**3GPP TSG-CT WG3 Meeting #135 *C3-24XXXX***

**Hyderabad, India, 27 - 31 May 2024**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.435** | **CR** | **0003** | **rev** | **3** | **Current version:** | **18.0.0** |  |
|  | | | | | | | | |
| *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:*** | Slice API management API (YAML) | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Lenovo | | | | | | | | | |
| ***Source to TSG:*** | C3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NSCALE | | | | |  | ***Date:*** | | | 2024-04-01 |
|  |  | | | |  | |  | | |  |
| ***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 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:*** | | Clause 9.3 of TS 23.435 has specified a feature for slice API configuration and translation. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Proposed NSCE\_SliceApiManagement API format definition implements YAML for slice API configuration and translation as defined in clause 9.3 of TS 23.435. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Stage 3 is not in accordance with stage 2. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | A.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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's revision history:*** | |  | | | | | | | | |

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

# A.2 NSCE\_SliceApiManagement API

openapi: 3.0.0

info:

title: NSCE\_Server\_Slice API Management

version: 1.0.0-alpha.1

description: |

NSCE Server Slice API Management Service.

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externalDocs:

description: >

3GPP TS 29.435 V18.1.0; Service Enabler Architecture Layer for Verticals (SEAL);

Network Slice Capability Exposure (NSCE) Server Services; Stage 3.

url: http://www.3gpp.org/ftp/Specs/archive/29\_series/29.435/

servers:

- url: '{apiRoot}/nsce-sam/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in clause 6.5 of 3GPP TS 29.549

security:

- {}

- oAuth2ClientCredentials: []

paths:

/configuration:

post:

summary: Create a slice API management configuration.

operationId: SliceAPIMamgtConfiguration

tags:

- Slice API management Configuration (Collection)

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'201':

description: >

Created. The slice API management configuration request was successfully created

and representation of the created Individual Slice API Management Configuration is

returned in the response body.

content:

application/json:

schema:

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

headers:

Location:

description: >

Contains the URI of the created Individual Network Slice Configuration 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'

callbacks:

SlApiCnf:

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

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: >

No Content. Notification for the slice API information was successfully

received and processed.

'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'

/configuration/{configurationId}:

parameters:

- name: configurationId

in: path

description: >

Represents the identifier of the Individual Slice API Management Configuration.

required: true

schema:

type: string

get:

description: >

Request to retrieve an existing Individual Slice API Management Configuration

resource.

operationId: GetIndivSliceSub

tags:

- Individual Slice API Management Configuration (Document)

responses:

'200':

description: >

OK. The requested Individual slice API management configuration resource shall be

returned in the response body.

content:

application/json:

schema:

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

'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'

delete:

description: Deletes an existing Individual Slice API Management Configuration.

operationId: DeleteIndSliceMgmtSub

tags:

- Individual Slice API Management Configuration (Document)

responses:

'204':

description: >

No Content. The Individual Slice API Management Configuration resource was

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'

/configuration/{configurationId}/update:

post:

summary: Request to update an existing individual slice API configuration.

operationId: UpdSliceApiConfig

tags:

- Update slice API configuration

parameters:

- name: configurationId

in: path

description: >

Represents the identifier of the Individual Slice API Management Configuration.

required: true

schema:

type: string

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'200':

description: >

OK. The slice API configuration update request was successfully received and

processed, and slice API configuration update related information shall be returned

in the response body.

content:

application/json:

schema:

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

'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'

/invoke:

post:

summary: Enables a service consumer to request for slice API invocation.

operationId: Invoke

tags:

- Invoke

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: >

No Content. The slice API invocation request is successfully received and processed.

'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'

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{tokenUrl}'

scopes: {}

schemas:

#

# STRUCTURED DATA TYPES

#

SlApiMgmtCnf:

description: >

Represents the slice API management configuration request.

type: object

properties:

notifUri:

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

servReqs:

type: array

items:

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

minItems: 1

timeValidity:

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

suppFeat:

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

required:

- notifUri

- servReqs

UpdSlApiReq:

description: >

Represents the slice API configuration update request.

type: object

properties:

trigEvnt:

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

netSliceId:

$ref: 'TS29435\_NSCE\_PolicyManagement.yaml#/components/schemas/NetSliceId'

suppFeat:

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

required:

- trigEvnt

UpdSlApiResp:

description: >

Represents the response to the slice API configuration update resquest.

type: object

properties:

slApiInfo:

type: string

suppFeat:

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

required:

- slApiInfo

InvokeReq:

description: >

Represents the slice for which, the API invocation is requested.

type: object

properties:

slApiId:

type: string

required:

- slApiId

SlApiCnf:

description: >

Represents the slice API configuration information.

type: object

properties:

slApiCnf:

type: string

required:

- slApiCnf

ServiceReq:

description: >

Represents the application service requirements related to a network slice.

type: object

properties:

valServId:

type: string

netSliceId:

$ref: 'TS29435\_NSCE\_PolicyManagement.yaml#/components/schemas/NetSliceId'

appQoSReqs:

$ref: 'TS29435\_NSCE\_InterPLMNContinuity.yaml#/components/schemas/AppReqs'

servProfile:

type: array

items:

$ref: 'TS29435\_NSCE\_SliceCommServic.yaml#/components/schemas/ServReq'

minItems: 1

areaOfInterest:

$ref: 'TS29435\_NSCE\_NSInfoDelivery.yaml#/components/schemas/ServArea'

required:

- valServId

- netSliceId

# SIMPLE DATA TYPES

#

#

# ENUMERATIONS

#

TriggerEvent:

anyOf:

- type: string

enum:

- UE\_MOBILITY

- MIGRATION

- SERV\_API\_UNAVAILABILITY

- APP\_QOS\_REQ\_CHANGE

- type: string

description: >

This string provides the triggering event for slice API configuration update.

description: |

Represents a trigger event.

Possible values are:

- UE\_MOBILITY: Indicates triggering event for slice API configuration update is

UE mobility to a different service area.

- MIGRATION: Indicates triggering event for slice API configuration update is

application server migration to a different edge/cloud platform.

- SERV\_API\_UNAVAILABILITY: Indicateds triggering event for slice API configuration

update is service API unavailability.

- APP\_QOS\_REQ\_CHANGE: Indicateds triggering event for slice API configuration update

is VAL application QoS requirements change.

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