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

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

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.435** | **CR** | **0002** | **rev** | **4** | **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 definition | | | | | | | | | |
|  |  | | | | | | | | | |
| ***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 implements 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:*** | | 6.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \* \* \* \*

## 6.1 NSCE\_SliceApiManagement API

### 6.1.1 Introduction

The NSCE\_SliceApiManagement service shall use the NSCE\_SliceApiManagement API.

The API URI of the NSCE\_SliceApiManagement Service API shall be:

**{apiRoot}/<apiName>/<apiVersion>**

The request URIs used in HTTP requests shall have the Resource URI structure defined in clause 6.5 of 3GPP TS 29.549 [15], i.e.:

**{apiRoot}/<apiName>/<apiVersion>/<apiSpecificSuffixes>**

with the following components:

- The {apiRoot} shall be set as described in clause 6.5 of 3GPP TS 29.549 [15].

- The <apiName>shall be "nsce-sam".

- The <apiVersion> shall be "v1".

- The <apiSpecificSuffixes> shall be set as described in clause 6.5 of 3GPP TS 29.549 [15].

NOTE: When 3GPP TS 29.122 [2] is referenced for the common protocol and interface aspects for API definition in the clauses under clause 6.14, the NSCE Server takes the role of the SCEF and the service consumer takes the role of the SCS/AS.

### 6.1.2 Usage of HTTP

The provisions of clause 6.3 of 3GPP TS 29.549 [15] shall apply for the NSCE\_SliceApiManagement API.

### 6.1.3 Resources

#### 6.1.3.1 Overview

This clause describes the structure for the Resource URIs and the resources and methods used for the service.

Figure 6.1.3.1-1 depicts the resource URIs structure for the NSCE\_SliceApiManagement API.



Figure 6.1.3.1-1: Resource URIs structure of the NSCE\_SliceApiManagement API

Table 6.1.3.1-1 provides an overview of the resources and applicable HTTP methods for the NSCE\_SliceApiManagement API.

Table 6.1.3.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method or custom operation | Description |
| Slice API Management Configuration | /configuration | POST | Providing VAL application requirement to request for creation of a slice API management configuration. |
| Individual Slice API Management C | /configuration/{configurationId} | GET | Requesting to retrieve an existing slice API management configuration. |
| DELETE | Requesting to delete an existing slice API management configuration. |
| Update | Requesting to update an existing slice API management configuration. |

#### 6.1.3.2 Resource: Slice API Management Configuration

##### 6.1.3.2.1 Description

This resource represents the collection of Slice API Management Configuration managed by the NSCE Server.

##### 6.1.3.2.2 Resource Definition

Resource URI: {**apiRoot**}/**nsce-sam**/<**apiVersion**>/configuration

This resource shall support the resource URI variables defined in table 6.1.3.2.2-1.

Table 6.1.3.2.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 6.1.1 |

##### 6.1.3.2.3 Resource Standard Methods

###### 6.1.3.2.3.1 POST

The HTTP POST method enables a service consumer to request the NSCE server to create Slice API Management Configuration.

This method shall support the URI query parameters specified in table 6.1.3.2.3.1-1.

Table 6.1.3.2.3.1-1: URI query parameters supported by the POST method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| n/a |  |  |  |  |

This method shall support the request data structures specified in table 6.1.3.2.3.1-2 and the response data structures and response codes specified in table 6.1.3.2.3.1-3.

Table 6.1.3.2.3.1-2: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| SlApiMgmtCnf | M | 1 | Represents the parameters to request for creation of Slice API Management Configuration. |

Table 6.1.3.2.3.1-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| SlApiMgmtCnf | M | 1 | 201 Created | Successful case. The Slice API Management Configuration request is successfully created and a representation of the created "Individual Slice API Management Configuration" resource shall be returned in the response body.  An HTTP "Location" header that contains the URI of the created resource shall also be included. |
| NOTE: The mandatory HTTP error status codes for the HTTP POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] shall also apply. | | | | |

Table 6.1.3.2.3.1-4: Headers supported by the 201 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains the URI of the newly created resource, according to the structure: {apiRoot}/nsce-sam/<apiVersion>/configuration/{configurationId} |

##### 6.1.3.2.4 Resource Custom Operations

There are no resource custom operations defined for this resource in this release of the specification.

