**3GPP TSG-CT WG4 Meeting #96eC4-200801**

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

**Source: Ericsson**

**Title: Completion of shared data resource**

**Spec: 3GPP TS 29.562 v0.3.0**

**Agenda item: 6.1.14**

**Document for: Agreement**

**1. Introduction**

-

**2. Reason for Change**

Complete shared data resource.

**3. Conclusions**

-

**4. Proposal**

It is proposed to agree the following changes to 3GPP TS 29.562 v0.3.0.

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

##### 5.3.2.2.x Shared Subscription Data Retrieval

Figure 5.3.2.2.x-1 shows a scenario where the NF service consumer (e.g.S-CSCF) sends a request to the HSS to receive the shared subscription data. The request contains the type of the requested information (/shared-data) and query parameters (supportedFeatures, shared-data-id).



Figure 5.3.2.2.x-1: Requesting shared data

1. The NF service consumer (e.g. S-CSCF) sends a GET request to the resource representing the SharedData, with query parameters indicating the supportedFeatures and shared-data-id.

2a. On success, the HSS responds with "200 OK" with the message body containing the SharedData.

2b. If there is no valid shared data for one or more of the shared-data-ids, HTTP status code "404 Not Found" 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 GET response body.

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

#### 6.2.3.x Resource: SharedData

##### 6.2.3.x.1 Description

This resource represents the collection of data that can be shared by multiple UEs.

##### 6.2.3.x.2 Resource Definition

Resource URI: {apiRoot}/nudm-ims-sdm/{apiVersion}/shared-data

This resource shall support the resource URI variables defined in table 6.2.3.x.2-1.

Table 6.2.3.x.2-1: Resource URI variables for this resource

|  |  |
| --- | --- |
| Name | Definition |
| apiRoot | See clause 6.2.1 |
| apiVersion | See clause 6.2.1 |

##### 6.2.3.x.3 Resource Standard Methods

###### 6.2.3.x.3.1 GET

This method shall support the URI query parameters specified in table 6.2.3.x.3.1-1.

Table 6.2.3.x.3.1-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| shared-data-ids | array(SharedDataId) | M | 1..N |  |

This method shall support the request data structures specified in table 6.2.3.x.3.1-2 and the response data structures and response codes specified in table 6.2.3.x.3.1-3.

Table 6.2.3.x.3.1-2: Data structures supported by the GET Request Body on this resource

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

Table 6.2.3.x.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| array(SharedData) | M | 1..N | 200 OK | Upon success, a response body containing a list of SharedData shall be returned. |
| ProblemDetails | M | 1 | 404 Not Found | The "cause" attribute shall be set to the following application error:- DATA\_NOT\_FOUND |
| NOTE: In addition common data structures as listed in table 6.1.7-1 are supported. |

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

#####

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

##### 6.2.6.2.5 Type: SharedData

Table 6.2.6.2.5-1: SharedData

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description |
| sharedDataId | SharedDataId | M | 1 | Identifier of the shared data |
| sharedImsChargingData | ImsChargingData | O | 0..1 | Shared Access and Mobility Subscription Data |
| sharedImsIfcData | Ifcs | O | 0..1 | Shared IFC Subscription Data |
| Note 1: Exactly one of sharedImsChargingData and sharedImsIfcData shall be present.Note 2: The attributes sharedImsChargingData and sharedImsIfcData shall not contain sharedDataIdsNote 3: When shared data clash with individual data, individual data shall take precedence.  |

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

##### 6.2.6.3.2 Simple data types

The simple data types defined in table 6.2.6.3.2-1 shall be supported.

Table 6.2.6.3.2-1: Simple data types

|  |  |  |
| --- | --- | --- |
| Type Name | Type Definition | Description |
| Capability | integer | S-CSCF capability  |
| SequenceNumber | integer | Unsigned integer containing the sequence number associated to the current version of Repository Data |
| ServiceIndication | string | String containing the Service Indication or Service Identifier |
| Msisdn | string | String containing an additional or basic MSISDNpattern: '[0-9]{5,15}$' |
| PrivateId | string | String containing a Private User Identity or a Private Service Identity.  |
| ImsPublicId | string | String containing an IMS Public Identity in SIP URI format or TEL URI format, as specified 3GPP TS 23.003 [2]Pattern; "^(sip\:([a-zA-Z0-9\_\-.!~\*()&=+$,;?\/]+)\@([A-Za-z0-9]+([-A-Za-z0-9]+)\.)+[a-z]{2,}|tel\:\+[0-9]{5,15})$" |
| SharedDataId | string | Identifies globally and uniquely a piece of subscription data shared by multiple UEs. The value shall start with the HPLMN id (MCC/MNC) followed by a hyphen followed by a local Id as allocated by the home network operator. pattern: "[0-9]{5,6}-.+" |

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

### 6.2.8 Feature negotiation

The optional features in table 6.2.8-1 are defined for the Nhss\_imsSDM API. They shall be negotiated using the extensibility mechanism defined in clause 6.6 of 3GPP TS 29.500 [4].

Table 6.2.8-1: Supported Features

|  |  |  |
| --- | --- | --- |
| Feature number | Feature Name | Description |
| 1 | SharedData | When receiving a Nhss\_ismSDM\_Get service operation request to retrieve a UE's IMS profile data, and the request does not contain a supported-features query parameter indicating support of this feature, the HSS shall not include Shared Data Ids in the response. Instead the HSS may – based on operator policy – take no further action (i.e. allow the UE to get services based on only the UE's individual IMS profile data), or send the shared data as individual data (this may result in notifications of individual subscription data change – if so subscribed – when shared data, which are sent as individual data, are modified, and/or when the UE's Shared Data IDs are modified). |

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

## A.3 Nhss\_imsSDM API

openapi: 3.0.0

info:

 version: '1.0.0.alpha-1'

 title: 'Nhss\_imsSDM'

 description: |

 Nhss Subscriber Data Management Service for IMS.

