**3GPP TSG-CT WG4 Meeting #101eC4-205267**

**E-Meeting, 03rd – 13th November 2020**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.505** | **CR** | **0308** | **rev** | **-** | **Current version:** | **16.4.0** |  |
|  | | | | | | | | |
| *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:*** | 5G VN Groups | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | Vertical\_LAN | | | | |  | ***Date:*** | | | 2020-10-15 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories 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:*** | | Stage-2 requires that the PCF obtains from UDR 5G VN Group data based on the Internal Group ID, as indicated in TS 23.502, clause 4.16.11:  "*The (H-)PCF may get the 5G VN group data for each Internal-Group-ID received from the AMF using Nudr\_DM\_Query (Internal-Group-Id, Subscription Data, Group Data).*"  Currently, it is only possible to retrieve the 5G VN Group data based on the External Group ID. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Define a new resource that can only be queried with a list of Internal Group IDs and returns those 5G VN groups whose internal group ID matches the IDs of the query parameter. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The UDR does not meet the requirements from stage-2 and does not allow the PCF to retrieve 5G VN group data based on internal group IDs. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.2.1, 5.2.xx (new), 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 introduces backwards compatible corrections, with impacts on the following APIs:  - TS29504\_Nudr\_DataRepository.yaml | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

### 5.2.1 Overview



Figure 5.2.1-1: Resource URI sub-level structure for subscription data



Figure 5.2.1-2: Resource URI sub-level structure for subscription data (cont.)



Figure 5.2.1-3: Resource URI sub-level structure for subscription data (cont.)

Table 5.2.1-1 provides an overview of the resources and applicable HTTP methods.