#### 6.1.3.3 Resource: Individual Slice API Management

##### 6.1.3.3.1 Description

This resource represents an individual Slice API Management Configuration, managed by the NCSE server.

##### 6.1.3.3.2 Resource Definition

Resource URI: {**apiRoot**}/**nsce-sam**/<**apiVersion**>/**configuration/{configurationId}**

This resource shall support the resource URI variables defined in table 6.1.3.3.2-1.

Table 6.1.3.3.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 6.1.1 |
| configurationId | string | Represents the identifier of the "Individual Slice API Management Configuration" resource. |

##### 6.1.3.3.3 Resource Standard Methods

###### 6.1.3.3.3.1 GET

The HTTP GET method allows a service consumer to request the NSCE Server to retrieve an existing "Individual Slice API Management Configuration" resource.

This method shall support the URI query parameters specified in table 6.1.3.3.3.1-1.

Table 6.1.3.3.3.1-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| n/a |  |  |  |  |

This method shall support the request data structures specified in table 6.1.3.3.3.1-2 and the response data structures and response codes specified in table 6.1.3.3.3.1-3.

Table 6.1.3.3.3.1-2: Data structures supported by the GET Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| n/a | M |  |  |

Table 6.1.3.2.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| SlApiMgmtCnf | M | 1 | 200 OK | Successful case. The requested "Individual Slice API Management Configuration" resource shall be returned in the response body. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.  The response shall include a Location header field containing an alternative URI of the resource located in an alternative NSCE Server.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.  The response shall include a Location header field containing an alternative URI of the resource located in an alternative NSCE Server.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| NOTE: The mandatory HTTP error status codes for the HTTP GET method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] shall also apply. | | | | |

Table 6.1.3.3.3.1-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative NSCE Server. |

Table 6.1.3.3.3.1-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative NSCE Server. |

###### 6.1.3.3.3.2 DELETE

The HTTP DELETE method allows a service consumer to request the NSCE Server, the deletion of an existing "Individual Slice API Management Configuration" resource.

This method shall support the URI query parameters specified in table 6.1.3.3.3.2-1.

Table 6.1.3.3.3.2-1: URI query parameters supported by the DELETE method on this resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description | Applicability |
| n/a |  |  |  |  |  |

This method shall support the request data structures specified in table 6.1.3.3.3.2-2 and the response data structures and response codes specified in table 6.1.3.3.3.2-3.

Table 6.1.3.3.3.2-2: Data structures supported by the DELETE Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| n/a |  |  |  |

Table 6.1.3.3.3.2-3: Data structures supported by the DELETE Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| n/a |  |  | 204 No Content | Successful case. The "Individual Slice API Management Configuration" resource was successfully deleted. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.  The response shall include a Location header field containing an alternative URI of the resource located in an alternative NSCE Server.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.  The response shall include a Location header field containing an alternative URI of the resource located in an alternative NSCE Server.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| NOTE: The mandatory HTTP error status codes for the HTTP DELETE method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] shall also apply. | | | | |

Table 6.1.3.3.3.2-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative NSCE Server. |

Table 6.1.3.3.3.2-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative NSCE Server. |

##### 6.1.3.3.4 Resource Custom Operations

###### 6.1.3.3.4.1 Overview

Table 6.1.3.3.4.1-1 specifies the custom operations defined on this resource.

Table 6.1.3.3.4.1-1: Resource Custom Operations

|  |  |  |  |
| --- | --- | --- | --- |
| Operation name | Custom operaration URI | Mapped HTTP method | Description |
| Update | /configuration/{configurationId}/update | POST | Enables a service consumer to request to update for an existing slice API configuration. |

###### 6.1.3.3.4.2 Operation: Update

6.1.3.3.4.2.1 Description

This resource custom operation enables a service consumer to request the NSCE Server to update of an existing slice API configuration.

6.1.3.3.4.2.2 Operation Definition

This operation shall support the request data structures specified in table 6.1.3.3.4.2.2-1 and the response data structure and response codes specified in table 6.1.3.3.4.2.2-2.

