**3GPP TSG CT WG3 Meeting #137 *C3-245070***

**Hefei, CN, 14 - 18 October, 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.548** | **CR** | **0016** | **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)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | SDD\_BDT API definition | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | SEALDD\_Ph2 | | | | |  | ***Date:*** | | | 2024-09-20 |
|  |  | | | |  | |  | | |  |
| ***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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19) Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | SDD\_BDT API was intorduced in release 19 under SEALDD\_Ph2 WI in SA6. Thus, the SDD\_BDT API definition shall be introduced in Stage 3. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | This CR introduces the API definition of the SDD\_BDT API | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The Stage 2 requirements are not implemented in Stage 3. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.1, 6.6 (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 does not impact any OpenAPI file. | | | | | | | | |
| ***()*** | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

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

## 5.1 Introduction

The SEALDD Server provides the following services:

- SDD\_Transmission

- SDD\_DataStorage

- SDD\_DDContext

- SDD\_TransmissionQualityMeasurement

- SDD\_PolicyConfiguration

- SDD\_BDT

NOTE: The stage 2 Sdd\_RegularTransmission and Sdd\_URLLCTransmission APIs defined in 3GPP TS 23.433 [7] are defined via the SDD\_Transmission API.

Table 5.1-1 summarizes the corresponding APIs defined for this specification.

Table 5.1-1: API Descriptions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Service Name | Clause | Description | OpenAPI Specification File | API Name | Annex |
| SDD\_Transmission | 6.1 | SEALDD Data Transmission Service | TS29548\_SDD\_Transmission.yaml | sdd-trans | A.2 |
| SDD\_DataStorage | 6.2 | SEALDD Data Storage Service | TS29548\_SDD\_DataStorage.yaml | sdd-ds | A.3 |
| SDD\_DDContext | 6.3 | SEALDD Context Relocation Service | TS29548\_SDD\_DDContext.yaml | sdd-ddc | A.4 |
| SDD\_TransmissionQualityMeasurement | 6.4 | SEALDD Data Transmission Quality Measurement Service | TS29548\_SDD\_TransmissionQualityMeasurement.yaml | sdd-tqm | A.5 |
| SDD\_PolicyConfiguration | 6.5 | SEALDD Policy Configuration Service | TS29548\_SDD\_PolicyConfiguration.yaml | sdd-pc | A.6 |
| SDD\_BDT | 6.6 | SEALDD Background Data Transfer Service | TS29548\_SDD\_BDT.yaml | sdd-bdt | A.7 |

NOTE: When 3GPP TS 29.122 [2] is referenced for the common protocol and interface aspects for API definition in the clauses under clause 5, the SEALDD Server takes the role of the SCEF and the service consumer takes the role of the SCS/AS.

\* \* \* Next change \* \* \* \*

## 6.6 SDD\_BDT Service API

### 6.6.1 Introduction

The SDD\_BDT service shall use the SDD\_BDT API.

The API URI of the SDD\_BDT Service API shall be:

**{apiRoot}/<apiName>/<apiVersion>**

The request URIs used in HTTP requests shall have the Resource URI structure defined in clause 6.5 of 3GPP TS 29.549 [15], i.e.:

**{apiRoot}/<apiName>/<apiVersion>/<apiSpecificSuffixes>**

with the following components:

- The {apiRoot} shall be set as described in clause 6.5 of 3GPP TS 29.549 [15].

- The <apiName>shall be "sdd-bdt".

- The <apiVersion> shall be "v1".

- The <apiSpecificSuffixes> shall be set as described in clause 6.5 of 3GPP TS 29.549 [15].

NOTE: When 3GPP TS 29.122 [2] is referenced for the common protocol and interface aspects for API definition in the clauses under clause 6.6, the SEALDD Server takes the role of the SCEF and the service consumer takes the role of the SCS/AS.

### 6.6.2 Usage of HTTP

The provisions of clause 6.3 of 3GPP TS 29.549 [15] shall apply for the SDD\_BDT API.

### 6.6.3 Resources

#### 6.6.3.1 Overview

This clause describes the structure for the Resource URIs and the resources and methods used for the service.

Figure 6.6.3.1-1 depicts the resource URIs structure for the SDD\_BDT API.



Figure 6.6.3.1-1: Resource URIs structure of the SDD\_BDT API

Table 6.6.3.1-1 provides an overview of the resources and applicable HTTP methods for the SDD\_BDT API.

