**3GPP TSG-CT WG3 Meeting #108-eC3-201114**

[**E-Meeting**](https://www.3gpp.org/ftp/tsg_ct/WG3_interworking_ex-CN3/TSGC3_108_Sophia_Antipolis/)**, 19th -28th February 2020 (Revision of C3-201xyz)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.522** | **CR** | **0124** | **rev** | **-** | **Current version:** | **16.2.0** |  |
|  | | | | | | | | |
| *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:*** | OpenAPI file of Nnef\_ServiceParameter Service | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eV2XARC | | | | |  | ***Date:*** | | | 2020-02-28 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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:*** | | Nnef\_ServiceParameter service is defined in stage 2 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Define the OpenAPI file of the Nnef\_ServiceParameter service. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Feature is not supported | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | A.x (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 a backwards compatible feature to the OpenAPI file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

# A.x ServiceParameter API

openapi: 3.0.0

info:

title: 3gpp-service-parameter

version: 0.0.0.alpha-1

description: |

API for AF service paramter

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externalDocs:

description: 3GPP TS 29.522 V16.2.0; 5G System; Network Exposure Function Northbound APIs.

url: 'http://www.3gpp.org/ftp/Specs/archive/29\_series/29.522/'

security:

- {}

- oAuth2ClientCredentials: []

servers:

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

variables:

apiRoot:

default: https://example.com

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

paths:

/{afId}/subscriptions:

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

get:

summary: read all of the active subscriptions for the AF

tags:

- ServiceParameter API SCS/AS level GET Operation

responses:

'200':

description: OK.

content:

application/json:

schema:

type: array

items:

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

'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:

- ServiceParameter API Subscription level POST Operation

requestBody:

description: Request to create a new subscription resource

required: true

content:

application/json:

schema:

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

responses:

'201':

description: Created (Successful creation of subscription)

content:

application/json:

schema:

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

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'

/{afId}/subscriptions/{subscriptionId}:

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

- name: subscriptionId

in: path

description: Identifier of the subscription resource

required: true

schema:

type: string

get:

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

tags:

- ServiceParameter API Subscription level GET Operation

responses:

'200':

description: OK (Successful get the active subscription)

content:

application/json:

schema:

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

'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:

- TrafficInfluence API subscription level PUT Operation

requestBody:

description: Parameters to update/replace the existing subscription

required: true

content:

application/json:

schema:

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

responses:

'200':

description: OK (Successful update of the subscription)

content:

application/json:

schema:

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

'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:

- ServiceParameter API subscription level PATCH Operation

requestBody:

required: true

content:

application/merge-patch+json:

schema:

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

responses:

'200':

description: OK. The subscription was modified successfully.

content:

application/json:

schema:

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

'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:

- ServiceParameter API Subscription level DELETE Operation

responses:

'204':

description: No Content (Successful deletion of the existing 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'

'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:

ServiceParameterData:

type: object

properties:

afServiceId:

type: string

description: Identifies a service on behalf of which the AF is issuing the request.

appId:

type: string

description: Identifies an application.

dnn:

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

snssai:

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

externalGroupId:

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

anyUeInd:

type: boolean

description: Identifies whether the AF request applies to any UE. This attribute shall set to "true" if applicable for any UE, otherwise, set to "false".

gpsi:

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

ueIpv4:

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

ueIpv6:

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

ueMac:

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

self:

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

paramOverPc5:

$ref: '#/components/schemas/ParameterOverPc5'

paramOverUu:

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

suppFeat:

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

ServiceParameterDataPatch:

type: object

properties:

paramOverPc5:

$ref: '#/components/schemas/ParameterOverPc5Rm'

ParamOverUu:

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

ParameterOverPc5:

type: object

properties:

expiry:

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

plmmRatServed:

type: array

items:

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

minItems: 1

authNotServed:

type: boolean

radioParamsNotServed:

type: array

items:

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

minItems: 1

serToTx:

type: array

items:

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

minItems: 1

privacyParams:

type: array

items:

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

minItems: 1

configParaEutra:

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

configParaNr:

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

ParameterOverUu:

type: object

properties:

expiry:

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

serToPduSess:

type: array

items:

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

minItems: 1

serToAppAddr:

type: array

items:

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

minItems: 1

PlmnRatServed:

type: object

properties:

plmn:

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

rats:

type: array

items:

$ref: '#/components/schemas/V2xRatType'

required:

- plmn

- rats RadioParameterNotServed:

type: object

properties:

radioParams:

type: string

rat:

$ref: '#/components/schemas/V2xRatType'

geographicalArea:

type: string

operManaged:

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

required:

- radioParams

- geographicalArea

- operManaged

- rat

ServiceToTx:

type: object

properties:

serIds:

type: array

items:

type: string

minItems: 1

txProfile:

type: string

rat:

$ref: '#/components/schemas/V2xRatType'

required:

- serIds

- txProfile

- rat

PrivacyParameter:

type: object

properties:

serIds:

type: array

items:

type: string

minItems: 1

geographicalArea:

type: string

timer:

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

required:

- serIds

- geographicalArea

- timer

ConfigurationParameterEutra:

type: object

properties:

serToLayer2Ids:

type: array

items:

$ref: '#/components/schemas/ServiceIdToLayer2Id'

minItems: 1

ppppToPdbs:

type: array

items:

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

minItems: 1

serIdToFrequs:

type: array

items:

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

minItems: 1

serIdToPpprs:

type: array

items:

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

minItems: 1

ConfigurationParameterNr:

type: object

properties:

serToBroLayer2Ids:

type: array

items:

$ref: '#/components/schemas/ServiceIdToLayer2Id'

minItems: 1

serToGroLayer2Ids:

type: array

items:

$ref: '#/components/schemas/ServiceIdToLayer2Id'

minItems: 1

serToDefLayer2Ids:

type: array

items:

$ref: '#/components/schemas/ServiceIdToLayer2Id'

minItems: 1

serIdToFrequs:

type: array

items:

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

minItems: 1

pc5QosMappings:

type: array

items:

$ref: '#/components/schemas/Pc5QosMapping'

minItems: 1

slrbConfigs

type: array

items:

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

minItems: 1

ServiceIdToLayer2Id

type: object

properties:

serIds:

type: array

items:

type: string

minItems: 1

desLayer2Id:

type: string

required:

- serIds

- desLayer2Id

ppppToPdb

type: object

properties:

pppp:

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

minimum: 1

maximum: 8

pdb:

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

required:

- pppp

- pdb

ServiceIdToFrequency

type: object

properties:

serIds:

type: array

items:

type: string

minItems: 1

frequency:

type: number

geographicalArea:

type: string

required:

- serIds

- frequency

- geopraphicalArea

ServiceIdToPppr

type: object

properties:

serIds:

type: array

items:

type: string

minItems: 1

pppr:

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

minimum: 1

maximum: 8

required:

- serIds

- pppr

Pc5QosMapping

type: object

properties:

serIds:

type: array

items:

type: string

minItems: 1

pc5QoSFlowParam:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Pc5QoSFlowItem'

required:

- serIds

- pc5QosFlowParam

SlrbConfigurations

type: object

properties:

pc5QosPara:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Pc5QosPara'

slrb:

type: string

required:

- pc5QosPara

- slrb

ServiceToPduSession

type: object

properties:

serIds:

type: array

items:

type: string

minItems: 1

pduSessionType:

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

sscMode:

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

sliceInfo:

type: array

items:

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

minItems: 1

dnns:

type: array

items:

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

minItems: 1

required:

- serIds

ServiceToApplicationServerAddress

type: object

properties:

serIds:

type: array

items:

type: string

minItems: 1

fqdn:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/Fqdn'

Ipv4Addrs:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

minItems: 1

Ipv6Addrs:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

minItems: 1

udpPortNumbers:

type: array

items:

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

minItems: 1

tcpPortNumbers:

type: array

items:

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

minItems: 1

plmns:

type: array

items:

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

geopraphicalArea:

type: string

required:

- serIds

- plmns

- geographicalArea

OperatorManaged:

anyOf:

- type: string

enum:

- OPERATOR\_MANAGED

- NON\_OPERATOR\_MANAGED

- type: string

description: >

Possible values are

- OPERATOR\_MANAGED: The radio parameters are "operator managed".

- NON\_OPERATOR\_MANAGED: The radio parameters are "non-operator managed".

V2xRatType:

anyOf:

- type: string

enum:

- PC5\_LTE

- PC5\_NR

- type: string

description: >

Possible values are

- PC5\_LTE: Indicates the LTE RAT type over PC5 interface..

- PC5\_NR: Indicates the NR RAT type over NR interface.

\*\*\* End of Change \*\*\*