**TSG-CT WG3 Meeting #112-e *C3-205545***

**E-Meeting, 4th – 13th November 2020 (Revision of C3-205246)**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **29.122** | **CR** | **0301** | **rev** | **1** | **Current version:** | **16.7.0** |  |
|  |
| *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:***  | Callback URI correction |
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| ***Source to WG:*** | Huawei, ZTE |
| ***Source to TSG:*** | CT3 |
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| ***Work item code:*** | SBIProtoc16 |  | ***Date:*** | 2020-10-28 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-16 |
|  | *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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | As resource URI has the specific structure as below:*{apiRoot}/<apiName>/<apiVersion>/<apiSpecificResourceUriPart>*For callback URI, it is defined as:*URI = scheme ":" "//" host [ ":" port ] / path*Specification shall be updated to correct some resource URIs to callback URI to avoid different implementations.Moreover, during event notification via Websocket, the payload data is incorrect for ResourceManagementOfBdt API, ChargeableParty API, GMDviaMBMSbyMB2 API, GMDviaMBMSbyxMB API, PfdManagement API and AsSessionWithQoS API.GmdNiddDownlinkDataDeliveryStatusNotification for a group of UEs is supported by Notification via HTTP POST in subclause 5.6.3.7.3.1, but not covered by Notification via Websocket.And DNN should be corrected to DDN in subclause 4.4.2.2.2.1 |
|  |  |
| ***Summary of change:*** | Correct the resource URI to callback URI;Correct the payload used in event notification via Websocket for above listed APIs. |
|  |  |
| ***Consequences if not approved:*** | Cause wrong implementation on callback URIs of APIs as defined in current specification, and incorrect payload during event notification via Websocket |
|  |  |
| ***Clauses affected:*** | 4.4.2.2.2.1; 5.3.3.1; 5.3.3.4; 5.3.3a (new); 5.4.3.1; 5.4.3.4; 5.4.3a (new); 5.5.3.1; 5.5.3.4; 5.5.3a (new); 5.6.3.1; 5.6.3.6; 5.6.3.7; 5.6.3.8; 5.6.3.10; 5.6.3a (new); 5.7.3.1; 5.7.3.4; 5.7.3a (new); 5.8.2.2.1; 5.8.2.2.6; 5.8.2.2a (new); 5.8.3.2.1; 5.8.3.2.6; 5.8.3.2a (new); 5.9.3.1; 5.9.3.4; 5.9.3a (new); 5.11.3.1; 5.11.3.5; 5.11.3a (new); 5.13.3.1; 5.13.3.4; 5.13.3a (new); 5.14.3.1; 5.14.3.4; 5.14.3a (new); 5.15.3.2 |
|  |  |
|  | **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 OpenAPI file. |
|  |  |
| ***This CR's revision history:*** |  |

\*\*\* 1st Change \*\*\*

###### 4.4.2.2.2.1 General

The following monitoring events are applicable for the monitoring event configuration via HSS for an individual UE or a group of UEs:

- Loss of connectivity;

- UE reachability;

- Location Reporting;

- Change of IMSI-IMEI(SV) Association;

- Roaming Status;

- Communication Failure;

- PDN connectivity status;

- Availability after DDN Failure; and

- API support capability.

Only one-time reporting is supported if the "reachabilityType" attribute sets to "SMS" for the event UE reachability, if the "locationType" attribute sets to "LAST\_KNOWN\_LOCATION" for the event Location Reporting in the monitoring event request.

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

#### 5.3.3.1 General

All resource URIs of this API should have the following root:

**{apiRoot}/3gpp-monitoring-event/v1/**

"apiRoot" is set as described in subclause 5.2.4. "apiName" shall be set to "3gpp-monitoring-event" and "apiVersion" shall be set to "v1" for the current version defined in the present document. All resource URIs in the subclauses below are defined relative to the above root URI.

