**3GPP TSG-CT WG3 Meeting #137C3-245366**

**Hefei, CN; 14th – 18th October 2024 *(Revision of C3-24xxxx)***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.548** | **CR** | **0025** | **rev** | **-** | **Current version:** | **19.0.0** |  |
|  | | | | | | | | |
| *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:*** | SEALDD policy configuration for multi-modal flows | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | China Mobile, Huawei | | | | | | | | | |
| ***Source to TSG:*** | C3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | XRM\_Ph2\_App | | | | |  | ***Date:*** | | | 2024-10-02 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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:*** | | Accroding to agreed TS 23.433 CR#0080, the SEALDD policy configuration procedure was updated to include SEALDD multi-modal policy configuration. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Update the SEALDD policy configuration procedure to include SEALDD policy configuration for multi-modal flows of XR communications | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Not aligned with stage 2. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.5.6.1, 6.5.6.2.2, 6.5.6.2.3, 6.5.6.2.7(NEW), 6.5.8, A.6 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 introduce a backward compatible feature to the SDD\_PolicyConfiguration API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

#### 6.5.6.1 General

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

Table 6.5.6.1-1 specifies the data types defined for the SDD\_PolicyConfiguration API.

Table 6.5.6.1-1: SDD\_PolicyConfiguration API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| BdwCtrlPolicy | 6.5.6.3.3 | Represents the bandwidth control policy. |  |
| QualGuarPolicy | 6.5.6.2.5 | Represents the quality guarantee policy. |  |
| QualGuarThresh | 6.5.6.2.6 | Represents the quality guarantee related thresholds. |  |
| PolicyConfig | 6.5.6.2.2 | Represents a SEALDD Policy Configuration. |  |
| PolicyConfigPatch | 6.5.6.2.3 | Represents the parameters to request the modification of a SEALDD Policy Configuration. |  |
| SealddPolicy | 6.5.6.2.4 | Represents a SEALDD Policy. |  |
| MultiModalSealddPolicy | 6.5.6.2.7 | Represents a Multi-modal SEALDD Policy. | XRMApp |

Table 6.5.6.1-2 specifies data types re-used by the SDD\_PolicyConfiguration API from other specifications, including a reference to their respective specifications, and when needed, a short description of their use within the SDD\_PolicyConfiguration API.

Table 6.5.6.1-2: SDD\_PolicyConfiguration API re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| DateTimeRo | 3GPP TS 29.122 [2] | Represents a date and a time with the "read-only" property. |  |
| MeasurementId | Clause 6.4.6.3.3 | Represents the transmission quality measurement type. |  |
| TransQualMeasCriteria | Clause 6.4.6.2.7 | Represents the transmission quality measurement reporting criteria. |  |
| Uri | 3GPP TS 29.122 [2] | Represents a URI. |  |
| SupportedFeatures | 3GPP TS 29.571 [18] | Represents the list of supported feature(s) and used to negotiate the applicability of the optional features. |  |
| ValTargetUe | 3GPP TS 29.549 [15] | Represents the identifier of the targeted VAL UE or VAL user. |  |

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

##### 6.5.6.2.2 Type: PolicyConfig

Table 6.5.6.2.2-1: Definition of type PolicyConfig

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| appTrafficIds | array(string) | M | 1..N | Contains the identifier(s) of the targeted application traffic. This can be in the form of e.g., VAL Service ID, VAL Server ID. |  |
| valTargetId | ValTargetUe | O | 0..1 | Contains the identifier of the VAL UE or VAL user to which the SEALDD policy configuration is related. |  |
| sealddPol | SealddPolicy | C | 0..1 | Represents the SEALDD policy that is to be configured.  (NOTE) |  |
| expTime | DateTimeRo | O | 0..1 | Contains the expiration time of the policy configuration.  This attribute may be present only in Policy Configuration creation/update responses.  If this attribute is absent, this means that the Policy Configuration shall not expire, until explicitly deleted by the service consumer. |  |
| suppFeat | SupportedFeatures | C | 0..1 | Contains the list of supported feature(s) among the ones defined in clause 6.5.8.  This attribute shall be present only when feature negotiation needs to take place. |  |
| multimodPol | MultiModalSealddPolicy | C | 0..1 | Represents the Multi-modal SEALDD policy that is to be configured.  (NOTE) | XRMApp |
| NOTE: When the "XRMApp" feature is supported, then at least one of these attributes shall be present. Otherwise, the "sealddPol" attribute shall be present. | | | | | |

