**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 canbe 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 \* \* \* \*