The following resources and HTTP methods are supported for this API:

Table 5.3.3.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | Meaning |
| Monitoring Event Subscriptions | 3gpp-monitoring-event/v1/{scsAsId}/subscriptions/ | GET | Read all subscriptions for a given SCS/AS |
| POST | Create a new subscription to monitoring an event |
| Individual Monitoring Event Subscription | 3gpp-monitoring-event/v1/{scsAsId}/subscriptions/{subscriptionId}  | PUT | Modify an existing subscription of monitoring event |
| GET | Read a subscription of monitoring event |
| DELETE | Delete a subscription of monitoring event |
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\*\*\* Next Change \*\*\*

#### 5.3.3.4 Void

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

### 5.3.3a Notifications

#### 5.3.3a.1 General

The notifications provided by the MonitoringEvent API are specified in this clause.

Table 5.3.3a-1: Notifications overview

|  |  |  |  |
| --- | --- | --- | --- |
| Notification | Callback URI | HTTP method or custom operation | Description(service operation) |
| Monitoring Notification | {notificationDestination} | POST | Sent from the SCEF to the SCS/AS about the notification of grouping configuration result, detected monitoring event report(s) or notify the SCS/AS to cancel a monitoring subscription |

#### 5.3.3a.2 Monitoring Notification

##### 5.3.3a.2.1 Description

The Monitoring Notification allows the SCEF to send notification about grouping configuration result, monitoring event report(s) or a monitoring subscription cancellation to the SCS/AS.

##### 5.3.3a.2.2 Target URI

The Callback URI **"{**notificationDestination**}"** shall be used with the callback URI variables defined in table 5.3.3a.2.2-1.

Table 5.3.3a.2.2-1: Callback URI variables

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| notificationDestination | Link | Callback reference provided by the SCS/AS during creation of the monitoring event subscription. |

##### 5.3.3a.2.3 Standard Methods

###### 5.3.3a.2.3.1 Notification via POST

The HTTP POST method reports the notification for a monitoring subscription. The SCEF shall initiate the HTTP POST request message and the SCS/AS shall respond to the message.

This method shall support the request data structures specified in table 5.3.3a.2.3.1-1 and the response data structures and response codes specified in table 5.3.3a.2.3.1-2.

Table 5.3.3a.2.3.1-1: Data structures supported by the POST Request Body

|  |  |  |
| --- | --- | --- |
| Data type | Cardinality | Description |
| MonitoringNotification | 1 | The monitoring notification provided by the SCEF. |

Table 5.3.3a.2.3.1-2: Data structures supported by the POST Response Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Cardinality | Response codes | Description |
| none |  | 204 No Content | The monitoring notification is received successfully. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 also apply. |

###### 5.3.3a.2.3.2 Notification via Websocket

If supported by both SCS/AS and SCEF and successfully negotiated, the MonitoringNotification may alternatively be delivered through the Websocket mechanism as defined in subclause 5.2.5.4.

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

#### 5.4.3.1 General

All resource URIs of this API should have the following root:

**{apiRoot}/3gpp-bdt/v1/**

"apiRoot" is set as described in subclause 5.2.4. All resource URIs in the subclauses below are defined relative to the above root URI.

The following resources and HTTP methods are supported for this API:

Table 5.4.3.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | Meaning |
| BDT Subscription | 3gpp-bdt/v1/{scsAsId}/subscriptions | GET | Read all active background data transfer subscription resources for a given SCS/AS |
| POST | Create a new background data transfer subscription resource |
| Individual BDT Subscription | 3gpp-bdt/v1/{scsAsId}/subscriptions/{subscriptionId} | PATCH | Modify a background data transfer subscription resource to select one of the transfer policies offered by the SCEF |
| PUT | Update a background data transfer subscription resource for negotiation of background data transfer policy |
| GET | Read a background data transfer subscription resource |
| DELETE | Delete a background data transfer resources |
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\*\*\* Next Change \*\*\*

#### 5.4.3.4 Void

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

### 5.4.3a Notifications

#### 5.4.3a.1 General

The notifications provided by the ResourceManagementOfBdt API are specified in this clause.

