**3GPP TSG CT WG3 Meeting #137 *C3-245095***

**Hefei, CN, 14th – 18th October, 2024**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.522** | **CR** | **1362** | **rev** | **-** | **Current version:** | **19.0.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | 5G Femto parameter provision open API | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia, ZTE | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5G\_Femto | | | | |  | ***Date:*** | | | 2024-10-07 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Stage-2 (SA2) agreed CR related to 5G Femto parameters provisioning with S2-2409520 (CR#4987).  Accordingly, a new clause for the procedure describing the 5G Femto parameters provisioning is defined.  A new API – FemtoParamProvision API is defined for this purpose and  the Nnef\_ParameterProvision service defined in stage-2 procedure shall use the FemtoParamProvision API for:  - 5G Femto Parameters provisioning. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Open API for the 5G Femto parameter provisioning is defined. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Missing stage-3 implementation for the agreed Stage-2 requirements related to 5G Femto parameters provision feature. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | A.36 (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 new backward compatible feature support with new open API – FemtoParamProvision API | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

# A.36 FemtoParamProvision API

openapi: 3.0.0

info:

title: 3gpp-femto-pp

version: 1.0.0

description: |

API for 5G Femto Parameters Provisioning.

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externalDocs:

description: >

3GPP TS 29.522 V19.0.0; 5G System; Network Exposure Function Northbound APIs.

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

security:

- {}

- oAuth2ClientCredentials: []

servers:

- url: '{apiRoot}/3gpp-femto-pp/v1'

variables:

apiRoot:

default: https://example.com

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

paths:

/pp:

get:

summary: Request to retrieve all the active Femto Parameters Provisionings at the NEF.

operationId: GetFemtoParamProvisionings

tags:

- Femto Parameters Provisionings (Collection)

responses:

'200':

description: >

OK. All the active Femto Parameters Provisioning resources managed by the

NEF are returned.

content:

application/json:

schema:

type: array

items:

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

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:

summary: Request the creation of a new Femto Parameters Provisioning.

tags:

- Femto Parameters Provisionings (Collection)

operationId: CreateFemtoParamProvisioning

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'201':

description: >

Created. Successful creation of a new Individual Femto Parameters Provisioning

resource.

content:

application/json:

schema:

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

headers:

Location:

description: >

Contains the URI of the newly created resource, according to the structure

{apiRoot}/3gpp-femto-pp/v1/pp/{ppId}

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'

/pp/{ppId}:

parameters:

- name: ppId

in: path

description: >

Represents the identifier of the Individual Femto Parameters Provisioning resource.

required: true

schema:

type: string

get:

summary: Request to retrieve an existing Individual Femto Parameters Provisioning resource.

operationId: GetIndFemtoParamProvisioning

tags:

- Individual Femto Parameters Provisioning (Document)

responses:

'200':

description: >

OK. The requested "Individual Femto Parameters Provisioning" resource is successfully

returned in the response body.

content:

application/json:

schema:

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

'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: Request to update an existing Individual Femto Parameters Provisioning resource.

operationId: UpdateIndFemtoParamProvisioning

tags:

- Individual Femto Parameters Provisioning (Document)

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'200':

description: >

OK. The Individual Femto Parameters Provisioning resource is successfully updated

and a representation of the updated resource is returned in the response body.

content:

application/json:

schema:

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

'204':

description: >

No Content. The Individual Femto Parameters Provisioning resource is successfully

updated and no content is returned in the response 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':

$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: Request the modification of an existing Individual Femto Parameters Provisioning resource.

operationId: ModifyIndFemtoParamProvisioning

tags:

- Individual Femto Parameters Provisioning (Document)

requestBody:

required: true

content:

application/merge-patch+json:

schema:

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

responses:

'200':

description: >

OK. The Individual Femto Parameters Provisioning resource is successfully modified

and a representation of the updated resource is returned in the response body.

content:

application/json:

schema:

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

'204':

description: >

No Content. The Individual Femto Parameters Provisioning resource is successfully

modified and no content is returned in the response 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':

$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: Request the deletion of an existing Individual Femto Parameters Provisioning resource.

operationId: DeleteIndFemtoParamProvisioning

tags:

- Individual Femto Parameters Provisioning (Document)

responses:

'204':

description: >

No Content. The Individual Femto Parameters Provisioning resource is successfully

deleted.

'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:

#

# STRUCTURED DATA TYPES

#

FemtoPpData:

description: Represents the Femto Parameters Provisioning data.

type: object

properties:

afId:

type: string

femtoInfos:

type: array

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

minProperties: 1

description: >

Contains the Femto information to be provisioned.

suppFeat:

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

required:

- afId

FemtoPpDataPatch:

description: >

Represents the requested modifications to an existing Femto Parameters Provisioning

data.

type: object

properties:

femtoInfos:

type: array

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

minProperties: 1

description: >

Contains the Femto information to be provisioned.

#

# SIMPLE DATA TYPES

#

#

# ENUMERATIONS

#

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