Table 5.2.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | Description |
| AuthenticationSubscription | /subscription-data/{ueId}/authentication-data/authentication-subscription | GET | Retrieve a UE's authentication subscription data |
| PATCH | Update a UE's authentication subscription data  Updates shall be limited to the sequenceNumber attribute. Attempts to patch any other attribute shall be rejected by the UDR. |
| AuthenticationSoR | /subscription-data/{ueId}/ue-update-confirmation-data/sor-data | PUT | Store UE's SOR acknowledgement information (SoR-XMAC-IUE) |
| GET | Retrieve UE's SoR acknowledgement information |
| AuthenticationUPU | /subscription-data/{ueId}/ue-update-confirmation-data/upu-data | PUT | Store UE Parameter Update acknowledgement information (UPU-XMAC-IUE) |
| GET | Retrieve UE Parameter Update acknowledgement information |
| SubscribedSNSSAIs | /subscription-data/{ueId}/ue-update-confirmation-data/subscribed-snssais | PUT | Store UE-acknowledgement info for change of subscribed S-NSSAIs |
| GET | Retrieve UE-acknowledgement info for change of subscribed S-NSSAIs |
| SubscribedCAG | /subscription-data/{ueId}/ue-update-confirmation-data/subscribed-cag | PUT | Store UE-acknowledgement info for change of subscribed CAG |
| GET | Retrieve UE-acknowledgement info for change of subscribed CAG |
| AuthenticationStatus | /subscription-data/{ueId}/authentication-data/authentication-status | PUT | Store a UE's authentication status |
| GET | Retrieve a UE's authentication status |
| DELETE | Delete a UE's authentication status |
| IndividualAuthenticationStatus | /subscription-data/{ueId}/authentication-data/authentication-status/{servingNetworkName} | PUT | When the feature "PerUePerSnAuthStatus" is supported, store a UE's Individual authentication status |
| GET | When the feature "PerUePerSnAuthStatus" is supported, retrieve a UE's Individual authentication status |
| DELETE | When the feature "PerUePerSnAuthStatus" is supported, delete a UE's Individual authentication status |
| ProvisionedData | /subscription-data/{ueId}/{servingPlmnId}/provisioned-data | GET | Retrieve the UE's subscribed Provisioned Data |
| AccessAndMobilitySubscriptionData | /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/am-data | GET | Retrieve the UE's subscribed Access and Mobility Data |
| SmfSelectionSubscriptionData | /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/smf-selection-subscription-data | GET | Retrieve the UE's subscribed SMF Selection Data |
| SessionManagementSubscriptionData | /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/sm-data | GET | Retrieve the UE's subscribed SM Subscription Data |
| ContextData | /subscription-data/{ueId}/context-data | GET | Retrieve the UE's context Data |
| Amf3GppAccessRegistration | /subscription-data/{ueId}/context-data/amf-3gpp-access | PUT | Create and Update the AMF registration for 3GPP access |
| PATCH | Modify the AMF registration for 3GPP access |
| GET | Retrieve the AMF registration information for 3GPP access |
| AmfNon3GppAccessRegistration | /subscription-data/{ueId}/context-data/amf-non-3gpp-access | PUT | Update the AMF registration for non 3GPP access |
| PATCH | Modify the AMF registration for non 3GPP access |
| GET | Retrieve the AMF registration information for non 3GPP access |
| SmfRegistrations | /subscription-data/{ueId}/context-data/smf-registrations | GET | Retrieve the list of the SMF registrations |
| IndividualSmfRegistration | /subscription-data/{ueId}/context-data /smf-registrations/{pduSessionId} | PUT | Store an individual SMF registration identified by PDU Session Id |
| DELETE | Delete an individual SMF registration |
| GET | Retrieve individual SMF registration |
| OperatorSpecificData | /subscription-data/{ueId}/operator-specific-data | GET | retrieve the operator specific subscription data of a UE |
| PATCH | modify the operator specific subscription data of a UE |
| OperatorDeterminedBarringData | /subscription-data/{ueId}/operator-determined-barring-data | GET | Retrieve the UE's Operator Determined Barring |
| SMSManagementSubscriptionData | /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/sms-mng-data | GET | Retrieve the UE's subscribed SMS management subscription data. |
| Smsf3GppAccessRegistration | /subscription-data/{ueId}/context-data /smsf-3gpp-access | PUT | Create or Update the SMSF registration |
| DELETE | Delete the SMSF registration for 3GPP access |
| GET | Retrieve the SMSF registration information |
| SmsfNon3GppAccessRegistration | /subscription-data/{ueId}/context-data /smsf-non-3gpp-access | PUT | Create or Update the SMSF registration for non 3GPP access |
| DELETE | Delete the SMSF registration for non 3GPP access |
| GET | Retrieve the SMSF registration information for non 3GPP access |
| IpSmGwRegistration | /subscription-data/{ueId}/context-data/ip-sm-gw | PUT | Create or Update the IP-SM-GW registration |
| DELETE | Delete the IP-SM-GW registration |
| PATCH | Modify the IP-SM-GW registration |
| GET | Retrieve the IP-SM-GW registration information |
| MessageWaitingData | /subscription-data/{ueId}/context-data/mwd | PUT | Create or Update the SMS Message Waiting Data |
| DELETE | Delete the SMS Message Waiting Data |
| PATCH | Modify the SMS Message Waiting Data |
| GET | Retrieve the SMS Message Waiting Data |
| SdmSubscriptions | /subscription-data/{ueId}/context-data/sdm-subscriptions | GET | Retrieve SDM subscriptions |
| POST | Create an individual SDM subscription |
| IndividualSdmSubscription | /subscription-data/{ueId}/context-data/sdm-subscriptions/{subsId} | PUT | Update an individual SDM subscription |
| DELETE | Delete an individual SDM subscription |
| PATCH | Update an individual SDM Subscription |
| GET | Retrieve an individual SDM subscription |
| EeSubscriptions | /subscription-data/{ueId}/context-data/ee-subscriptions | GET | Retrieve EE subscriptions |
| POST | Create an EE subscription |
| IndividualEeSubscription | /subscription-data/{ueId}/context-data/ee-subscriptions/{subsId} | PUT | Update an individual EE subscription |
| DELETE | Delete an individual EE subscription |
| PATCH | Update an individual EE subscription |
| GET | Retrieve an individual EE subscription |
| AmfSubscriptionInfo | /subscription-data/{ueId}/context-data/ee-subscriptions/{subsId}/amf-subscriptions | PUT | Store information related the a received Amf-EE-Subscription response |
| DELETE | Delete the Amf-EE-subscriptions |
| GET | Retrieve AMF-subscriptions |
| PATCH | Update AMF-subscriptions |
| EeProfileData | /subscription-data/{ueId}/ee-profile-data | GET | Retrieve the UE's subscribed EE profile data. |
| ProvisionedParamenterData | /subscription-data/{ueId}/pp-data | PATCH | Update of provisioned parameters. |
| GET | Retrieves the UE's provisioned parameters. |
| SMSSubscriptionData | /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/sms-data | GET | Retrieve the UE's subscribed SMS subscription data. |
| SubscriptionDataSubscriptions | /subscription-data/subs-to-notify | GET | Retrieve existing subscriptions |
| POST | Create a subscription, i.e. subscribe a node to receive notification for change of data |
| DELETE | Deletes multiple subscriptions for a given UE. |
| IndividualSubscriptionDataSubscription | /subscription-data/subs-to-notify/{subsId} | DELETE | Delete the subscription identified by {subsId}, i.e. unsubscribe a node to receive notification for change of data |
| PATCH | Update an individual Subscription to notification |
| GET | Retrieve an individual Subscription to notification |
| EeGroupSubscriptions | /subscription-data/group-data/{ueGroupId}/ee-subscriptions | GET | Retrieve EE subscriptions for groups of UEs |
| POST | Create an EE subscription for groups of UEs |
| IndividualEeGroupSubscription | /subscription-data/group-data/{ueGroupId}/ee-subscriptions/{subsId} | PUT | Update an individual EE subscription for a group of UEs |
| DELETE | Delete an individual EE subscription for a group of UEs |
| PATCH | Update an individual EE subscription for a group of UEs |
| GET | Retrieve an individual EE subscription for a group of UEs |
| TraceData | /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/trace-data | GET | Retrieve the UE's trace configuration data |
| IdentityData | /subscription-data/{ueId}/identity-data | GET | Retrieve identity data that corresponds to the provided ueId |
| SharedData (Collection) | /subscription-data/shared-data | GET | Retrieve shared data |
| GroupIdentifiers | /subscription-data/group-data/group-identifiers | GET | Retrieve group identifiers and the UE identifiers belong to the group identifiers. |
| 5GVnGroups | /subscription-data/group-data/5g-vn-groups | GET | Retrieve 5G VN Groups |
| Individual5GVnGroup | /subscription-data/group-data/5g-vn-groups/{externalGroupId} | PUT | Create a 5G VN Group |
| PATCH | Update a 5G VN Group |
| DELETE | Delete a 5G VN Group |
| GET | Retrieve a 5G VN Group |
| 5GVnGroupsInternal | /subscription-data/group-data/5g-vn-groups/internal | GET | Retrieve 5G VN Group Data based on Internal Group Identifier(s) |
| LcsPrivacySubscriptionData | /subscription-data/{ueId}/lcs-privacy-data | GET | Retrieve the UE's subscribed LCS privacy Subscription Data |
| LcsMobileOriginatedSubscriptionData | /subscription-data/{ueId}/lcs-mo-data | GET | Retrieve the UE's subscribed LCS Mobile Originated Subscription Data |
| NiddAuthorizationData | /subscription-data/{ueId}/nidd-authorization-data | GET | Retrieve the UE's NIDD Authorization Data |
| CoverageRestrictionData | /subscription-data/{ueId}/coverage-restriction-data | GET | Retrieve the UE's subscribed enhanced Coverage Restriction Data |
| Location | /subscription-data/{ueId}/context-data/location | GET | Retrieve the UE's Location Information |
| V2xSubscriptionData | /subscription-data/{ueId}/v2x-data | GET | Retrieve the UE's subscribed V2X Data |
| LcsBroadcastAssistanceSubscriptionData | /subscription-data/{ueId}/{servingPlmnId}/provisioned-data/lcs-bca-data | GET | Retrieve the UE's subscribed LCS Broadcast Assistance subscription data |

