**3GPP TSG-CT WG3 Meeting #134 *C3-242481***

**Changsha, China, 15 - 19 April, 2024**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.435** | **CR** | **0001** | **rev** | **1** | **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 service | | | | | | | | | |
|  |  | | | | | | | | | |
| ***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 service 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:*** | | 5.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \* \* \* \*

## 5.2 NSCE\_SliceApiManagement Service

### 5.2.1 Service Description

The NSCE\_SliceApiManagement service exposed by the NSCE Server enables a service consumer to:

- create/delete a Slice API Management Subscription;

- request to update a slice API configuration; and

- request for a slice API invocation; and

- receive Slice API Configuration notifications.

### 5.2.2 Service Operations

#### 5.2.2.1 Introduction

The service operations defined for the NSCE\_ SliceApiManagement service are shown in table 5.2.2.1-1.

Table 5.2.2.1-1: NSCE\_SliceApiManagement Service Operations

|  |  |  |
| --- | --- | --- |
| Service Operation Name | Description | Initiated by |
| NSCE\_SliceApiMgmt\_Subscribe | This service operation is used to subscribe to create/delete a Slice API Management Subscription. | e.g., VAL Server |
| NSCE\_SliceApiMgmt\_Notify | This service operation is used to notify a previously subscribed service consumer on slice API configuration information. | NSCE Server |
| NSCE\_SliceApiConfig\_Update | This service operation is used to request the update of an existing slice API configuration. | e.g., VAL Server |
| NSCE\_SliceApi\_Invoke | This service operation is used to request for slice API invocation. | e.g., VAL Server |

#### 5.2.2.2 NSCE\_SliceApiMgmt\_Subscribe

##### 5.2.2.2.1 General

This service operation is used by a service consumer to request the NSCE Server to:

- create a slice API management subscription; and

- delete an existing slice API management subscription.

The following procedures are supported by the "NSCE\_ SliceApiMgmt\_Subscribe" service operation:

- Slice API Management Subscription Creation.

- Slice API Management Subscription Deletion.

##### 5.2.2.2.2 Slice API Management Subscription Creation

Figure 5.2.2.2.2-1 depicts a scenario where a service consumer requests the NSCE Server for Slice API Management Subscription Creation (see also clause 9.3 of 3GPP°TS°23.435°[14]).



Figure 5.2.2.2.2-1: Procedure for Slice API Management Subscription Creation

1. To create a slice API management subscription, the service consumer shall send an HTTP POST request targeting the URI of the "Slice API Management Subscriptions" resource, with the request body containing the SlApiMgmtSub data structure as defined in clause 6.1.6.2.2.

2a. Upon success, the NSCE Server shall respond with an HTTP "201 Created" status code, with the response body containing a representation of the created "Individual Slice API Management Subscription" resource within the SlApiMgmtSub data structure, and an HTTP "Location" header field containing the URI of the created resource.

2b. On failure, the appropriate HTTP status code indicating the error shall be returned and appropriate additional error information should be returned in the HTTP POST response body, as specified in clause 6.1.7.

##### 5.2.2.2.3 Slice API Management Subscription Deletion

Figure 5.2.2.2.3-1 depicts a scenario where a service consumer requests the NSCE Server for Slice API Management Subscription Deletion (see also in clause 9.3 of 3GPP°TS°23.435°[14]).



Figure 5.2.2.2.3-1: Procedure for Slice API Management Subscription Deletion

1. To delete an existing slice API management subscription, the service consumer shall send an HTTP DELETE request to the NSCE Server targeting the corresponding "Individual Slice API Management Subscription" resource.

NOTE: An alternative service consumer (i.e. other than the one that requested the creation/update of the targeted resource) can initiate this request.

2a. Upon success, the NSCE Server shall respond with an HTTP "204 No Content" status code.

2b. On failure, the appropriate HTTP status code indicating the error shall be returned and appropriate additional error information should be returned in the HTTP DELETE response body, as specified in clause 6.1.7.

#### 5.2.2.3 NSCE\_SliceApiMgmt\_Notify

##### 5.2.2.3.1 General

This service operation is used by the NSCE server to notify a previously subscribed service consumer on slice API configuration event(s).

The procedure which is supported by the "NSCE\_ SliceApiMgmt\_Notify" service operation, is:

- Slice API Management Notification.

##### 5.2.2.3.2 Slice API Management Notification

Figure 5.2.2.3.2-1 depicts a scenario where the NSCE Server notifies a subscribed service consumer about the slice API Management Notification (as defined in clause 9.3 of 3GPP°TS°23.435°[14]).



Figure 5.2.2.3.2-1: Procedure for Slice API Management Notification

1. To notify about Slice API configuration event(s), the NSCE Server shall send an HTTP POST request to the service consumer with the request URI set to "{notifUri}", where the "notifUri" is set to the value received from the service consumer during the creation of the corresponding Slice API Management Subscription using the procedures defined in clause 5.2.2.2, and the request body including the SlApiCnf data structure.

2a. Upon success, the service consumer shall respond to the NSCE Server with an HTTP "204 No Content" status code to acknowledge the reception of the notification.

2b. On failure, the appropriate HTTP status code indicating the error shall be returned and appropriate additional error information should be returned in the HTTP POST response body, as specified in clause 6.1.7.

#### 5.2.2.4 NSCE\_SliceApiConfig\_Update

##### 5.2.2.4.1 General

This service operation is used by a service consumer to request the NSCE Server to update an existing slice API configuration.

The procedure which is supported by the "NSCE\_SliceApiConfig\_Update" service operation, is:

- Slice API Configuration Update.

##### 5.2.2.4.2 Slice API Configuration Update

Figure 5.2.2.4-1 depicts a scenario where a service consumer requests the NSCE Server for slice API configuration update (see also clause 9.3 of 3GPP°TS°23.435°[14]).



Figure 5.2.2.2.3-1: Procedure for Slice API Configuration Update

1. To update an existing slice API configuration, the service consumer shall send an HTTP POST request to the NSCE Server targeting the URI of the corresponding resource custom operation (i.e., "Update"), with the request body including the UpdSlApiReq data structure.

2a. Upon success, the NSCE Server shall respond with an HTTP "200 OK" status code with the response body containing the the UpdSlApiResp data structure.

2b. On failure, the appropriate HTTP status code indicating the error shall be returned and appropriate additional error information should be returned in the HTTP POST response body, as specified in clause 6.1.7.

#### 5.2.2.5 NSCE\_SliceApi\_Invoke

##### 5.2.2.5.1 General

This service operation is used by a service consumer to request the NSCE Server to invoke a slice API.

The procedure which is supported by the "NSCE\_ SliceApi\_Invoke" service operation, is:

- Slice API Invocation.

##### 5.2.2.5.2 Slice API Invocation

Figure 5.2.2.5.2-1 depicts a scenario where a service consumer requests the NSCE Server for slice API invocation (see also in clause 9.3 of 3GPP°TS°23.435°[14]).



Figure 5.2.2.5.2-1: Procedure for Slice API Invocation

1. To request slice API invocation, the service consumer shall send an HTTP POST request to the NSCE Server targeting the URI of the corresponding custom operation (i.e., "Invoke"), with the request body including the InvokeReq data structure.

2a. Upon success, the NSCE Server shall respond with an HTTP "204 No Content" status code.

2b. On failure, the appropriate HTTP status code indicating the error shall be returned and appropriate additional error information should be returned in the HTTP POST response body, as specified in clause 6.1.7.

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