**3GPP TSG-CT WG4 Meeting #105-eC4-214xyz**

**E-Meeting, 17th – 27th August 2021 (was C4-214375)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.505** | **CR** | **0371** | **rev** | **1** | **Current version:** | **17.3.0** |  |
|  | | | | | | | | |
| *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:*** | Allow changing NIDD Authorization data | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | SBIProtoc17 | | | | |  | ***Date:*** | | | 2021-08-01 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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:*** | | TS 23.502 in chapter 4.25.6 specifies a mechanism to notify NEF about authorization updates performed in UDM, so that if an already authorized identity, S-NSSAI ir DNN is not allowed to be used for NIDD configuration, UDM is able to revoke or refresh this authorization.  TS 29.505 includes an operation to provide NIDD authorization data (chapter 5.2.38) including the authorized identities, but not the rest of allowed fields (e.g., NSSAI, DNN list or MTC Provider).  Without this information, it is not possible for UDR to notify UDM about the change of this data, so that it can be later used by UDM to notify NEF about authorization revocation.  As an example, it is possible to notify NEF about authorization revocation when a specific user identity (e.g., GPSI or external ID) cannot be use for NIDD, but it is not possible to notify NEF when a specific MTC Provider is not allowed to use NIDD over a particular device. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The authorization data information element provided by UDR when requesting NiddAuthorizationData resource is extended to include the rest of authorized data (allowedDnnList, allowedSnnsaiList and allowedMtcProviderList), so that if it is changed, a notification can be sent towards UDR Service Consumer. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Notifications of NIDD Authorization changes will not be executed, not providing SA2 functionality described in chapter 4.25.6 in TS 23.502. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.4.1, 5.4.2.X (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\_DR.yaml | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

## 5.4 Data Model

### 5.4.1 General

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

Table 5.4.1-1 specifies the data types defined for the Nudr service based interface protocol.

Table 5.4.1-1: Nudr Subscriber Data specific Data Types

|  |  |  |
| --- | --- | --- |
| Data type | Clause defined | Description |
| AuthenticationSubscription | 5.4.2.2 | A UE's authentication data |
| OperatorSpecificDataContainer | 5.4.2.3 | Container for operator specific data |
| SmfRegList | 5.4.2.4 | The list of all the SMF registrations of a UE |
| SubscriptionDataSubscriptions | 5.4.2.5 | A subscription to notifications. |
| DataChangeNotify | 5.4.2.6 | Container for data which have changed and notification was requested when changed. |
| IdentityData | 5.4.2.7 | Identity data corresponds to the provided ueId |
| ProvisionedDataSets | 5.4.2.8 | Contains the provisioned data sets |
| SorData | 5.4.2.9 | Used to store the status of the latest SOR data update |
| UpuData | 5.4.2.9A | Used to store the status of the latest UPU data update |
| NssaiAckData | 5.4.2.9B | Used to store the status of the latest NSSAI data update |
| CagAckData | 5.4.2.9C | Used to store the status of the latest CAG data update |
| AmfSubscriptionInfo | 5.4.2.19 | Information the UDR stores and retrieves related to active subscriptions at the AMF(s) |
| EeProfileData | 5.4.2.20 | Event Exposure Profile Data |
| ContextDataSets | 5.4.2.22 | Contains the context data sets |
| SequenceNumber | 5.4.2.23 | Contains the SQN |
| MessageWaitingData | 5.4.2.24 | Message Waiting Data list |
| SmscData | 5.4.2.25 | Addresses of SM-Service Center entities with SMS wating to be delivered to the UE |
| SmfSubscriptionInfo | 5.4.2.26 | Information the UDR stores and retrieves related to active subscriptions at the SMF(s) |
| SmfSubscriptionItem | 5.4.2.27 | Contains info about a single SMF event subscription |
| MtcProvider | 5.4.2.28 | MTC provider information |
| HssSubscriptionInfo | 5.4.2.29 | Information the UDR stores related to active subscriptions at the HSS(s) |
| HssSubscriptionItem | 5.4.2.30 | Contains info about a single HSS event subscription |
| EeGroupProfileData | 5.4.2.31 | The Event Exposure Profile Data for a group of UEs |
| Pp5gVnGroupProfileData | 5.4.2.32 | The Paramter Provision Profile Data for 5G VN groups |
| PpProfileData | 5.4.2.33 | The Paramter Provision Profile Data |
| AllowedMtcProviderInfo | 5.4.2.34 | Allowed MTC Providers or AFs Information to provision parameters for UE. |
| AuthorizationData | 5.4.2.X | NIDD Authorization Information |
| AuthMethod | 5.4.3.3 | Contains the Authentication Method |
| DataSetName | 5.4.3.4 | The name of data set |
| ContextDataSetName | 5.4.3.6 | The name of context data set |
| SqnScheme | 5.4.3.7 | Scheme for generation of Sequence Numbers |
| Sign | 5.4.3.8 | Sign of the DIF value |
| UeUpdateStatus | 5.4.3.9 | Status of the procedure |
| PpDataType | 5.4.3.10 |  |