\* \* \* Next Change \* \* \* \*

### 5.2.xx Resource: 5GVnGroupsInternal

#### 5.2.xx.1 Description

This resource represents a read-only view of the collection resource of 5G VN Group data, so it can be queried based on the Internal Group Id from NF Service Consumers having such Id as the ony way to identify a group (e.g. PCF).

#### 5.2.xx.2 Resource Definition

Resource URI: {apiRoot}/nudr-dr/<apiVersion>/subscription-data/group-data/5g-vn-groups/internal

This resource shall support the resource URI variables defined in table 5.2.xx.2-1.

Table 5.2.xx.2-1: Resource URI variables for this resource

|  |  |
| --- | --- |
| Name | Definition |
| apiRoot | See 3GPP TS 29.504 [2] clause 6.1.1 |

#### 5.2.xx.3 Resource Standard Methods

##### 5.2.xx.3.1 GET

This method shall support the URI query parameters specified in table 5.2.xx.3.1-1.

Table 5.2.xx.3.1-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| internal-group-ids | array(GroupId) | M | 1..N | Return those 5G VN groups whose Internal Group ID corresponds with any of the Group IDs in this list. |

This method shall support the request data structures specified in table 5.2.xx.3.1-2 and the response data structures and response codes specified in table 5.2.xx.3.1-3.

Table 5.2.xx.3.1-2: Data structures supported by the GET Request Body on this resource

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

Table 5.2.xx.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| map(5GVnGroupConfiguration) | M | 1 | 200 OK | Upon success, a response body containing the map (list of key-value pairs where ExtGroupId (see 3GPP TS 29.503 [6] serves as key) of 5GVnGroupConfiguration shall be returned. |

\* \* \* Next Change \* \* \* \*

## A.2 Nudr\_DataRepository API for Subscription Data

***(… text not shown for clarity …)***

/subscription-data/group-data/5g-vn-groups/internal:

get:

summary: Retrieves the data of 5G VN Group

operationId: Query5GVnGroupInternal

tags:

- 5G-VN-Groups-Internal (Document)

parameters:

- name: internal-group-ids

in: query

description: List of Internal Group IDs

required: true

schema:

type: array

items:

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

style: form

explode: false

responses:

'200':

description: Expected response to a valid request

content:

application/json:

schema:

type: object

description: A map (list of key-value pairs) where ExtGroupId serves as key

additionalProperties:

$ref: 'TS29503\_Nudm\_PP.yaml#/components/schemas/5GVnGroupConfiguration'

default:

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

***(… text not shown for clarity …)***

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