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

##### 6.5.6.2.3 Type: PolicyConfigPatch

Table 6.5.6.2.3-1: Definition of type PolicyConfigPatch

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| sealddPol | SealddPolicy | O | 0..1 | Represents the updated SEALDD policy to be configured. |  |
| multimodPol | MultiModalSealddPolicy | O | 0..1 | Represents the updated Multi-modal SEALDD policy to be configured. | XRMApp |

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

##### 6.5.6.2.7 Type: MultiModalSealddPolicy

Table 6.5.6.2.7-1: Definition of type MultiModalSealddPolicy

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
|  |  |  |  |  |  |
| expTime | DateTimeRo | O | 0..1 | Contains the expiration time of the Multi-modal SEALDD policy configuration.  This attribute may be present only in Policy Configuration creation/update responses.  If this attribute is absent, this means that the the Multi-modal SEALDD policy configuration shall not expire, until explicitly deleted by the service consumer. |  |

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

### 6.5.8 Feature negotiation

The optional features listed in table 6.5.8-1 are defined for the SDD\_PolicyConfiguration API. They shall be negotiated using the extensibility mechanism defined in clause 6.8 of 3GPP TS 29.549 [15].

Table 6.5.8-1: Supported Features

|  |  |  |
| --- | --- | --- |
| Feature number | Feature Name | Description |
| 2 | XRMApp | This feature indicates the support of the enhancements to the SEAL Data Delivery Enabler Layer to support XRM applications.  Within this feature, the following enhancements are covered:  - Support Multi-modal Policy provisioning and management. |

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

# A.6 SDD\_PolicyConfiguration API

openapi: 3.0.0

info:

title: SEALDD Server Policy Configuration Service

version: 1.0.0

description: |

SEALDD Server Policy Configuration Service.

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externalDocs:

description: >

3GPP TS 29.548 V18.1.0; Service Enabler Architecture Layer for Verticals (SEAL);

SEAL Data Delivery (SEALDD) Server Services; Stage 3.

url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.548/

servers:

- url: '{apiRoot}/sdd-pc/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in clause 6.5 of 3GPP TS 29.549

security:

- {}

- oAuth2ClientCredentials: []

paths:

/configurations:

post:

summary: Request the creation of a Policy Configuration.

operationId: CreatePolicyConfig

tags:

- Policy Configurations (Collection)

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'201':

description: >

Created. The Policy Configuration is successfully created and a representation of

the created Individual Policy Configuration resource shall be returned.

content:

application/json:

schema:

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

headers:

Location:

description: >

Contains the URI of the created Individual Policy Configuration resource.

required: true

schema:

type: string

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/configurations/{configId}:

parameters:

- name: configId

in: path

description: >

Represents the identifier of the Individual Policy Configuration resource.

required: true

schema:

type: string

get:

summary: Retrieve an existing Individual Policy Configuration resource.

operationId: GetIndPolicyConfig

tags:

- Individual Policy Configuration (Document)

responses:

'200':

description: >

OK. The requested Individual Policy Configuration resource shall be returned.

content:

application/json:

schema:

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

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

put:

summary: Request the update of an existing Individual Policy Configuration resource.

operationId: UpdateIndPolicyConfig

tags:

- Individual Policy Configuration (Document)

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'200':

description: >

OK. The Individual Policy Configuration resource is successfully updated and a

representation of the updated resource shall be returned in the response body.

