type of the communication.

 Possible values are:

 - PERIODICALLY: Identifies the UE communicates periodically

 - ON\_DEMAND: Identifies the UE communicates on demand

 StationaryIndication:

 anyOf:

 - type: string

 enum:

 - STATIONARY

 - MOBILE

 - 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: |

 Represents the stationarity of the UE.

 Possible values are:

 - STATIONARY: Identifies the UE is stationary

 - MOBILE: Identifies the UE is mobile

 CpFailureCode:

 anyOf:

 - type: string

 enum:

 - MALFUNCTION

 - SET\_ID\_DUPLICATED

 - OTHER\_REASON

 - CONFIDENCE\_LEVEL\_NOT\_SUFFICIENT

 - ACCURACY\_LEVEL\_NOT\_SUFFICIENT

 - 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: |

 Represents the failure reason of the CP parameter provisioning.

 Possible values are

 - MALFUNCTION: This value indicates that something functions wrongly in CP parameter provisioning or the CP parameter provisioning does not function at all.

 - SET\_ID\_DUPLICATED: The received CP set identifier(s) are already provisioned.

 - OTHER\_REASON: Other reason unspecified.

 - CONFIDENCE\_LEVEL\_NOT\_SUFFICIENT: The received confidence level for the expected UE parameter is not sufficient.

 - ACCURACY\_LEVEL\_NOT\_SUFFICIENT: The received accuracy level for the expected UE parameter is not sufficient.

 BatteryIndication:

 anyOf:

 - type: string

 enum:

 - BATTERY\_RECHARGE

 - BATTERY\_REPLACE

 - BATTERY\_NO\_RECHARGE

 - BATTERY\_NO\_REPLACE

 - NO\_BATTERY

 - 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: |

 Represents the type of power consumption.

 Possible values are:

 - BATTERY\_RECHARGE: UE powered with rechargeable battery.

 - BATTERY\_REPLACE: UE powered with replaceable battery.

 - BATTERY\_NO\_RECHARGE: UE powered with no rechargeable battery.

 - BATTERY\_NO\_REPLACE: UE powered with no replaceable battery.

 - NO\_BATTERY: UE not battery powered.

 TrafficProfile:

 anyOf:

 - type: string

 enum:

 - SINGLE\_TRANS\_UL

 - SINGLE\_TRANS\_DL

 - DUAL\_TRANS\_UL\_FIRST

 - DUAL\_TRANS\_DL\_FIRST

 - MULTI\_TRANS

 - 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: |

 Represents the type of data transmission.

 Possible values are:

 - SINGLE\_TRANS\_UL: Uplink single packet transmission.

 - SINGLE\_TRANS\_DL: Downlink single packet transmission.

 - DUAL\_TRANS\_UL\_FIRST: Dual packet transmission, firstly uplink packet transmission with

 subsequent downlink packet transmission.

 - DUAL\_TRANS\_DL\_FIRST: Dual packet transmission, firstly downlink packet transmission with

 subsequent uplink packet transmission.

 - MULTI\_TRANS: Multiple packet transmission.

 ScheduledCommunicationType:

 anyOf:

 - type: string

 enum:

 - DOWNLINK

 - UPLINK

 - BIDIRECTIONAL

 - 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: |

 Represents the type of scheduled communication.

 Possible values are:

 - DOWNLINK: Downlink only.

 - UPLINK: Uplink only.

 - BIDIRECTIONAL: Bi-directional.

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