Table 6.1.3.3.4.2.2-1: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| UpdSlApiReq | M | 1 | Contains the parameters to request the update of the slice API configuration. |

Table 6.1.3.3.4.2.2-2: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| UpdSlApiResp | M | 1 | 200 OK | Successful case. The slice API configuration update request is successfully received and processed, and slice API configuration update related information shall be returned in the response body. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.  The response shall include a Location header field containing an alternative URI of the resource custom operation located in an alternative NSCE Server.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.  The response shall include a Location header field containing an alternative URI of the resource custom operation located in an alternative NSCE Server.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| NOTE: The mandatory HTTP error status codes for the HTTP POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] shall also apply. | | | | |

Table 6.1.3.3.4.2.2-3: Headers supported by the 307 Response Code on this resource custom operation

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource custom operation located in an alternative NSCE Server. |

Table 6.1.3.3.4.2.2-4: Headers supported by the 308 Response Code on this resource custom operation

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource custom operation located in an alternative NSCE Server. |

### 6.1.4 Custom Operations without associated resources

#### 6.1.4.1 Overview

The structure of the custom operation URIs of the NSCE\_SliceApiManagement API is shown in Figure 6.1.4.1-1.



Figure 6.1.4.1-1: Custom operation URI structure of the NSCE\_SliceApiManagement API

Table 6.10.4.1-1 provides an overview of the custom operations and applicable HTTP methods defined for the NSCE\_SliceApiManagement API.

Table 6.1.4.1-1: Custom operations without associated resources

|  |  |  |  |
| --- | --- | --- | --- |
| Custom operation name | Custom operation URI | Mapped HTTP method | Description |
| Invoke | /invoke | POST | Enables a service consumer to request for slice API invocation. |

The custom operations shall support the URI variables defined in table 6.1.4.1-2.

Table 6.1.4.1-2: URI variables for this custom operation

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| apiRoot | string | See clause 6.1.1. |

#### 6.1.4.2 Operation: Invoke

##### 6.1.4.2.1 Description

The custom operation enables a service consumer to request slice API invocation to the NSCE Server.

##### 6.1.4.2.2 Operation Definition

This operation shall support the request data structures specified in table 6.1.4.2.2-1 and the response data structures and response codes specified in table 6.1.4.2.2-2.

Table 6.1.4.2.2-1: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| InvokeReq | M | 1 | Contains the parameters to request slice API invocation. |

Table 6.1.4.2.2-2: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| n/a |  |  | 204 No Content | Successful case. The slice API invocation request is successfully received and processed. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.  The response shall include a Location header field containing an alternative target URI located in an alternative NSCE Server.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.  The response shall include a Location header field containing an alternative target URI located in an alternative NSCE Server.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2] |
| NOTE: The manadatory HTTP error status codes for the HTTP POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] shall also apply. | | | | |

Table 6.1.4.2.2-3: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative target URI located in an alternative NSCE Server. |

Table 6.1.4.2.2-4: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative target URI located in an alternative NSCE Server. |

### 6.1.5 Notifications

#### 6.1.5.1 General

Notifications shall comply to clause 6.6 of 3GPP TS 29.549 [15].

Table 6.1.5.1-1: Notifications overview

|  |  |  |  |
| --- | --- | --- | --- |
| Notification | Callback URI | HTTP method or custom operation | Description  (service operation) |
| Slice API Configuration Notification | {notifUri} | POST | This service operation enables a NSCE Server to notify a previously subscribed service consumer on slice API configuration event(s). |

#### 6.1.5.2 Slice API Configuration Notification

##### 6.1.5.2.1 Description

Slice API Configuration Notification is used by the NSCE Server to notify a previously subscribed service consumer on the slice API configuration event(s).

##### 6.1.5.2.2 Target URI

The Callback URI **"{notifUri}"** shall be used with the callback URI variables defined in table 6.1.5.2.2-1.

Table 6.1.5.2.2-1: Callback URI variables

|  |  |
| --- | --- |
| Name | Definition |
| notifUri | Represents the callback URI encoded as a string formatted as a URI. |

##### 6.1.5.2.3 Standard Methods

6.1.5.2.3.1 POST

This method shall support the request data structures specified in table 6.1.5.2.3.1-1 and the response data structures and response codes specified in table 6.1.5.2.3.1-2.