Table 5.4.3a-1: Notifications overview

|  |  |  |  |
| --- | --- | --- | --- |
| Notification | Callback URI | HTTP method or custom operation | Description(service operation) |
| BDT Warning Notification | {notificationDestination} | POST | Notify the BDT warning from the NEF to the AF identified by the notification destination URI (NOTE) |
| NOTE: This notification may only be supported in 5G. |

#### 5.4.3a.2 BDT Warning Notification

##### 5.4.3a.2.1 Description

The BDT warning notification allows the NEF to notify the AF of the BDT warning notification. The notification may only be supported in 5G.

##### 5.4.3a.2.2 Target URI

The Callback URI **"{**notificationDestination**}"** shall be used with the callback URI variables defined in table 5.4.3a.2.2-1.

Table 5.4.3a.2.2-1: Callback URI variables

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| notificationDestination | Link | Reference provided by the AF when the AF requests to send a BDT warning notification when the network performance in the area of interest goes below the criteria set by the operator.This URI shall be provided within the "notificationDestination" attribute in the Bdt data type. |

##### 5.4.3a.2.3 Standard Methods

###### 5.4.3a.2.3.1 Notification via POST

The POST method allows to notify AS identified by the notification destination URI of the BDT warning by the NEF and the AF shall respond to the message.

This method shall support the request data structures specified in table 5.4.3a.2.3.1-1 and the response data structures and response codes specified in table 5.4.3a.2.3.1-2.

Table 5.4.3a.2.3.1-1: Data structures supported by the POST Request Body

|  |  |  |
| --- | --- | --- |
| Data type | Cardinality | Description |
| ExNotification | 1 | Representation of the BDT warning notification. |

Table 5.4.3a.2.3.1-2: Data structures supported by the POST Response Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Cardinality | Response codes | Description |
| none |  | 204 No Content | This case represents a successful notification of BDT warning notification. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 also apply. |

###### 5.4.3a.2.3.2 Notification via Websocket

If supported by both AF and NEF and successfully negotiated, the ExNotification may alternatively be delivered through the Websocket mechanism as defined in subclause 5.2.5.4.

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

#### 5.5.3.1 General

All resource URIs of this API should have the following root:

**{apiRoot}/3gpp-chargeable-party/v1/**

"apiRoot" is set as described in subclause 5.2.4. All resource URIs in the subclauses below are defined relative to the above root URI.

The following resources and HTTP methods are supported for this API:

Table 5.5.3.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | Meaning |
| Chargeable Party Transactions | 3gpp-chargeable-party/v1/{scsAsId}/transactions | GET | Read all chargeable party transaction resources for a given SCS/AS  |
| POST | Create a new chargeable party transaction resource |
| Individual Chargeable Party Transaction | 3gpp-chargeable-party/v1/{scsAsId}/transactions/{transactionId} | GET | Read a chargeable party transaction resource |
| PATCH | Activate or Deactivate sponsoring by a chargeable party. |
| DELETE | Delete an existing chargeable party transaction resource |
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\*\*\* Next Change \*\*\*

#### 5.5.3.4 Void

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

### 5.5.3a Notifications

#### 5.5.3a.1 General

The notifications provided by the ChargeableParty API are specified in this clause.

Table 5.5.3a-1: Notifications overview

|  |  |  |  |
| --- | --- | --- | --- |
| Notification | Callback URI | HTTP method or custom operation | Description(service operation) |
| Event Notification | {notificationDestination} | POST | Notify the bearer level event(s) from the SCEF to the SCS/AS identified by the notification destination URI |

#### 5.5.3a.2 Event Notification

##### 5.5.3a.2.1 Description

The Event Notification allows the SCEF to notify the SCS/AS of the bearer level event(s).

##### 5.5.3a.2.2 Target URI

The Callback URI **"{**notificationDestination**}"** shall be used with the callback URI variables defined in table 5.5.3a.2.2-1.

Table 5.5.3a.2.2-1: Callback URI variables

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| notificationDestination | Link | Reference provided by the SCS/AS when the SCS/AS requests to sponsor the traffic from the beginning or to become the chargeable party at a later point.This URI shall be provided within the "notificationDestination" attribute in the ChargeableParty type. |

##### 5.5.3a.2.3 Standard Methods

###### 5.5.3a.2.3.1 Notification via POST

The POST method allows to notify SCS/AS identified by the notification destination URI of the bearer level event(s) by the SCEF and the SCS/AS shall respond to the message.

