**3GPP TSG-CT3 Meeting #114e C3-211526**

**E-Meeting, 24th February – 05th March 2021**

|  |
| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  |
| *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:***  | Update of OpenAPI version and TS version in externalDocs field |
|  |  |
| ***Source to WG:*** | China Mobile Communications Group Co.,Ltd |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | TEI16 |  | ***Date:*** | 2021-03-09 |
|  |  |  |  |  |
| ***Category:*** | F |  | ***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 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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | CRs modifying Nbsf\_Management API have been agreed and the version number of the corresponding OpenAPI file thus needs to be incremented following the rules in TS 29.501, subclause 4.3.1.The following agreed CRs update the Nbsf\_Management API for the present release:- TS 29.521 CR #0094 is a backward compatible corrrection in Rel-16.As the present release is frozen, and all the changes are backward compatible corrections, only the PATCH field needs to be increased.Since a new TS version will be provided with changes to the OpenAPI specification file, the TS version number included in the "description" field of the "externalDocs" object also needs to be updated. |
|  |  |
| ***Summary of change:*** | The Nbsf\_Management API version incremented from value "1.1.0" to value "1.1.1".The TS version number in the "description" field of the "externalDocs" object is changed to "16.7.0". |
|  |  |
| ***Consequences if not approved:*** | Incorrect API version number and incorrect TS version number in the "description" field of the "externalDocs" object. |
|  |  |
| ***Clauses affected:*** | A.2 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  |  |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  |  |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  |  |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** | This CR introduces backward compatible changes to Nbsf\_Management API |
|  |  |
| ***This CR's revision history:*** |  |

**Additional discussion(if needed):**

**…**

**Proposed changes:**

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

# A.2 Nbsf\_Management API

openapi: 3.0.0

info:

 version: 1.1.1

 title: Nbsf\_Management

 description: |

 Binding Support Management Service API.

 © 2020, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).

 All rights reserved.

externalDocs:

 description: 3GPP TS 29.521 V16.7.0; 5G System; Binding Support Management Service.

 url: 'http://www.3gpp.org/ftp/Specs/archive/29\_series/29.521/'

servers:

 - url: '{apiRoot}/nbsf-management/v1'

 variables:

 apiRoot:

 default: https://example.com

 description: apiRoot as defined in subclause 4.4 of 3GPP TS 29.501.

security:

 - {}

 - oAuth2ClientCredentials:

 - nbsf-management

paths:

 /pcfBindings:

 post:

 summary: Create a new Individual PCF binding information

 operationId: CreatePCFBinding

 tags:

 - PCF Bindings (Collection)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: The creation of an individual PCF session binding.

 content:

 application/json:

 schema:

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

 headers:

 Location:

 description: 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/nbsf-management/v1/pcfBindings/{bindingId}'

 required: true

 schema:

 type: string

 '400':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/401'

 '403':

 description: The existing PCF binding information stored in the BSF for the indicated combination is returned.

 content:

 application/json:

 schema:

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

 '404':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29571\_CommonData.yaml#/components/responses/default'

 get:

 summary: Read PCF Bindings information

 operationId: GetPCFBindings

 tags:

 - PCF Bindings (Collection)

 parameters:

 - name: ipv4Addr

 in: query

 description: The IPv4 Address of the served UE.

 required: false

 schema:

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

 - name: ipv6Prefix

 in: query

 description: The IPv6 Address of the served UE. The NF service consumer shall append '/128' to the IPv6 address in the attribute value. E.g. '2001:db8:85a3::8a2e:370:7334/128'.

 required: false

 schema:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

 - name: macAddr48

 in: query

 description: The MAC Address of the served UE.

 required: false

 schema:

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

 - name: dnn

 in: query

 description: DNN.

 required: false

 schema:

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

 - name: supi

 in: query

 description: Subscription Permanent Identifier.

 required: false

 schema:

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

 - name: gpsi

 in: query

 description: Generic Public Subscription Identifier

 required: false

 schema:

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

 - name: snssai

 in: query

 description: The identification of slice.

 required: false

 content:

 application/json:

 schema:

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

 - name: ipDomain

 in: query

 description: The IPv4 address domain identifier.

 required: false

 schema:

 type: string

 - name: supp-feat

 in: query

 description: To filter irrelevant responses related to unsupported features

 schema:

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

 responses:

 '200':

 description: The individual PCF session binding session binding information resource matching the query parameter(s) is returned.

 content:

 application/json:

 schema:

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

 '204':

 description: There is no PCF session binding information matching the query parameter(s).

