**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 | Response  codes | 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 sharedDataIds  Note 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 MSISDN  pattern: '[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 \* \* \* \*