Table 6.6.3.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method or custom operation | Description |
| BDT Subscriptions | /subscriptions | POST | Request the creation of a BDT Subscription. |
| Individual BDT Subscription | /subscriptions/{subId} | GET | Retrieve an existing "Individual BDT Subscription" resource. |
| PUT | Request the update of an existing "Individual BDT Subscription" resource. |
| PATCH | Request the modification of an existing "Individual BDT Subscription" resource. |
| DELETE | Request the deletion of an existing "Individual BDT Subscription" resource. |

#### 6.6.3.2 Resource: BDT Subscriptions

##### 6.6.3.2.1 Description

This resource represents the collection of SEALDD BDT Subscription(s) managed by the SEALDD Server.

##### 6.6.3.2.2 Resource Definition

Resource URI: **{apiRoot}/sdd-bdt/<apiVersion>/subscriptions**

This resource shall support the resource URI variables defined in table 6.6.3.2.2-1.

Table 6.6.3.2.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| apiRoot | string | See clause 6.6.1. |

##### 6.6.3.2.3 Resource Standard Methods

###### 6.6.3.2.3.1 POST

The HTTP POST method allows a service consumer to request the creation of a BDT Subscription at the SEALDD Server.

This method shall support the URI query parameters specified in table 6.6.3.2.3.1-1.

Table 6.6.3.2.3.1-1: URI query parameters supported by the POST method on this resource

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

This method shall support the request data structures specified in table 6.6.3.2.3.1-2 and the response data structures and response codes specified in table 6.6.3.2.3.1-3.

Table 6.6.3.2.3.1-2: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| BdtSubscription | M | 1 | Represents the parameters to request the creation of a BDT Subscription. |

Table 6.6.3.2.3.1-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| BdtSubscription | M | 1 | 201 Created | Successful case. The BDT Subscription is successfully created and a representation of the created "Individual BDT Subscription" resource shall be returned.  An HTTP "Location" header that contains the URI of the created resource shall also be included. |
| NOTE: The mandatory HTTP error status codes for the HTTP POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] shall also apply. | | | | |

Table 6.6.3.2.3.1-4: Headers supported by the 201 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains the URI of the newly created resource, according to the structure:  {apiRoot}/sdd-bdt/<apiVersion>/subscriptions/{subId} |

##### 6.6.3.2.4 Resource Custom Operations

There are no resource custom operations defined for this resource in this release of the specification.

#### 6.6.3.3 Resource: Individual BDT Subscription

##### 6.6.3.3.1 Description

This resource represents an "Individual BDT Subscription" resource managed by the SEALDD Server.

##### 6.6.3.3.2 Resource Definition

Resource URI: **{apiRoot}/sdd-bdt/<apiVersion>/subscriptions/{subId}**

This resource shall support the resource URI variables defined in table 6.6.3.3.2-1.

Table 6.6.3.3.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| apiRoot | string | See clause 6.6.1. |
| subId | string | Represents the identifier of the "Individual BDT Subscription" resource. |

##### 6.6.3.3.3 Resource Standard Methods

###### 6.6.3.3.3.1 GET

The HTTP GET method allows a service consumer to retrieve an existing "Individual BDT Subscription" resource at the SEALDD Server.

This method shall support the URI query parameters specified in table 6.6.3.3.3.1-1.

Table 6.6.3.3.3.1-1: URI query parameters supported by the GET method on this resource

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

This method shall support the request data structures specified in table 6.6.3.3.3.1-2 and the response data structures and response codes specified in table 6.6.3.3.3.1-3.

Table 6.6.3.3.3.1-2: Data structures supported by the GET Request Body on this resource

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

Table 6.6.3.3.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| BdtSubscription | M | 1 | 200 OK | Successful case. The requested "Individual BDT Subscription" resource shall be returned. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.  The response shall include a Location header field containing an alternative URI of the resource located in an alternative SEALDD Server.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.  The response shall include a Location header field containing an alternative URI of the resource located in an alternative SEALDD Server.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| NOTE: The mandatory HTTP error status codes for the HTTP GET method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] shall also apply. | | | | |

Table 6.6.3.3.3.1-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative SEALDD Server. |

Table 6.6.3.3.3.1-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative SEALDD Server. |

###### 6.6.3.3.3.2 PUT

The HTTP PUT method allows a service consumer to request the update of an existing "Individual BDT Subscription" resource at the SEALDD Server.

This method shall support the URI query parameters specified in table 6.6.3.3.3.2-1.