Table 6.1.5.2.3.1-1: Data structures supported by the POST Request Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| SlApiCnf | M | 1 | Represents Slice API Configuration Notification. |

Table 6.1.5.2.3.1-2: Data structures supported by the POST Response Body

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| n/a |  |  | 204 No Content | Successful case. Slice API Configuration Notification is successfully received and processed. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.  The response shall include a Location header field containing an alternative URI representing the end point of an alternative service consumer where the notification should be sent.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.  The response shall include a Location header field containing an alternative URI representing the end point of an alternative service consumer where the notification should be sent.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| NOTE: The mandatory HTTP error status codes for the HTTP POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] shall also apply. | | | | |

Table 6.1.5.2.3.1-3: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI representing the end point of an alternative service consumer towards which the notification should be redirected. |

Table 6.1.5.2.3.1-4: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI representing the end point of an alternative service consumer towards which the notification should be redirected. |

### 6.1.6 Data Model

#### 6.1.6.1 General

This clause specifies the application data model supported by the API.

Table 6.1.6.1-1 specifies the data types defined for the NSCE\_SliceApiManagement API.

Table 6.1.6.1-1: NSCE\_SliceApiManagement API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| InvokeReq | 6.1.6.2.5 | Represents a slice API invocation request. |  |
| ServiceReq | 6.1.6.2.7 | Represent the application service requirement related to a network slice. |  |
| SlApiICnf | 6.1.6.2.6 | Represents a slice API configuration information. |  |
| SlApiMgmtCnf | 6.1.6.2.2 | Represents Slice API Management Configuration. |  |
| TriggerEvent | 6.1.6.3.3 | Represents the triggering event for the update of a slice API configuration. |  |
| UpdSlApiReq | 6.1.6.2.3 | Represents the parameters to request the update of a slice API configuration. |  |
| UpdSlApiResp | 6.1.6.2.4 | Represents the response to the request for a slice API configuration update. |  |

Table 6.1.6.1-2 specifies data types re-used by the NSCE\_SliceApiManagement API from other APIs in the same specification or other specifications, including a reference to their respective clauses or specifications, and when needed, a short description of their use within the NSCE\_SliceApiManagement API.

Table 6.1.6.1-2: NSCE\_SliceApiManagement API re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| AppReqs | 6.12.6.2.3 | Represents the application QoS requirements. |  |
| NetSliceId | 6.3.6.2.15 | Represents the identification information of a network slice. |  |
| ServArea | 6.16.6.2.5 | Represents the network slice service area. |  |
| ServReq | 6.11.6.2.4 | Indicates an application service requirement. |  |
| SupportedFeatures | 3GPP TS 29.571 [16] | Represents the list of supported feature(s) and used to negotiate the applicability of the optional features. |  |
| TimeWindow | 3GPP TS 29.122 [2] | A time window. |  |
| Uri | 3GPP TS 29.122 [2] | Represents a URI. |  |

#### 6.1.6.2 Structured data types

##### 6.1.6.2.1 Introduction

This clause defines the structures to be used in resource representations.

##### 6.1.6.2.2 Type: SlApiMgmtCnf

Table 6.1.6.2.2-1: Definition of type SlApiMgmtCnf

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| notifUri | Uri | M | 1 | Contains the URI via which the slice API configuration notifications shall be delivered. |  |
| servReqs | array(ServiceReq) | M | 1..N | Contains the application service requirements pertaining to one or more network slices. |  |
| timeValidity | TimeWindow | O | 0..1 | Contains the time validity of the request. |  |
| suppFeat | SupportedFeatures | C | 0..1 | Contains the list of supported features among the ones defined in clause 6.1.8.  This attribute shall be present only when feature negotiation needs to take place. |  |

##### 6.1.6.2.3 Type: UpdSlApiReq

Table 6.1.6.2.3-1: Definition of type UpdUpdSlApiReq

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| trigEvnt | TriggerEvnt | M | 1 | Contains the trigger event causing the need for slice API configuration update. |  |
| netSliceId | NetSliceId | O | 0..1 | Contains the identifier of the network slice for which the slice API configuration update is requested. |  |
| suppFeat | SupportedFeatures | C | 0..1 | Contains the list of supported features among the ones defined in clause 6.1.8.  This attribute shall be present only when feature negotiation needs to take place. |  |

##### 6.1.6.2.4 Type: UpdSlApiResp

Table 6.1.6.2.4-1: Definition of type UpdSlApiResp

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| slApiInfo | string | M | 1 | Contains the updated slice API configuration information. |  |
| suppFeat | SupportedFeatures | C | 0..1 | Contains the list of supported features among the ones defined in clause 6.1.8.  This attribute shall be present only when feature negotiation needs to take place. |  |