This method shall support the request data structures specified in table 5.5.3a.2.3.1-1 and the response data structures and response codes specified in table 5.5.3a.2.3.1-2.

Table 5.5.3a.2.3.1-1: Data structures supported by the POST Request Body

|  |  |  |
| --- | --- | --- |
| Data type | Cardinality | Description |
| NotificationData | 1 | Representation of the bearer level notification. |

Table 5.5.3a.2.3.1-2: Data structures supported by the POST Response Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Cardinality | Response codes | Description |
| none |  | 204 No Content | This case represents a successful notification of bearer level event(s). |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 also apply. |

###### 5.5.3a.2.3.2 Notification via Websocket

If supported by both SCS/AS and SCEF and successfully negotiated, the NotificationData may alternatively be delivered through the Websocket mechanism as defined in subclause 5.2.5.4.

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

#### 5.6.3.1 General

All resource URIs of this API should have the following root:

**{apiRoot}/3gpp-nidd/v1/**

"apiRoot" is set as described in subclause 5.2.4. "apiName" shall be set to "3gpp-nidd" and "apiVersion" shall be set to "v1" for the version defined in the present document. All resource URIs in the subclauses below are defined relative to the above root URI.

The following resources and HTTP methods are supported for this API:

Table 5.6.3.1-1: Resources and methods overview

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | HTTP initiator | Meaning |
| NIDD configurations | 3gpp-nidd/v1/{scsAsId}/configurations | GET | SCS/AS | Read all NIDD configuration resources for a given SCS/AS  |
| POST | SCS/AS | Create a new NIDD configuration resource. |
| Individual NIDD configuration | 3gpp-nidd/v1/{scsAsId}/configurations/{configurationId} | PATCH | SCS/AS | Modify an existing NIDD configuration resource |
| GET | SCS/AS | Read an NIDD configuration resource |
| DELETE | SCS/AS | Delete an existing NIDD configuration resource |
| NIDD downlink data deliveries | 3gpp-nidd/v1/{scsAsId}/configurations/{configurationId}/downlink-data-deliveries | GET | SCS/AS | Read all pending NIDD downlink data delivery resources related to a particular NIDD configuration resource. |
| POST | SCS/AS | Create an NIDD downlink data delivery resource related to a particular NIDD configuration resource. |
| Individual NIDD downlink data delivery | 3gpp-nidd/v1/{scsAsId}/configurations/{configurationId}/downlink-data-deliveries/{downlinkDataDeliveryId} | PUT | SCS/AS | Replace an NIDD downlink data delivery resource.  |
| DELETE | SCS/AS | Delete an NIDD downlink data delivery resource. |
| GET | SCS/AS | Read pending NIDD downlink data delivery resource |
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| ManagePort Configurations | 3gpp-nidd/v1/{scsAsId}/configurations/{configurationId}/rds-ports | GET | SCS/AS | Read all RDS ManagePort Configurations. |
| Individual ManagePort Configuration | 3gpp-nidd/v1/{scsAsId}/configurations/{configurationId}/rds-ports/{portId} | PUT | SCS/AS | Create a new Individual ManagePort Configuration resource to reserve port numbers  |
| DELETE | SCS/AS | Delete an Individual ManagePort Configuration resource to release port numbers |
| GET | SCS/AS | Read an Individual ManagePort Configuration resource resource to query port numbers |
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\*\*\* Next Change \*\*\*

#### 5.6.3.6 Void

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#### 5.6.3.7 Void

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#### 5.6.3.8 Void

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

#### 5.6.3.10 Void

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

### 5.6.3a Notifications

#### 5.6.3a.1 General

The notifications provided by the NIDD API are specified in this clause.