Table 5.4.1-2 specifies data types re-used by the Nudr service based interface protocol from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the Nudr service based interface.

Table 5.4.1-2: Nudr re-used Data Types

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Data type | | Reference | | Comments | |
| AccessAndMobilitySubscriptionData | | 3GPP TS 29.503 [6] | | Access and Mobility Subscription Data | |
| SmfSelectionSubscriptionData | | 3GPP TS 29.503 [6] | | SMF Selection Subscription Data | |
| SessionManagementSubscriptionData | | 3GPP TS 29.503 [6] | | Session Management Subscription Data | |
| Amf3GppAccessRegistration | | 3GPP TS 29.503 [6] | |  | |
| AmfNon3GppAccessRegistration | | 3GPP TS 29.503 [6] | | The complete set of information relevant to the AMF where the UE has registered via non 3GPP access. | |
| SmfRegistration | | 3GPP TS 29.503 [6] | |  | |
| SmsfRegistration | | 3GPP TS 29.503 [6] | |  | |
| SmsManagementSubscriptionData | | 3GPP TS 29.503 [6] | |  | |
| SupportedFeatures | | 3GPP TS 29.571 [3] | | Used to negotiate the applicability of the optional features | |
| ProblemDetails | | 3GPP TS 29.571 [3] | | Detailed information about the status code. | |
| PpData | | 3GPP TS 29.503 [6] | |  | |
| PpDataEntry | | 3GPP TS 29.503 [6] | | Provisioned Parameter Data Entry | |
| SmsSubscriptionData | | 3GPP TS 29.503 [6] | |  | |
| PatchItem | | 3GPP TS 29.571 [3] | | Data structure used for JSON patch. | |
| SdmSubscription | | 3GPP TS 29.503 [6] | |  | |
| EeSubscription | | 3GPP TS 29.503 [6] | |  | |
| Uri | | 3GPP TS 29.571 [3] | |  | |
| TraceData | | 3GPP TS 29.571 [3] | |  | |
| Dnn | | 3GPP TS 29.571 [3] | | Data Network Name | |
| Snssai | | 3GPP TS 29.571 [3] | | Single NSSAI | |
| VarUeId | | 3GPP TS 29.571 [3] | | String represents the SUPI or GPSI. | |
| NfInstanceId | | 3GPP TS 29.571 [3] | |  | |
| NotifyItem | | 3GPP TS 29.571 [3] | | Common data type used for data change notification. | |
| OdbData | | 3GPP TS 29.571 [3] | | Operator Determined Barring Data | |
| EventType | | 3GPP TS 29.503 [6] | |  | |
| ExtGroupId | | 3GPP TS 29.503 [6] | | External Group Identifier | |
| PduSessionId | | 3GPP TS 29.571 [3] | |  | |
| DateTime | | 3GPP TS 29.571 [3] | |  | |
| UpuMac | | 3GPP TS 29.509 [15] | |  | |
| 5GVnGroupConfiguration | | 3GPP TS 29.503 [6] | |  | |
| PatchResult | | 3GPP TS 29.571 [3] | |  | |
| SupportedFeatures | | 3GPP TS 29.571 [3] | |  | |
| AppPortId | | 3GPP TS 29.503 [6] | |  | |
| LcsPrivacyData | | 3GPP TS 29.503 [6] | | LCS Privacy Subscription Data | |
| LcsMoData | | 3GPP TS 29.503 [6] | | LCS Mobile Originated Subscription Data | |
| MtcProviderInformation | | 3GPP TS 29.571 [3] | |  | |
| EnhancedCoverageRestrictionData | | 3GPP TS 29.503 [6] | |  | |
| LocationInfo | | 3GPP TS 29.503 [6] | |  | |
| V2xSubscriptionData | | 3GPP TS 29.503 [6] | | V2X Subscription Data | |
| E164Number | | 3GPP TS 29.503 [6] | |  | |
| NetworkNodeDiameterAddress | | 3GPP TS 29.503 [6] | |  | |
| IpSmGwRegistration | | 3GPP TS 29.503 [6] | |  | |
| LcsBroadcastAssistanceTypesData | | 3GPP TS 29.503 [6] | | LCS Broadcast Assistance Data Types | |
| ContextInfo | | 3GPP TS 29.503 [6] | |  | |
| NfGroupId | | 3GPP TS 29.571 [3] | |  | |
| ProseSubscriptionData | | 3GPP TS 29.503 [6] | | ProSe Service Subscription Data | |
| PlmnId | | 3GPP TS 29.571 [3] | | PLMN ID | |
| GroupIdentifiers | | 3GPP TS 29.503 [6] | | External or Internal Group Identifier with a list of group members | |