##### 6.1.6.2.5 Type: InvokeReq

Table 6.1.6.2.5-1: Definition of type InvokeReq

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| slApiId | string | M | 1 | Contains identifier of the target slice API for which the API invocation is requested. |  |

##### 6.1.6.2.6 Type: SlApiCnf

Table 6.1.6.2.6-1: Definition of type SlApiICnf

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| slApiCnf | string | M | 1 | Contains the slice API configuration information |  |

##### 6.1.6.2.7 Type: ServiceReq

Table 6.1.6.2.7-1: Definition of type ServiceReq

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| valServId | string | M | 1 | Identifier of the VAL service for which the service requirements shall apply. |  |
| netSliceId | NetSliceId | M | 1 | Identifier of the network slice for which the service requirements shall apply. |  |
| appQoSReqs | AppReqs | O | 0..1 | Contains the application service QoS requirements. |  |
| servProfile | array(ServReq) | O | 1..N | Contains the application service profile pertaining to a network slice. |  |
| areaOfInterest | ServArea | O | 0..1 | Contains the service area where the service requirements shall apply. |  |

#### 6.1.6.3 Simple data types and enumerations

##### 6.1.6.3.1 Introduction

This clause defines simple data types and enumerations that can be referenced from data structures defined in the previous clauses.

##### 6.1.6.3.2 Simple data types

The simple data types defined in table 6.1.6.3.2-1 shall be supported.

Table 6.1.6.3.2-1: Simple data types

|  |  |  |  |
| --- | --- | --- | --- |
| Type Name | Type Definition | Description | Applicability |
|  |  |  |  |

##### 6.1.6.3.3 Enumeration: TriggerEvent

The enumeration TriggerEvent represents the triggering event for slice API configuration update. It shall comply with the provisions defined in table 6.1.6.3.3-1.

Table 6.1.6.3.3-1: Enumeration TriggerEvent

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| UE\_MOBILITY | Indicates that the triggering event for slice API configuration update is UE mobility to a different service area. |  |
| MIGRATION | Indicates that the triggering event for slice API configuration update is application server migration to a different edge/cloud platform. |  |
| SERV\_API\_UNAVAILABILITY | Indicates that the triggering event for slice API configuration update is service API unavailability. |  |
| APP\_QOS\_REQ\_CHANGE | Indicates that the triggering event for slice API configuration update is VAL application QoS requirements change. |  |

#### 6.1.6.4 Data types describing alternative data types or combinations of data types

There are no data types describing alternative data types or combinations of data types defined for this API in this release of the specification.

#### 6.1.6.5 Binary data

##### 6.1.6.5.1 Binary Data Types

Table 6.1.6.5.1-1: Binary Data Types

|  |  |  |
| --- | --- | --- |
| Name | Clause defined | Content type |
|  |  |  |

### 6.1.7 Error Handling

#### 6.1.7.1 General

For the NSCE\_SliceApiManagement API, HTTP error responses shall be supported as specified in clause 6.7 of 3GPP TS 29.549 [15].

In addition, the requirements in the following clauses are applicable for the NSCE\_SliceApiManagement API.

#### 6.1.7.2 Protocol Errors

No specific procedures for the NSCE\_SliceApiManagement API are specified.

#### 6.1.7.3 Application Errors

The application errors defined for the NSCE\_SliceApiManagement API are listed in Table 6.1.7.3-1.

Table 6.1.7.3-1: Application errors

|  |  |  |  |
| --- | --- | --- | --- |
| Application Error | HTTP status code | Description | Applicability |
|  |  |  |  |

### 6.1.8 Feature negotiation

The optional features in table 6.1.8-1 are defined for the NSCE\_SliceApiManagement API. They shall be negotiated using the extensibility mechanism defined in clause 6.8 of 3GPP TS 29.549 [15].

Table 6.1.8-1: Supported Features

|  |  |  |
| --- | --- | --- |
| Feature number | Feature Name | Description |
|  |  |  |

### 6.1.9 Security

The provisions of clause 9 of 3GPP TS 29.549 [15] shall apply for the NSCE\_SliceApiManagement API.

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