**3GPP TSG-CT WG4 Meeting #111-eC4-224xxx**

**E-Meeting, 18th – 26th August 2022 *Revision of C4-224285***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.503** | **CR** | **0920** | **rev** | **1** | **Current version:** | **17.7.0** |  |
|  | | | | | | | | |
| *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:*** | Correction of ServiceSpecificAuthorization | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eEDGE\_5GC | | | | |  | ***Date:*** | | | 2022-08-03 |
|  |  | | | |  | |  | | |  |
| ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | For Service Specific Authorization, as defined in clause 5.2.3.8.3 of 3GPP TS 23.502, the External Group Id can be included in the notification message to update the group of UEs' authorization.  The current definition of AuthUpdateNotification reuses the AuthorizationData defined for NIDDAuthorization Service, which only allowes to include the SUPI as mandatory IE and GPSI as optional IE. The UDM needs to return all of the SUPIs related to the group to the NEF in Service Specific Authorization Data Update Notification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Propose to replace the AuthorizationData with ServicepecificAuthorizationData, and include the External Group Id in Service Specific Authorization update notification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Misalignment with stage2.  Increase the signalling cost to return all of the SUPIs to the NEF. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.8.5.2, 6.8.6.1, 6.8.6.2.3, 6.8.6.2.5, 6.8.7.3, A.9 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 contribution introduces backward compatible corrections to the OpenAPI file of Nudm\_SSAU API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev1:  Revert the changes on AuthUpdateNotification;  Replace the AuthorizationData with ServicepecificAuthorizationData, and include extGroupId. | | | | | | | | |

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

#### 6.8.5.2 Service Specific Data Update Notification

The POST method shall be used for Service Specific Data Update Notifications and the Call-back URI shall be provided during the Service Specific Authorization Data Retrieval procedure. UDM should continuously generate Service Specific Authorization Data Update Notifications to service consumer (NEF) for UE for the event until validity time related to the UE expires, and if validity time expires, it indicates unsubscription to notification for the UE.

Resource URI: {authUpdateCallbackUri}

Support of URI query parameters are specified in table 6.8.5.2-1.

Table 6.8.5.2-1: URI query parameters supported by the POST method

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

Support of request data structures is specified in table 6.8.5.2-2 and of response data structures and response codes is specified in table 6.8.5.2-3.

Table 6.8.5.2-2: Data structures supported by the POST Request Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| AuthUpdateNotification | M | 1 |  |

Table 6.8.5.2-3: Data structures supported by the POST Response Body

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| n/a |  |  | 204 No Content | Upon success, an empty response body shall be returned. |
| ProblemDetails | O | 0..1 | 404 Not Found | The "cause" attribute may be used to indicate one of the following application errors:  - CONTEXT\_NOT\_FOUND |
| NOTE: In addition common data structures as listed in table 6.8.7-1 are supported. | | | | |

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

#### 6.8.6.1 General

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

Table 6.8.6.1-1 specifies the structured data types defined for the Nudm\_SSAU service API. For simple data types defined for the Nudm\_SSAU service API see table 6.8.6.3.2-1.

Table 6.8.6.1-1: Nudm\_SSAU specific Data Types

|  |  |  |
| --- | --- | --- |
| Data type | Clause defined | Description |
| AuthUpdateNotification | 6.8.6.2.2 |  |
| AuthUpdateInfo | 6.8.6.2.3 |  |
| ServiceSpecificAuthorizationInfo | 6.8.6.2.4 |  |
| ServiceSpecificAuthorizationData | 6.8.6.2.5 | Authorization Response for a specific service |
| AuthorizationUeId | 6.8.6.2.6 | UE Id of the Authorization Data |
| ServiceType | 6.8.6.3.2 | Service Type of the Authorization |

Table 6.8.6.1-2 specifies data types re-used by the Nudm\_SSAU service API from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the Nudm\_SSAU service API.

Table 6.8.6.1-2: Nudm\_SSAU re-used Data Types

|  |  |  |
| --- | --- | --- |
| Data type | Reference | Comments |
| AuthorizationData | 6.6.6.2.2 |  |
| Dnn | 3GPP TS 29.571 [7] | Data Network Name with Network Identifier only. |
| Snssai | 3GPP TS 29.571 [7] |  |
| ExternalGroupId | 3GPP TS 29.571 [7] |  |

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

##### 6.8.6.2.3 Type: AuthUpdateInfo

Table 6.8.6.2.4-1: Definition of type AuthUpdateInfo

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description |
| authorizationData | ServicepecificAuthorizationData | M | 1 | This IE shall include the Authorization data. |
| invalidityInd | boolean | O | 0..1 | Indicates whether the authorized Service Specific authoration data is still valid or not.  true: the authorized Service Specific authoration data is not valid.  false or absent: the authorized Service Specific authoration data is valid. |

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

##### 6.8.6.2.5 Type: ServicepecificAuthorizationData

Table 6.8.6.2.5x-1: Definition of type ServiceSpecificAuthorizationData

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description |
| authorizationUeId | AuthorizationUeId | C | 0..1 | This IE shall be present for the service specific authorisation of the individual UE. |
| extGroupId | ExternalGroupId | C | 0..1 | This IE shall be present for the service specific authorisation of the group of UEs. |
| validityTime | DateTime | O | 0..1 | Indicates the granted validity time of the authorisation result.  If absent, it indicates the authorisation result is valid permanently |

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

#### 6.8.7.3 Application Errors

The common application errors defined in the Table 5.2.7.2-1 in 3GPP TS 29.500 [4] may also be used for the Nudm\_ServiceSpecificAuthorization service. The following application errors listed in Table 6.8.7.3-1 are specific for the Nudm\_ServiceSpecificAuthorization service.

Table 6.8.7.3-1: Application errors

|  |  |  |
| --- | --- | --- |
| Application Error | HTTP status code | Description |
| UNKNOWN\_5GS\_SUBSCRIPTION | 403 Forbidden | No 5GS subscription is associated with the user. |
| USER\_NOT\_FOUND | 404 Not Found | The user does not exist in the HPLMN |
| DNN\_NOT\_ALLOWED | 403 Forbidden | DNN not authorized for the user |
| MTC\_PROVIDER\_NOT\_ALLOWED | 403 Forbidden | MTC Provider not authorized |
| AF\_INSTANCE\_NOT\_ALLOWED | 403 Forbidden | This AF instance is not authorized |
| SNSSAI\_NOT\_ALLOWED | 403 Forbidden | This SNSSAI is not authorized to this user |
| SERVICE\_TYPE\_NOT\_ALLOWED | 403 Forbidden | This serviceType is not authorized to this user. |
| CONTEXT\_NOT\_FOUND | 404 Not Found | It is used when no corresponding context exists. |

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

# A.9 Nudm\_SSAU API

openapi: 3.0.0

info:

version: '1.0.0'

title: 'Nudm\_SSAU'

description: |

Nudm Service Specific Authorization Service.

© 2022, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).

All rights reserved.

[…]

AuthUpdateInfo:

description: Represents authorization update information.

type: object

required:

- authorizationData

properties:

authorizationData:

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

invalidityInd:

type: boolean

ServiceSpecificAuthorizationInfo:

description: Authorization information for a specific service

type: object

properties:

snssai:

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

dnn:

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

mtcProviderInformation:

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

authUpdateCallbackUri:

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

afId:

type: string

nefId:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/NefId'

ServiceSpecificAuthorizationData:

description: Authorization Response for a specific service.

type: object

properties:

authorizationUeId:

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

extGroupId:

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

validityTime:

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

[…]

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