Table 6.6.3.3.3.2-1: URI query parameters supported by the PUT method on this resource

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

This method shall support the request data structures specified in table 6.6.3.3.3.2-2 and the response data structures and response codes specified in table 6.6.3.3.3.2-3.

Table 6.6.3.3.3.2-2: Data structures supported by the PUT Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| BdtSubscription | M | 1 | Represents the updated representation of the "Individual BDT Subscription" resource. |

Table 6.6.3.3.3.2-3: Data structures supported by the PUT Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| BdtSubscription | M | 1 | 200 OK | Successful case. The "Individual BDT Subscription" resource is successfully updated and a representation of the updated resource shall be returned in the response body. |
| n/a |  |  | 204 No Content | Successful case. The "Individual BDT Subscription" resource is successfully updated and no content is returned in the response body. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.  The response shall include a Location header field containing an alternative URI of the resource located in an alternative SEALDD Server.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.  The response shall include a Location header field containing an alternative URI of the resource located in an alternative SEALDD Server.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| NOTE: The mandatory HTTP error status codes for the HTTP PUT method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] shall also apply. | | | | |

Table 6.6.3.3.3.2-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative SEALDD Server. |

Table 6.6.3.3.3.2-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative SEALDD Server. |

###### 6.6.3.3.3.3 PATCH

The HTTP PATCH method allows a service consumer to request the modification of an existing "Individual BDT Subscription" resource at the SEALDD Server.

This method shall support the URI query parameters specified in table 6.6.3.3.3.3-1.

Table 6.6.3.3.3.3-1: URI query parameters supported by the PATCH method on this resource

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

This method shall support the request data structures specified in table 6.6.3.3.3.3-2 and the response data structures and response codes specified in table 6.6.3.3.3.3-3.

Table 6.6.3.3.3.3-2: Data structures supported by the PATCH Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| BdtSubscriptionPatch | M | 1 | Represents the parameters to request the modification of the "Individual BDT Subscription" resource. |

Table 6.6.3.3.3.3-3: Data structures supported by the PATCH Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| BdtSubscription | M | 1 | 200 OK | Successful case. The "Individual BDT Subscription" resource is successfully modified and a representation of the updated resource shall be returned in the response body. |
| n/a |  |  | 204 No Content | Successful case. The "Individual BDT Subscription" resource is successfully modified and no content is returned in the response body. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.  The response shall include a Location header field containing an alternative URI of the resource located in an alternative SEALDD Server.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.  The response shall include a Location header field containing an alternative URI of the resource located in an alternative SEALDD Server.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| NOTE: The mandatory HTTP error status codes for the HTTP PATCH method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] shall also apply. | | | | |

Table 6.6.3.3.3.3-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative SEALDD Server. |

Table 6.6.3.3.3.3-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative SEALDD Server. |

###### 6.6.3.3.3.4 DELETE

The HTTP DELETE method allows a service consumer to request the deletion of an existing "Individual BDT Subscription" resource at the SEALDD Server.

This method shall support the URI query parameters specified in table 6.6.3.3.3.4-1.

Table 6.6.3.3.3.4-1: URI query parameters supported by the DELETE method on this resource

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

This method shall support the request data structures specified in table 6.6.3.3.3.4-2 and the response data structures and response codes specified in table 6.6.3.3.3.4-3.

Table 6.6.3.3.3.4-2: Data structures supported by the DELETE Request Body on this resource

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

Table 6.6.3.3.3.4-3: Data structures supported by the DELETE Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| n/a |  |  | 204 No Content | Successful case. The "Individual BDT Subscription" resource is successfully deleted. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.  The response shall include a Location header field containing an alternative URI of the resource located in an alternative SEALDD Server.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.  The response shall include a Location header field containing an alternative URI of the resource located in an alternative SEALDD Server.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| NOTE: The mandatory HTTP error status codes for the HTTP DELETE method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] shall also apply. | | | | |

Table 6.6.3.3.3.4-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative SEALDD Server. |

Table 6.6.3.3.3.4-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative SEALDD Server. |

##### 6.6.3.3.4 Resource Custom Operations

There are no resource custom operations defined for this resource in this release of the specification.

### 6.6.4 Custom Operations without associated resources

There are no custom operations without associated resources defined for this API in this release of the specification.

### 6.6.5 Notifications

#### 6.6.5.1 General

Notifications shall comply to clause 6.6 of 3GPP TS 29.549 [15].