Table 5.6.3a-1: Notifications overview

|  |  |  |  |
| --- | --- | --- | --- |
| Notification | Callback URI | HTTP method or custom operation | Description(service operation) |
| NIDD Configuration Update Notification | {notification\_uri} | POST | Send notifications about the status of an NIDD configuration to the SCS/AS. |
| NIDD Downlink Data Delivery Status Notification | {notification\_uri} | POST | Report a specific NIDD downlink data delivery result to the SCS/AS. |
| NIDD Uplink Data Notification | {notification\_uri} | POST | Send an uplink non-IP data notification from the SCEF to the SCS/AS. |
| ManagePort Notification | {notification\_uri} | POST | Send notifications about the port numbers that are reserved. |

#### 5.6.3a.2 NIDD Configuration Update Notification

##### 5.6.3a.2.1 Description

The NIDD Configuration Update Notification allows the SCEF to send notifications about the status of an NIDD configuration to the SCS/AS.

##### 5.6.3a.2.2 Target URI

The Callback URI **"{**notification\_uri**}"** shall be used with the callback URI variables defined in table 5.6.3a.2.2-1.

Table 5.6.3a.2.2-1: Callback URI variables

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| notification\_uri | Link | A URI indicating the notification destination where T8 notification requests shall be delivered.This URI shall be provided within the "notificationDestination" attribute in the NiddConfiguration type. |

##### 5.6.3a.2.3 Standard Methods

###### 5.6.3a.2.3.1 Notification via POST

To report the status of the NIDD configuration to the SCS/AS, the SCEF shall use the HTTP POST method on the notification point as follows:

- the body of the message is encoded in JSON format with the data structure defined in table 5.6.2.1.6-1.

This method shall support the request data structures specified in table 5.6.3a.2.3.1-1 and the response data structures and response codes specified in table 5.6.3a.2.3.1-2.

Table 5.6.3a.2.3.1-1: Data structures supported by the POST Request Body

|  |  |  |
| --- | --- | --- |
| Data type | Cardinality | Description |
| NiddConfigurationStatusNotification | 1 | The NIDD configuration status notification. |

Table 5.6.3a.2.3.1-2: Data structures supported by the POST Response Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Cardinality | Response codes | Description |
| Acknowledgement | 1 | 200 OK | The successful acknowledgement of the notification with a body. |
| (None) |  | 204 No Content | The successful acknowledgement of the notification without a body. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 also apply. |

###### 5.6.3a.2.3.2 Notification via Websocket

If supported by both SCS/AS and SCEF and successfully negotiated, the NiddConfigurationStatusNotification may alternatively be delivered through the Websocket mechanism as defined in subclause 5.2.5.4.

#### 5.6.3a.3 NIDD Downlink Data Delivery Status Notification

##### 5.6.3a.3.1 Description

The NIDD Downlink Data Delivery Status Notification allows the SCEF to send notifications about the status of downlink NIDD data delivery to the SCS/AS. This resource is applicable for a single UE and a group of UEs NIDD MT delivery.

##### 5.6.3a.3.2 Target URI

The Callback URI **"{**notification\_uri**}"** shall be used with the callback URI variables defined in table 5.6.3a.3.2-1.

Table 5.6.3a.3.2-1: Callback URI variables

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| notification\_uri | Link | A URI indicating the notification destination URI where T8 notification requests shall be delivered.This URI shall be provided within the "notificationDestination" attribute in the NiddConfiguration type. |

##### 5.6.3a.3.3 Standard Methods

###### 5.6.3a.3.3.1 Notification via POST

To report the delivery status of the downlink non-IP data delivery, the SCEF shall use the HTTP POST method on the notification endpoint with the body of the message encoded in JSON format with the data structure defined in table 5.6.2.1.5-1 for a single UE or table 5.6.2.1.8-1 for a group of UEs.

This method shall support the request and response data structures specified in table 5.6.3a.3.3.1-1 and table 5.6.3a.3.3.1-2 for a single UE, and support the request and response data structures specified in table 5.6.3a.3.3.1-3 and table 5.6.3a.3.3.1-4 for a group of UEs.