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

#### 5.4.2.X Type: AuthorizationData

Table 5.4.2.X-1: Definition of type AuthorizationData

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description |
| authorizationData | array(UserIdentifier) | M | 1..N | May contain a single value or list of (SUPI and GPSI). Contains unique items. |
| allowedDnnList | array(Dnn) | O | 0..N | List of the allowed DNNs that this user can use for NIDD |
| allowedSnssaiList | array(Snssai) | O | 0..N | List of the allowed SNSSAIs that this user can use for NIDD |
| allowedMtcProviders | array(AllowedMtcProviderInfo) | O | 0..N | List of AllowedMtcProviderInfos which include MTC provider informations or AF IDs that are allowed for NIDD |

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

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

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

SmsManagementSubscriptionData:

$ref: 'TS29503\_Nudm\_SDM.yaml#/components/schemas/SmsManagementSubscriptionData'

SmsSubscriptionData:

$ref: 'TS29503\_Nudm\_SDM.yaml#/components/schemas/SmsSubscriptionData'

LcsPrivacyData:

$ref: 'TS29503\_Nudm\_SDM.yaml#/components/schemas/LcsPrivacyData'

LcsMoData:

$ref: 'TS29503\_Nudm\_SDM.yaml#/components/schemas/LcsMoData'

AuthorizationData:

description: NIDD Authorization Information

required:

- authorizationData

properties:

authorizationData:

type: array

items:

$ref: 'TS29503\_Nudm\_NIDDAU.yaml#/components/schemas/UserIdentifier'

minItems: 1

uniqueItems: true

allowedDnnList:

type: array

items:

anyOf:

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

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

allowedSnssaiList:

type: array

items:

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

allowedMtcProviders:

type: array

items:

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

EnhancedCoverageRestrictionData:

$ref: 'TS29503\_Nudm\_SDM.yaml#/components/schemas/EnhancedCoverageRestrictionData'

V2xSubscriptionData:

$ref: 'TS29503\_Nudm\_SDM.yaml#/components/schemas/V2xSubscriptionData'

ProseSubscriptionData:

$ref: 'TS29503\_Nudm\_SDM.yaml#/components/schemas/ProseSubscriptionData'

LcsBroadcastAssistanceTypesData:

$ref: 'TS29503\_Nudm\_SDM.yaml#/components/schemas/LcsBroadcastAssistanceTypesData'

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