**3GPP TSG-CT WG4 Meeting #96eC4-200848**

**E-Meeting, 17th – 28th February 2020**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.503** | **CR** | **0360** | **rev** | **1** | **Current version:** | **16.2.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | UE Location Privacy Profile Update | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | CATT | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5G\_eLCS | | | | |  | ***Date:*** | | | 2020-1-6 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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 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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | In subclause 6.12.1, TS 23.273 , NF(e.g. GMLC、NEF) may subscribe/unsubscribe to UDM notification of UE privacy profile updates when a deferred location request is on-going. If the UE Location Privacy Profile is updated by the UE or AF, the UDM can update the UE location privacy subscription data via triggering a Nudm\_SDM\_Notification service operation towards the GMLC or NEF. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. Change the value of UE identity into ueId in Subscribe、Unsubscribe and ModifySubscription service operation of Nudm\_SubscriberDataManagement service. 2. Change the yaml file to align with the changes in normative description. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | It is not aligned with Stage 2. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.2.2.3.2, 5.2.2.4.2, 5.2.2.7.2, 6.1.3.23, A.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 will introduce backward compatible new features in the OpenAPI specification files of TS29503\_Nudm\_ SubscriberDataManagement. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*The start of changes\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

##### 5.2.2.3.2 Subscription to notifications of data change

Figure 5.2.2.3.2-1 shows a scenario where the NF service consumer sends a request to the UDM to subscribe to notifications of data change (see also 3GPP TS 23.502 [3] figure 4.2.2.2.2-1 step 14). The request contains a callback URI and the URI of the monitored resource.



Figure 5.2.2.3.2-1: NF service consumer subscribes to notifications

1. The NF service consumer sends a POST request to the parent resource (collection of subscriptions) (.../{ueId}/sdm-subscriptions), to create a subscription as present in message body.

2a. On success, the UDM responds with "201 Created" with the message body containing a representation of the created subscription. The Location HTTP header shall contain the URI of the created subscription.

2b. If there is no valid subscription data for the UE, HTTP status code "404 Not Found" shall be returned including additional error information in the response body (in the "ProblemDetails" element).

2c. If the UE subscription data exist, but the requested subscription to data change notification cannot be created (e.g. due to an invalid/unsupported data reference to be monitored, contained in the SdmSubscription parameter), HTTP status code "501 Not Implemented" shall be returned including additional error information in the response body (in the "ProblemDetails" element).

On failure, the appropriate HTTP status code indicating the error shall be returned and appropriate additional error information should be returned in the POST response body.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

##### 5.2.2.4.2 Unsubscribe to notifications of data change

Figure 5.2.2.4.2-1 shows a scenario where the NF service consumer sends a request to the UDM to unsubscribe from notifications of data changes (see also 3GPP TS 23.502 [3] figure 4.2.2.2.2-1 step 14). The request contains the URI previously received in the Location HTTP header of the response to the subscription.



Figure 5.2.2.4.2-1: NF service consumer unsubscribes to notifications

1. The NF service consumer sends a DELETE request to the resource identified by the URI previously received during subscription creation.

2a. On success, the UDM responds with "204 No Content".

2b. If there is no valid subscription available (e.g. due to an unknown subscriptionId value), HTTP status code "404 Not Found" should be returned including additional error information in the response body (in the "ProblemDetails" element).

On failure, the appropriate HTTP status code indicating the error shall be returned and appropriate additional error information should be returned in the DELETE response body.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

##### 5.2.2.7.2 Modification of a subscription to notifications of data change

Figure 5.2.2.7.2-1 shows a scenario where the NF service consumer sends a request to the UDM to modify a subscription to notifications of data changes. The request contains the URI previously received in the Location HTTP header of the response to the subscription.



Figure 5.2.2.7.2-1: NF service consumer modifies a subscription to notifications

1. The NF service consumer sends a PATCH request to the resource identified by the URI previously received during subscription creation.