 '400':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/404'

 '406':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/406'

 '414':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/414'

 '429':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29571\_CommonData.yaml#/components/responses/default'

 /pcfBindings/{bindingId}:

 delete:

 summary: Delete an existing Individual PCF Binding information

 operationId: DeleteIndPCFBinding

 tags:

 - Individual PCF Binding (Document)

 parameters:

 - name: bindingId

 in: path

 description: Represents the individual PCF Session Binding.

 required: true

 schema:

 type: string

 responses:

 '204':

 description: No Content. The Individual PCF session binding information resource is deleted.

 '400':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/404'

 '429':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29571\_CommonData.yaml#/components/responses/default'

 patch:

 summary: Update an existing Individual PCF Binding information

 operationId: UpdateIndPCFBinding

 tags:

 - Individual PCF Binding (Document)

 parameters:

 - name: bindingId

 in: path

 description: Represents the individual PCF Session Binding.

 required: true

 schema:

 type: string

 requestBody:

 description: Parameters to update the existing session binding

 required: true

 content:

 application/merge-patch+json:

 schema:

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

 responses:

 '200':

 description: OK (Successful update of the session binding)

 content:

 application/json:

 schema:

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

 '400':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29571\_CommonData.yaml#/components/responses/default'

components:

 securitySchemes:

 oAuth2ClientCredentials:

 type: oauth2

 flows:

 clientCredentials:

 tokenUrl: '{nrfApiRoot}/oauth2/token'

 scopes:

 nbsf-management: Access to the Nbsf\_Management API

 schemas:

 PcfBinding:

 type: object

 properties:

 supi:

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

 gpsi:

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

 ipv4Addr:

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

 ipv6Prefix:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

 addIpv6Prefixes:

 type: array

 items:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

 minItems: 1

 description: The additional IPv6 Address Prefixes of the served UE.

 ipDomain:

 type: string

 macAddr48:

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

 addMacAddrs:

 type: array

 items:

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

 minItems: 1

 description: The additional MAC Addresses of the served UE.

 dnn:

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

 pcfFqdn:

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

 pcfIpEndPoints:

 type: array

 items:

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

 minItems: 1

 description: IP end points of the PCF hosting the Npcf\_PolicyAuthorization service.

 pcfDiamHost:

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

 pcfDiamRealm:

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

 pcfSmFqdn:

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

 pcfSmIpEndPoints:

 type: array

 items:

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

 minItems: 1

 description: IP end points of the PCF hosting the Npcf\_SMPolicyControl service.

 snssai:

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

 suppFeat:

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

 pcfId:

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

 pcfSetId:

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

 recoveryTime:

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

 paraCom:

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

 bindLevel:

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

 ipv4FrameRouteList:

 type: array

 items:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4AddrMask'

 minItems: 1

 ipv6FrameRouteList:

 type: array

 items:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

 minItems: 1

 required:

 - dnn

 - snssai

 oneOf:

 - anyOf:

 - required: [ipv4Addr]

 - required: [ipv6Prefix]

 - required: [addIpv6Prefixes]

 - anyOf:

 - required: [macAddr48]

 - required: [addMacAddrs]

 anyOf:

 - anyOf:

 - required: [pcfFqdn]

 - required: [pcfIpEndPoints]

 - required: [pcfDiamHost, pcfDiamRealm]

 PcfBindingPatch:

 type: object

 properties:

 ipv4Addr:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4AddrRm'

 ipDomain:

 type: string

 nullable: true

 ipv6Prefix:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6PrefixRm'

 addIpv6Prefixes:

 type: array

 items:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

 minItems: 1

 description: The additional IPv6 Address Prefixes of the served UE.

 nullable: true

 macAddr48:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/MacAddr48Rm'

 addMacAddrs:

 type: array

 items:

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

 minItems: 1

 description: The additional MAC Addresses of the served UE.

 nullable: true

 pcfId:

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

 pcfFqdn:

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

 pcfIpEndPoints:

 type: array

 items:

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

 minItems: 1

 description: IP end points of the PCF hosting the Npcf\_PolicyAuthorization service.

 pcfDiamHost:

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

 pcfDiamRealm:

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

 ParameterCombination:

 type: object

 properties:

 supi:

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

 dnn:

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

 snssai:

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

 ExtProblemDetails:

 allOf:

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

 - $ref: '#/components/schemas/BindingResp'

 BindingResp:

 type: object

 properties:

 pcfSmFqdn:

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

 pcfSmIpEndPoints:

 type: array

 items:

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

 minItems: 1

 description: IP end points of the PCF hosting the Npcf\_SMPolicyControl service.

 BindingLevel:

 anyOf:

 - type: string

 enum:

 - NF\_SET

 - NF\_INSTANCE

 - 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

 - "NF\_SET"

 - "NF\_INSTANCE"

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