Table 6.6.5.1-1: Notifications overview

|  |  |  |  |
| --- | --- | --- | --- |
| Notification | Callback URI | HTTP method or custom operation | Description  (service operation) |
| BDT Notification | {notifUri} | POST | Enables a SEALDD Server to notify a previously subscribed service consumer on BDT related event(s). |

#### 6.6.5.2 BDT Notification

##### 6.6.5.2.1 Description

The BDT Notification is used by a SEALDD Server to notify a previously subscribed service consumer on BDT related event(s).

##### 6.6.5.2.2 Target URI

The Callback URI **"{notifUri}"** shall be used with the callback URI variables defined in table 6.6.5.2.2-1.

Table 6.6.5.2.2-1: Callback URI variables

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| notifUri | Uri | Represents the callback URI encoded as a string formatted as a URI. |

##### 6.6.5.2.3 Standard Methods

###### 6.6.5.2.3.1 POST

This method shall support the request data structures specified in table 6.6.5.2.3.1-1 and the response data structures and response codes specified in table 6.6.5.2.3.1-2.

Table 6.6.5.2.3.1-1: Data structures supported by the POST Request Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| BdtNotif | M | 1 | Represents the BDT Notification. |

Table 6.6.5.2.3.1-2: Data structures supported by the POST Response Body

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| n/a |  |  | 204 No Content | Successful case. The BDT Notification is successfully received and acknowledged. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.  The response shall include a Location header field containing an alternative URI representing the end point of an alternative service consumer towards which the notification should be sent.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.  The response shall include a Location header field containing an alternative URI representing the end point of an alternative service consumer towards which the notification should be sent.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| NOTE: The mandatory HTTP error status codes for the HTTP POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] shall also apply. | | | | |

Table 6.6.5.2.3.1-3: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI representing the end point of an alternative service consumer towards which the notification should be redirected. |

Table 6.6.5.2.3.1-4: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI representing the end point of an alternative service consumer towards which the notification should be redirected. |

### 6.6.6 Data Model

#### 6.6.6.1 General

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

Table 6.6.6.1-1 specifies the data types defined for the SDD\_BDT API.

Table 6.6.6.1-1: SDD\_BDT API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| BdtNotif | 6.6.6.2.4 | Represents a SEALDD BDT Notification. |  |
| BdtReport | 6.6.6.2.5 | Represents a BDT report. |  |
| BdtSubscription | 6.6.6.2.2 | Represents a SEALDD BDT Subscription. |  |
| BdtSubscriptionPatch | 6.6.6.2.3 | Represents the parameters to request the modification of a SEALDD BDT Subscription. |  |

Table 6.6.6.1-2 specifies data types re-used by the SDD\_BDT API from other specifications, including a reference to their respective specifications, and when needed, a short description of their use within the SDD\_BDT API.

Table 6.6.6.1-2: SDD\_BDT API re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| PolicyGuidance | 3GPP TS 29.549 [15] | Represents the policy guidance. |  |
| TimeWindow | 3GPP TS 29.122 [2] | Represents a time window. |  |
| SupportedFeatures | 3GPP TS 29.571 [18] | Represents the list of supported feature(s) and used to negotiate the applicability of the optional features. |  |
| TransQualMeasData | Clause 6.4.6.2.8 | Represents the transmission quality measurement data. |  |
| Uinteger | 3GPP TS 29.571 [18] | Represents an unsigned integer. |  |
| Uri | 3GPP TS 29.122 [2] | Represents a URI. |  |
| UsageThreshold | 3GPP TS 29.122 [2] | Represents a usage threshold. |  |

#### 6.6.6.2 Structured data types

##### 6.6.6.2.1 Introduction

This clause defines the data structures to be used in resource representations.