The NF service consumer may include "monitoredResourceUris" to replace the existing monitored resource URIs, e.g. to add/remove specific resource URIs from the monitored resource URI list.

2a. On success, the UDM responds with "200 OK".

2b. If there is no valid subscription available (e.g. due to an unknown subscriptionId value), HTTP status code "404 Not Found" should be returned including additional error information in the response body (in the "ProblemDetails" element).

On failure, the appropriate HTTP status code indicating the error shall be returned and appropriate additional error information should be returned in the PATCH response body.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 6.1.3 Resources

#### 6.1.3.1 Overview



Figure 6.1.3.1-1: Resource URI structure of the nudm-sdm API

Table 6.1.3.1-1 provides an overview of the resources and applicable HTTP methods.

Table 6.1.3.1-1: Resources and methods overview

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Resource name (Archetype) | Resource URI | | HTTP method or custom operation | | Description | |
| Supi (Document) | /{supi} | | GET | | Retrieve UE's subscription data | |
| Nssai (Document) | /{supi}/nssai | | GET | | Retrieve the UE's subscribed Network Slice Selection Assistance Information | |
| AccessAndMobilitySubscriptionData (Document) | /{supi}/am-data | | GET | | Retrieve the UE's subscribed Access and Mobility Data | |
| SorAck (Document) | /{supi}/am-data/sor-ack | | PUT | | Providing acknowledgement of Steering of Roaming | |
| UpuAck (Document) | | | /{supi}/am-data/upu-ack | | PUT | | Providing acknowledgement of UE parameters update | |
| CagAck (Document) | | | /{supi}/am-data/cag-ack | | PUT | | Providing acknowledgement of UE CAG configuration update | |
| SmfSelectionSubscriptionData (Document) | /{supi}/smf-select-data | | GET | | Retrieve the UE's subscribed SMF Selection Data | |
| UeContextInSmfData (Document) | /{supi}/ue-context-in-smf-data | | GET | | Retrieve the UE's Context in SMF Data | |
| SessionManagementSubscriptionData (Document) | /{supi}/sm-data | | GET | | Retrieve the UE's session management subscription data | |
| SMSSubscriptionData (Document) | /{supi}/sms-data | | GET | | Retrieve the UE's SMS subscription data | |
| SMSManagementSubscriptionData (Document) | /{supi}/sms-mng-data | | GET | | Retrieve the UE's SMS management subscription data | |
| LcsPrivacySubscriptionData (Document) | /{supi}/lcs-privacy-data | | GET | | Retrieve the UE's LCS privacy subscription data | |
| LcsMobileOriginatedSubscriptionData (Document) | /{supi}/lcs-mo-data | | GET | | Retrieve the UE's LCS Mobile Originated subscription data | |
| SdmSubscriptions (Collection) | /{ueId}/sdm-subscriptions | | POST | | Create a subscription | |
| Individual subscription (Document) | /{ueId}/sdm-subscriptions/{subscriptionId} | | DELETE | | Delete the subscription identified by {subscriptionId}, i.e. unsubscribe | |
| PATCH | | Modify the sdm-subscription identified by {subscriptionId} | |
| IdTranslationResult (Document) | /{ueId}/id-translation-result | | GET | | Retrieve a UE's SUPI or GPSI | |
| UeContextInSmsfData (Document) | /{supi}/ue-context-in-smsf-data | | GET | | Retrieve the UE's Context in SMSF Data | |
| TraceData  (Document) | /{supi}/trace-data | | GET | | Retrieve Trace Configuration Data | |
| SharedData (Collection) | /shared-data | | GET | | Retrieve shared data | |
| SharedDataSubscriptions (Collection) | /shared-data-subscriptions | | POST | | Create a subscription | |
| SharedDataIndividual subscription (Document) | /shared-data-subscriptions/{subscriptionId} | | DELETE | | Delete the subscription identified by {subscriptionId}, i.e. unsubscribe | |
| PATCH | | Modify the shared data subscription identified by {subscriptionId} | |
| GroupIdentifiers  (Document) | /group-data/group-identifiers | | GET | | Retrieve group identifiers | |
| SnssaisAck (Document) | /{supi}/am-data/subscribed-snssais-ack | | PUT | | Providing acknowledgement of UE for subscribed S-NSSAIs | |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