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externalDocs:

 description: 3GPP TS 29.562 Unified Data Management Services, version 0.3.0

 url: 'http://www.3gpp.org/ftp/Specs/archive/29\_series/29.562/'

servers:

 - url: '{apiRoot}/nhss-ims-sdm/v1'

 variables:

 apiRoot:

 default: https://example.com

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

security:

 - oAuth2ClientCredentials:

 - nhss-ims-sdm

 - {}

paths:

 /{imsUeId}/ims-data/location-data/scscf-capabilities:

 get:

 summary: Retrieve the S-CSCF capabilities for the associated IMS subscription

 operationId: GetScscfCapabilities

 tags:

 - Retrieval of the S-CSCF capabilities for the IMS subscription

 parameters:

 - name: imsUeId

 in: path

 description: IMS Identity

 required: true

 schema:

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

 responses:

 '200':

 description: Expected response to a valid request

 content:

 application/json:

 schema:

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

 '404':

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

 '405':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/405'

 '500':

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

 '503':

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

 '504':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/504'

 default:

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

 /{imsUeId}/repository-data/{serviceIndication}:

 get:

 summary: Retrieve the repository data associated to an IMPU and service indication

 operationId: GetRepositoryDataServInd

 tags:

 - Repository data

 parameters:

 - name: imsUeId

 in: path

 description: IMS Identity

 required: true

 schema:

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

 - name: serviceIndication

 in: path

 description: Identifier of a service related data

 required: true

 schema:

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

 responses:

 '200':

 description: Expected response to a valid request

 content:

 application/json:

 schema:

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

 '400':

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

 '404':

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

 '405':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/405'

 '500':

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

 '503':

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

 default:

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

 /{imsUeId}/identities/msisdns:

 get:

 summary: retrieve the Msisdns associated to requested identity

 operationId: GetMsisdns

 tags:

 - Retrieval of the associated Msisdns

 parameters:

 - name: imsUeId

 in: path

 description: IMS Identity

 required: true

 schema:

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

 - name: privateId

 in: query

 description: Private identity

 schema:

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

 responses:

 '200':

 description: Expected response to a valid request

 content:

 application/json:

 schema:

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

 '400':

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

 '404':

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

 '405':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/405'

 '500':

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

 '503':

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

 default:

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

 /{imsUeId}/identities/ims-associated-identities:

 get:

 summary: Retrieve the associated identities to the IMS public identity included in the service request

 operationId: GetImsAssocIds

 tags:

 - Retrieval of associated IMS public identities

 parameters:

 - name: imsUeId

 in: path

 description: IMS Public Identity

 required: true

 schema:

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

 responses:

 '200':

 description: Expected response to a valid request

 content:

 application/json:

 schema:

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

 '400':

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

 '404':

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

 '405':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/405'

 '500':

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

 '503':

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

 default:

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

 /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'

 responses:

 '200':

 description: Expected response to a valid request

 content:

 application/json:

 schema:

 type: array

 items:

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

 minItems: 1

 '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

components:

 schemas:

# COMPLEX TYPES:

SharedData:

 type: object

 required:

 - sharedDataId

 properties:

 sharedDataId:

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

 sharedImsIfcData:

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

 minProperties: 1

 ScscfCapabilityList:

 type: object

 properties:

 mandatoryCapabilityList:

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

 optionalCapabilityList:

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

 anyOf:

 - required: [mandatoryCapabilityList]

 - required: [optionalCapabilityList]

 Capabilities:

 type: array

 items:

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

 minItems: 1

 uniqueItems: true

 RepositoryData:

 type: object

 required:

 - serviceData

 - sequenceNumber

 properties:

 sequenceNumber:

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

 serviceData:

 type: string

 format: byte

 MsisdnList:

 type: object

 required:

 - basicMsisdn

 properties:

 basicMsisdn:

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

 additionalMsisdns:

 type: array

 minItems: 1

 items:

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

 PublicIdentities:

 type: object

 required:

 - publicIdentities

 properties:

 publicIdentities:

 type: array

 items:

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

 minItems: 1

 uniqueItems: true

 PublicIdentity:

 type: object

 required:

 - imsPublicId

 - identityType

 properties:

 imsPublicId:

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

 identityType:

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

 irsIsDefault:

 type: boolean

 aliasGroupId:

 type: integer

# SIMPLE TYPES:

 Capability:

 type: integer

 ImsUeId:

 type: string

 pattern: '^sip\:([a-zA-Z0-9\_\-.!~\*()&=+$,;?\/]+)\@([A-Za-z0-9]+([-A-Za-z0-9]+)\.)+[a-z]{2,}$|^tel\:\+[0-9]{5,15}$'

 SequenceNumber:

 type: integer

 minimum: 0

 ServiceIndication:

 type: string

 Msisdn:

 type: string

 pattern: '[0-9]{5,15}$'

 PrivateId:

 type: string

 ImsPublicId:

 type: string

 pattern: '^(sip\:([a-zA-Z0-9\_\-.!~\*()&=+$,;?\/]+)\@([A-Za-z0-9]+([-A-Za-z0-9]+)\.)+[a-z]{2,}|tel\:\+[0-9]{5,15})$'

 SharedDataId:

 type: string

 pattern: '^[0-9]{5,6}-.+$'

# ENUMS:

 IdentityType:

 anyOf:

 - type: string

 enum:

 - DISTINCT\_IMPU

 - DISTINCT\_PSI

 - WILDCARDED\_IMPU

 - WILDCARDED\_PSI

 - type: string

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