##### 6.6.6.2.2 Type: BdtSubscription

Table 6.6.6.2.2-1: Definition of type BdtSubscription

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| valServiceId | string | M | 1 | Represents the identifier of the VAL service for which BDT shall apply. |  |
| valUeIds | array(string) | C | 1..N | Contains the list of the identifier(s) of the VAL UE(s) for which BDT shall apply.  (NOTE) |  |
| valGroupId | string | C | 0..1 | Represents the identifier of the VAL group for which BDT shall apply.  (NOTE 1, NOTE 2) |  |
| timeWnd | TimeWindow | O | 0..1 | Represents the time window for BDT.  When present in a BDT Subscription creation/update request, it indicates the requested time window for BDT.  When present in a BDT Subscription creation/update response, it indicates the granted time window for BDT. |  |
| area | LocationArea5G | O | 0..1 | Contains location area within which BDT shall apply. |  |
| policyGuidances | array(PolicyGuidance) | O | 1..N | Represents the policy guidance information that shall apply for BDT. |  |
| dataVolume | UsageThreshold | M | 1 | Represents the size of the data to be stored. |  |
| notifUri | Uri | M | 1 | Represents the URI via which BDT Notifications should be delivered. |  |
| suppFeat | SupportedFeatures | C | 0..1 | Contains the list of supported feature(s) among the ones defined in clause 6.6.8.  This attribute shall be present only when feature negotiation needs to take place. |  |
| NOTE: These attributes are mutually exclusive and either one of them shall be present. | | | | | |

##### 6.6.6.2.3 Type: BdtSubscriptionPatch

Table 6.6.6.2.3-1: Definition of type BdtSubscriptionPatch

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| timeWnd | TimeWindow | O | 0..1 | Represents the requested time window for BDT. |  |
| area | LocationArea5G | O | 0..1 | Contains location area within which BDT shall apply. |  |
| policyGuidances | array(PolicyGuidance) | O | 1..N | Represents the policy guidance information that shall apply for BDT. |  |
| dataVolume | UsageThreshold | O | 0..1 | Represents the size of the data to be stored. |  |
| notifUri | Uri | O | 0..1 | Represents the notification URI. |  |

##### 6.6.6.2.4 Type: BdtNotif

Table 6.6.6.2.4-1: Definition of type BdtNotif

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| reports | array(BdtReport) | M | 1..N | Contains the list of BDT report(s). |  |

##### 6.6.6.2.5 Type: BdtReport

Table 6.6.6.2.5-1: Definition of type BdtReport

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| valUeIds | array(string) | C | 1..N | Contains the list of the identifier(s) of the VAL UE(s) for which BDT was successful.  (NOTE) |  |
| valGroupId | string | C | 0..1 | Represents the identifier of the VAL group for which BDT was successful.  (NOTE) |  |
| timeWnd | TimeWindow | O | 0..1 | Represents the executed time window for BDT. |  |
| quality | TransQualMeasData | O | 0..1 | Represents the observed BDT transmission quality information. |  |
| NOTE: These attributes are mutually exclusive and either one of them may be present. | | | | | |

#### 6.6.6.3 Simple data types and enumerations

##### 6.6.6.3.1 Introduction

This clause defines simple data types and enumerations that can be referenced from data structures defined in the previous clauses.

##### 6.6.6.3.2 Simple data types

The simple data types defined in table 6.6.6.3.2-1 shall be supported.

Table 6.6.6.3.2-1: Simple data types

|  |  |  |  |
| --- | --- | --- | --- |
| Type Name | Type Definition | Description | Applicability |
|  |  |  |  |

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

There are no data types describing alternative data types or combinations of data types defined for this API in this release of the specification.

#### 6.6.6.6 Binary data

##### 6.6.6.6.1 Binary Data Types

Table 6.6.6.6.1-1: Binary Data Types

|  |  |  |
| --- | --- | --- |
| Name | Clause defined | Content type |
|  |  |  |

### 6.6.7 Error Handling

#### 6.6.7.1 General

For the SDD\_BDT API, error handling shall be supported as specified in clause 6.7 of 3GPP TS 29.549 [15].

In addition, the requirements in the following clauses are applicable for the SDD\_BDT API.

#### 6.6.7.2 Protocol Errors

No specific protocol errors for the SDD\_BDT API are specified.

#### 6.6.7.3 Application Errors

The application errors defined for the SDD\_BDT API are listed in Table 6.6.7.3-1.

Table 6.6.7.3-1: Application errors

|  |  |  |  |
| --- | --- | --- | --- |
| Application Error | HTTP status code | Description | Applicability |
|  |  |  |  |

### 6.6.8 Feature negotiation

The optional features listed in table 6.6.8-1 are defined for the SDD\_BDT API. They shall be negotiated using the extensibility mechanism defined in clause 6.8 of 3GPP TS 29.549 [15].

Table 6.6.8-1: Supported Features

|  |  |  |
| --- | --- | --- |
| Feature number | Feature Name | Description |
|  |  |  |

### 6.6.9 Security

The provisions of clause 9 of 3GPP TS 29.549 [15] shall apply for the SDD\_BDT API.

\* \* \* End of changes \* \* \* \*