##### 6.1.3.3.2 Resource Definition

Resource URI: {apiRoot}/nudm-sdm/{apiVersion}/{ueId}/sdm-subscriptions

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 | Definition |
| apiRoot | See clause 6.1.1 |
| apiVersion | See clause 6.1.1 |
| ueId | Represents the Subscription Permanent Identifier (see 3GPP TS 23.501 [2] clause 5.9.2)  pattern: "(imsi-[0-9]{5,15}|nai-.+|.+)" |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

##### 6.1.3.4.2 Resource Definition

Resource URI: {apiRoot}/nudm-sdm/{apiVersion}/{ueId}/sdm-subscriptions/{subscriptionId}

This resource shall support the resource URI variables defined in table 6.1.3.4.2-1.

Table 6.1.3.4.2-1: Resource URI variables for this resource

|  |  |
| --- | --- |
| Name | Definition |
| apiRoot | See clause 6.1.1 |
| apiVersion | See clause 6.1.1 |
| ueId | Represents the Subscription Permanent Identifier (see 3GPP TS 23.501 [2] clause 5.9.2) or Subscription Permanent Identifier (see 3GPP TS 23.501 [2] clause 5.9.2)  pattern: See pattern of type VarUeId in 3GPP TS 29.571 [7] |
| subscriptionId | The subscriptionId identifies an individual subscription to notifications. |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

6.1.3.23 Resource: LcsPrivacySubscriptionData

6.1.3.23.1 Description

This resource represents the subscribed LCS Privacy Data for a UE. It is queried by the HGMLC or NEF.

6.1.3.23.2 Resource Definition

Resource URI: {apiRoot}/nudm-sdm/{apiVersion}/{ueId}/lcs-privacy-data

This resource shall support the resource URI variables defined in table 6.1.3.23.2-1.

Table 6.1.3.23.2-1: Resource URI variables for this resource

|  |  |
| --- | --- |
| **Name** | **Definition** |
| apiRoot | See clause 6.1.1 |
| apiVersion | See clause 6.1.1 |
| ueId | Represents the Subscription Permanent Identifier (see 3GPP TS 23.501 [2] clause 5.9.2) or Subscription Permanent Identifier (see 3GPP TS 23.501 [2] clause 5.9.2)  pattern: See pattern of type VarUeId in 3GPP TS 29.571 [7] |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

## A.2 Nudm\_SDM API

openapi: 3.0.0

info:

version: '2.1.0.alpha-3'

title: 'Nudm\_SDM'

description: |

Nudm Subscriber Data Management Service.

© 2019, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).

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externalDocs:

description: 3GPP TS 29.503 Unified Data Management Services, version 16.2.0

url: 'http://www.3gpp.org/ftp/Specs/archive/29\_series/29.503/'

servers:

- url: '{apiRoot}/nudm-sdm/v2'

variables:

apiRoot:

default: https://example.com

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

security:

- oAuth2ClientCredentials:

- nudm-sdm

- {}

paths:

/{supi}:

get:

summary: retrieve multiple data sets

operationId: GetDataSets

tags:

- Retrieval of multiple data sets

parameters:

- name: supi

in: path

description: Identifier of the UE

required: true

schema:

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

- name: dataset-names

in: query

style: form

explode: false

description: List of dataset names

required: true

schema:

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

- name: plmn-id

in: query

description: serving PLMN ID

content:

application/json:

schema:

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

- name: supported-features

in: query

description: Supported Features

schema:

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

- name: If-None-Match

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.2

schema:

type: string

- name: If-Modified-Since

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.3

schema:

type: string

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

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

headers:

Cache-Control:

description: Cache-Control containing max-age, as described in RFC 7234, 5.2

schema:

type: string

ETag:

description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

schema:

type: string

Last-Modified:

description: Timestamp for last modification of the resource, as described in RFC 7232, 2.2

schema:

type: string

'400':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

/{supi}/nssai:

get:

summary: retrieve a UE's subscribed NSSAI

operationId: GetNSSAI

tags:

- Slice Selection Subscription Data Retrieval

parameters:

- name: supi

in: path

description: Identifier of the UE

required: true

schema:

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

- name: supported-features

in: query

description: Supported Features

schema:

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

- name: plmn-id

in: query

description: serving PLMN ID

content:

application/json:

schema:

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

- name: If-None-Match

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.2

schema:

type: string

- name: If-Modified-Since

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.3

schema:

type: string

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

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

headers:

Cache-Control:

description: Cache-Control containing max-age, as described in RFC 7234, 5.2

schema:

type: string

ETag:

description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

schema:

type: string

Last-Modified:

description: Timestamp for last modification of the resource, as described in RFC 7232, 2.2

schema:

type: string

'400':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

/{supi}/am-data:

get:

summary: retrieve a UE's Access and Mobility Subscription Data

operationId: GetAmData

tags:

- Access and Mobility Subscription Data Retrieval

parameters:

- name: supi

in: path

description: Identifier of the UE

required: true

schema:

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

- name: supported-features

in: query

description: Supported Features

schema:

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

- name: plmn-id

in: query

description: serving PLMN ID

content:

application/json:

schema:

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

- name: If-None-Match

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.2

schema:

type: string

- name: If-Modified-Since

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.3

schema:

type: string

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

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

headers:

Cache-Control:

description: Cache-Control containing max-age, as described in RFC 7234, 5.2

schema:

type: string

ETag:

description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

schema:

type: string

Last-Modified:

description: Timestamp for last modification of the resource, as described in RFC 7232, 2.2

schema:

type: string

'400':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

/{supi}/smf-select-data:

get:

summary: retrieve a UE's SMF Selection Subscription Data

operationId: GetSmfSelData

tags:

- SMF Selection Subscription Data Retrieval

parameters:

- name: supi

in: path

description: Identifier of the UE

required: true

schema:

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

- name: supported-features

in: query

description: Supported Features

schema:

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

- name: plmn-id

in: query

description: serving PLMN ID

content:

application/json:

schema:

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

- name: If-None-Match

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.2

schema:

type: string

- name: If-Modified-Since

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.3

schema:

type: string

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

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

headers:

Cache-Control:

description: Cache-Control containing max-age, as described in RFC 7234, 5.2

schema:

type: string

ETag:

description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

schema:

type: string

Last-Modified:

description: Timestamp for last modification of the resource, as described in RFC 7232, 2.2

schema:

type: string

'400':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

/{supi}/ue-context-in-smf-data:

get:

summary: retrieve a UE's UE Context In SMF Data

operationId: GetUeCtxInSmfData

tags:

- UE Context In SMF Data Retrieval

parameters:

- name: supi

in: path

description: Identifier of the UE

required: true

schema:

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

- name: supported-features

in: query

description: Supported Features

schema:

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

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

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

'400':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

/{supi}/ue-context-in-smsf-data:

get:

summary: retrieve a UE's UE Context In SMSF Data

operationId: GetUeCtxInSmsfData

tags:

- UE Context In SMSF Data Retrieval

parameters:

- name: supi

in: path

description: Identifier of the UE

required: true

schema:

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

- name: supported-features

in: query

description: Supported Features

schema:

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

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

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

'400':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

/{supi}/trace-data:

get:

summary: retrieve a UE's Trace Configuration Data

operationId: GetTraceConfigData

tags:

- Trace Configuration Data Retrieval

parameters:

- name: supi

in: path

description: Identifier of the UE

required: true

schema:

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

- name: supported-features

in: query

description: Supported Features

schema:

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

- name: plmn-id

in: query

description: serving PLMN ID

content:

application/json:

schema:

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

- name: If-None-Match

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.2

schema:

type: string

- name: If-Modified-Since

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.3

schema:

type: string

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

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

headers:

Cache-Control:

description: Cache-Control containing max-age, as described in RFC 7234, 5.2

schema:

type: string

ETag:

description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

schema:

type: string

Last-Modified:

description: Timestamp for last modification of the resource, as described in RFC 7232, 2.2

schema:

type: string

'400':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

/{supi}/sm-data:

get:

summary: retrieve a UE's Session Management Subscription Data

operationId: GetSmData

tags:

- Session Management Subscription Data Retrieval

parameters:

- name: supi

in: path

description: Identifier of the UE

required: true

schema:

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

- name: supported-features

in: query

description: Supported Features

schema:

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

- name: single-nssai

in: query

content:

application/json:

schema:

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

- name: dnn

in: query

schema:

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

- name: plmn-id

in: query

content:

application/json:

schema:

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

- name: If-None-Match

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.2

schema:

type: string

- name: If-Modified-Since

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.3

schema:

type: string

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

type: array

items:

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

minItems: 1

headers:

Cache-Control:

description: Cache-Control containing max-age, as described in RFC 7234, 5.2

schema:

type: string

ETag:

description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

schema:

type: string

Last-Modified:

description: Timestamp for last modification of the resource, as described in RFC 7232, 2.2

schema:

type: string

'400':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

/{supi}/sms-data:

get:

summary: retrieve a UE's SMS Subscription Data

operationId: GetSmsData

tags:

- SMS Subscription Data Retrieval

parameters:

- name: supi

in: path

description: Identifier of the UE

required: true

schema:

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

- name: supported-features

in: query

description: Supported Features

schema:

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

- name: plmn-id

in: query

content:

application/json:

schema:

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

- name: If-None-Match

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.2

schema:

type: string

- name: If-Modified-Since

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.3

schema:

type: string

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

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

headers:

Cache-Control:

description: Cache-Control containing max-age, as described in RFC 7234, 5.2

schema:

type: string

ETag:

description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

schema:

type: string

Last-Modified:

description: Timestamp for last modification of the resource, as described in RFC 7232, 2.2

schema:

type: string

'400':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

/{supi}/sms-mng-data:

get:

summary: retrieve a UE's SMS Management Subscription Data

operationId: GetSmsMngtData

tags:

- SMS Management Subscription Data Retrieval

parameters:

- name: supi

in: path

description: Identifier of the UE

required: true

schema:

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

- name: supported-features

in: query

description: Supported Features

schema:

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

- name: plmn-id

in: query

content:

application/json:

schema:

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

- name: If-None-Match

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.2

schema:

type: string

- name: If-Modified-Since

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.3

schema:

type: string

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

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

headers:

Cache-Control:

description: Cache-Control containing max-age, as described in RFC 7234, 5.2

schema:

type: string

ETag:

description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

schema:

type: string

Last-Modified:

description: Timestamp for last modification of the resource, as described in RFC 7232, 2.2

schema:

type: string

'400':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

/{supi}/lcs-privacy-data:

get:

summary: retrieve a UE's LCS Privacy Subscription Data

operationId: GetLcsPrivacyData

tags:

- LCS Privacy Data Retrieval

parameters:

- name: supi

in: path

description: Identifier of the UE

required: true

schema:

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

- name: supported-features

in: query

description: Supported Features

schema:

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

- name: plmn-id

in: query

content:

application/json:

schema:

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

- name: If-None-Match

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.2

schema:

type: string

- name: If-Modified-Since

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.3

schema:

type: string

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

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

headers:

Cache-Control:

description: Cache-Control containing max-age, as described in RFC 7234, 5.2

schema:

type: string

ETag:

description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

schema:

type: string

Last-Modified:

description: Timestamp for last modification of the resource, as described in RFC 7232, 2.2

schema:

type: string

'400':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

/{supi}/lcs-mo-data:

get:

summary: retrieve a UE's LCS Mobile Originated Subscription Data

operationId: GetLcsMoData

tags:

- LCS Mobile Originated Data Retrieval

parameters:

- name: supi

in: path

description: Identifier of the UE

required: true

schema:

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

- name: supported-features

in: query

description: Supported Features

schema:

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

- name: plmn-id

in: query

content:

application/json:

schema:

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

- name: If-None-Match

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.2

schema:

type: string

- name: If-Modified-Since

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.3

schema:

type: string

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

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

headers:

Cache-Control:

description: Cache-Control containing max-age, as described in RFC 7234, 5.2

schema:

type: string

ETag:

description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

schema:

type: string

Last-Modified:

description: Timestamp for last modification of the resource, as described in RFC 7232, 2.2

schema:

type: string

'400':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

/{ueid}/sdm-subscriptions:

post:

summary: subscribe to notifications

operationId: Subscribe

tags:

- Subscription Creation

parameters:

- name: ueId

in: path

description: SUPI of the user

required: true

schema:

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

requestBody:

content:

application/json:

schema:

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

required: true

responses:

'201':

description: Expected response to a valid request

content:

application/json:

schema:

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

headers:

Location:

description: 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudm-sdm/<apiVersion>/{supi}/sdm-subscriptions/{subscriptionId}'

required: true

schema:

type: string

'400':

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

'404':

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

'500':

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

'501':

$ref: 'TS29571\_CommonData.yaml#/components/responses/501'

'503':

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

default:

description: Unexpected error

callbacks:

datachangeNotification:

'{request.body#/callbackReference}':

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: Successful Notification response

'307':

description: Temporary Redirect

content:

application/problem+json:

schema:

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

headers:

Location:

description: 'Contains the new Callback URI of the target NF Service Consumer (e.g. AMF) to which the request is redirected'

required: true

schema:

type: string

'308':

description: Permanent Redirect

content:

application/problem+json:

schema:

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

headers:

Location:

description: 'Contains the new Callback URI of the target NF Service Consumer (e.g. AMF) to which the request is redirected'

required: true

schema:

type: string

'400':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

/{ueId}/sdm-subscriptions/{subscriptionId}:

delete:

summary: unsubscribe from notifications

operationId: Unsubscribe

tags:

- Subscription Deletion

parameters:

- name: ueId

in: path

description: Identity of the user

required: true

schema:

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

- name: subscriptionId

in: path

description: Id of the SDM Subscription

required: true

schema:

type: string

responses:

'204':

description: Successful response

'400':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

patch:

summary: modify the subscription

operationId: Modify

tags:

- Subscription Modification

parameters:

- name: ueId

in: path

description: Identity of the user

required: true

schema:

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

- name: subscriptionId

in: path

description: Id of the SDM Subscription

required: true

schema:

type: string

requestBody:

content:

application/merge-patch+json:

schema:

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

required: true

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

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

'400':

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

'403':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

/{ueId}/id-translation-result:

get:

summary: retrieve a UE's SUPI or GPSI

operationId: GetSupiOrGpsi

tags:

- GPSI to SUPI Translation

parameters:

- name: ueId

in: path

description: Identifier of the UE

required: true

schema:

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

- name: supported-features

in: query

description: Supported Features

schema:

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

- name: app-port-id

in: query

description: Application port identifier

content:

application/json:

schema:

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

- name: If-None-Match

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.2

schema:

type: string

- name: If-Modified-Since

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.3

schema:

type: string

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

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

headers:

Cache-Control:

description: Cache-Control containing max-age, as described in RFC 7234, 5.2

schema:

type: string

ETag:

description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

schema:

type: string

Last-Modified:

description: Timestamp for last modification of the resource, as described in RFC 7232, 2.2

schema:

type: string

'400':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

/{supi}/am-data/sor-ack:

put:

summary: Nudm\_Sdm Info service operation

operationId: SorAckInfo

tags:

- Providing acknowledgement of Steering of Roaming

parameters:

- name: supi

in: path

description: Identifier of the UE

required: true

schema:

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

requestBody:

content:

application/json:

schema:

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

responses:

'204':

description: Successful acknowledgement

'400':

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

'500':

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

'503':

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

default:

description: Unexpected error

/{supi}/am-data/upu-ack:

put:

summary: Nudm\_Sdm Info for UPU service operation

operationId: UpuAck

tags:

- Providing acknowledgement of UE Parameters Update

parameters:

- name: supi

in: path

description: Identifier of the UE

required: true

schema:

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

requestBody:

content:

application/json:

schema:

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

responses:

'204':

description: Successful acknowledgement

'400':

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

'500':

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

'503':

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

default:

description: Unexpected error

/{supi}/am-data/subscribed-snssais-ack:

put:

summary: Nudm\_Sdm Info operation for S-NSSAIs acknowledgement

operationId: S-NSSAIs Ack

tags:

- Providing acknowledgement of S-NSSAIs Update

parameters:

- name: supi

in: path

description: Identifier of the UE

required: true

schema:

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

requestBody:

content:

application/json:

schema:

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

responses:

'204':

description: Successful acknowledgement

'400':

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

'500':

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

'503':

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

default:

description: Unexpected error

/{supi}/am-data/cag-ack:

put:

summary: Nudm\_Sdm Info operation for CAG acknowledgement

operationId: CAG Ack

tags:

- Providing acknowledgement of CAG Update

parameters:

- name: supi

in: path

description: Identifier of the UE

required: true

schema:

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

requestBody:

content:

application/json:

schema:

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

responses:

'204':

description: Successful acknowledgement

'400':

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

'500':

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

'503':

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

default:

description: Unexpected error

/shared-data:

get:

summary: retrieve shared data

operationId: GetSharedData

tags:

- Retrieval of shared data

parameters:

- name: shared-data-ids

in: query

description: List of shared data ids

required: true

style: form

explode: false

schema:

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

- name: supportedFeatures

in: query

description: Supported Features

schema:

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

- name: If-None-Match

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.2

schema:

type: string

- name: If-Modified-Since

in: header

description: Validator for conditional requests, as described in RFC 7232, 3.3

schema:

type: string

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

type: array

items:

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

minItems: 1

headers:

Cache-Control:

description: Cache-Control containing max-age, as described in RFC 7234, 5.2

schema:

type: string

ETag:

description: Entity Tag, containing a strong validator, as described in RFC 7232, 2.3

schema:

type: string

Last-Modified:

description: Timestamp for last modification of the resource, as described in RFC 7232, 2.2

schema:

type: string

'400':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

/shared-data-subscriptions:

post:

summary: subscribe to notifications for shared data

operationId: SubscribeToSharedData

tags:

- Subscription Creation for shared data

requestBody:

content:

application/json:

schema:

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

required: true

responses:

'201':

description: Expected response to a valid request

content:

application/json:

schema:

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

headers:

Location:

description: 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/nudm-sdm/<apiVersion>/shared-data-subscriptions/{subscriptionId}'

required: true

schema:

type: string

'400':

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

'404':

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

default:

description: Unexpected error

callbacks:

datachangeNotification:

'{request.body#/callbackReference}':

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: Successful Notification response

'400':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

/shared-data-subscriptions/{subscriptionId}:

delete:

summary: unsubscribe from notifications for shared data

operationId: UnsubscribeForSharedData

tags:

- Subscription Deletion for shared data

parameters:

- name: subscriptionId

in: path

description: Id of the Shared data Subscription

required: true

schema:

type: string

responses:

'204':

description: Successful response

'400':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

patch:

summary: modify the subscription

operationId: ModifySharedDataSubs

tags:

- Subscription Modification

parameters:

- name: subscriptionId

in: path

description: Id of the SDM Subscription

required: true

schema:

type: string

requestBody:

content:

application/merge-patch+json:

schema:

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

required: true

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

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

'400':

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

'403':

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

'404':

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

'500':

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

'503':

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

default:

description: Unexpected error

###Skipped for Clarity###

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*The end of changes\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*