content:

application/json:

schema:

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

'204':

description: >

No Content. The Individual Policy Configuration resource is successfully updated

and no content is returned in the response body.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

patch:

summary: Request the modification of an existing Individual Policy Configuration resource.

operationId: ModifyIndPolicyConfig

tags:

- Individual Policy Configuration (Document)

requestBody:

required: true

content:

application/merge-patch+json:

schema:

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

responses:

'200':

description: >

OK. The Individual Policy Configuration resource is successfully modified and a

representation of the updated resource shall be returned in the response body.

content:

application/json:

schema:

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

'204':

description: >

No Content. The Individual Policy Configuration resource is successfully modified and

no content is returned in the response body.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

delete:

summary: Request the deletion of an existing Individual Policy Configuration resource.

operationId: DeleteIndPolicyConfig

tags:

- Individual Policy Configuration (Document)

responses:

'204':

description: >

No Content. The Individual Policy Configuration resource is successfully deleted.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{tokenUrl}'

scopes: {}

schemas:

#

# STRUCTURED DATA TYPES

#

PolicyConfig:

description: >

Represents a SEALDD Policy Configuration.

type: object

properties:

appTrafficIds:

type: array

items:

type: string

minItems: 1

valTargetId:

$ref: 'TS29549\_SS\_UserProfileRetrieval.yaml#/components/schemas/ValTargetUe'

sealddPol:

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

expTime:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/DateTimeRo'

suppFeat:

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

multimodPol:

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

required:

- appTrafficIds

oneOf:

- required: [sealddPol]

- required: [multimodPol]

PolicyConfigPatch:

description: >

Represents the requested modifications to a SEALDD Policy Configuration.

type: object

properties:

sealddPol:

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

multimodPol:

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

SealddPolicy:

description: >

Represents a SEALDD Policy.

type: object

properties:

qualGuarPol:

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

bdwCtrlSets:

type: array

items:

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

minItems: 1

anyOf:

- required: [qualGuarPol]

- required: [bdwCtrlSets]

QualGuarPolicy:

description: >

Represents the quality guarantee policy.

type: object

properties:

thresholds:

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

required:

- thresholds

QualGuarThresh:

description: >

Represents the quality guarantee related thresholds.

type: object

properties:

measId:

type: array

items:

$ref: 'TS29548\_SDD\_TransmissionQualityMeasurement.yaml#/components/schemas/MeasurementId'

minItems: 1

measThesh:

$ref: 'TS29548\_SDD\_TransmissionQualityMeasurement.yaml#/components/schemas/TransQualMeasCriteria'

required:

- measId

- measThesh

MultiModalSealddPolicy:

description: >

Represents a Multi-modal SEALDD Policy.

type: object

properties:

expTime:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/DateTimeRo'

# SIMPLE DATA TYPES

#

#

# ENUMERATIONS

#

BdwCtrlPolicy:

anyOf:

- type: string

enum:

- REALLOCATE\_DL

- REALLOCATE\_UL

- NOT\_REALLOCATE\_DL

- NOT\_REALLOCATE\_UL

- type: string

description: >

This string provides forward-compatibility with future extensions to the enumeration

and is not used to encode content defined in the present version of this API.

description: |

Represents the bandwidth control policy.

Possible values are:

- REALLOCATE\_DL: Indicates that the bandwidth control action is to reallocate the

bandwidth limit between different VAL users for DL traffic.

- REALLOCATE\_UL: Indicates that the bandwidth control action is to reallocate the

bandwidth limit between different VAL users for UL traffic.

- NOT\_REALLOCATE\_DL: Indicates that the bandwidth control action is to not reallocate

the bandwidth limit between different VAL users for DL traffic.

- NOT\_REALLOCATE\_UL: Indicates that the bandwidth control action is to not reallocate

the bandwidth limit between different VAL users for UL traffic.

# Data types describing alternative data types or combinations of data types:

#

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