Table 5.6.3a.3.3.1-1: Data structures supported by the POST Request Body

|  |  |  |
| --- | --- | --- |
| Data type | Cardinality | Description |
| NiddDownlinkDataDeliveryStatusNotification | 1 | The Down link data delivery status notification for a single UE. |

Table 5.6.3a.3.3.1-2: Data structures supported by the POST Response Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Cardinality | Response codes | Description |
| Acknowledgement | 1 | 200 OK | The successful acknowledgement of the notification. |
| (None) |  | 204 No Content | The successful acknowledgement of the notification without a body. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 also apply. |

Table 5.6.3a.3.3.1-3: Data structures supported by the POST Request Body

|  |  |  |
| --- | --- | --- |
| Data type | Cardinality | Description |
| GmdNiddDownlinkDataDeliveryStatusNotification | 1 | The Down link data delivery status notification for a group of UEs. |

Table 5.6.3a.3.3.1-4: Data structures supported by the POST Response Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Cardinality | Response codes | Description |
| Acknowledgement | 1 | 200 OK | The successful acknowledgement of the notification. |
| (None) |  | 204 No Content | The successful acknowledgement of the notification without a body. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 also apply. |

###### 5.6.3a.3.3.2 Notification via Websocket

If supported by both SCS/AS and SCEF and successfully negotiated, the NiddDownlinkDataDeliveryStatusNotification or GmdNiddDownlinkDataDeliveryStatusNotification may alternatively be delivered for a single UE or a group of UEs through the Websocket mechanism as defined in subclause 5.2.5.4.

#### 5.6.3a.4 NIDD Uplink Data Notification

##### 5.6.3a.4.1 Description

The NIDD Uplink Data Notification allows the SCEF to send notifications about received NIDD uplink data..

##### 5.6.3a.4.2 Target URI

The Callback URI **"{**notification\_uri**}"** shall be used with the callback URI variables defined in table 5.6.3a.4.2-1.

Table 5.6.3a.4.2-1: Callback URI variables

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| notification\_uri | Link | A URI indicating the notification destination URI where T8 notification requests shall be delivered.This URI shall be provided within the "notificationDestination" attribute in the NiddConfiguration type. |

##### 5.6.3a.4.3 Standard Methods

###### 5.6.3a.4.3.1 Notification via POST

To send the uplink non-IP data to the SCS/AS, the SCEF shall use the HTTP POST method on the notification endpoint in SCS/AS as follows:

- the body of the message is encoded in JSON format with the data structure defined in table 5.6.2.1.4-1.

This method shall support the request data structures specified in table 5.6.3a.4.3.1-1 and the response data structures and response codes specified in table 5.6.3a.4.3.1-2.

Table 5.6.3a.4.3.1-1: Data structures supported by the POST Request Body

|  |  |  |
| --- | --- | --- |
| Data type | Cardinality | Description |
| NiddUplinkDataNotification | 1 | The parameters and non-IP data for the NIDD uplink non-IP data notification. |

Table 5.6.3a.4.3.1-2: Data structures supported by the POST Response Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Cardinality | Response codes | Description |
| Acknowledgement | 1 | 200 OK | The successful acknowledgement of the uplink data notification |
| (None) |  | 204 No Content | The successful acknowledgement of the notification without a body. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 also apply. |

###### 5.6.3a.4.3.2 Notification via Websocket

If supported by both SCS/AS and SCEF and successfully negotiated, the NiddUplinkDataNotification may alternatively be delivered through the Websocket mechanism as defined in subclause 5.2.5.4.

#### 5.6.3a.5 ManagePort Notification

##### 5.6.3a.5.1 Description

The ManagePort Notification allows the SCEF to send notifications about the port numbers that are reserved.

##### 5.6.3a.5.2 Target URI

The Callback URI **"{**notification\_uri**}"** shall be used with the callback URI variables defined in table 5.6.3a.5.2-1.

Table 5.6.3a.5.2-1: Callback URI variables

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| notification\_uri | Link | A URI indicating the notification destination URI where T8 notification requests shall be delivered.This URI shall be provided within the "notificationDestination" attribute in the NiddConfiguration type. |

##### 5.6.3a.5.3 Standard Methods

###### 5.6.3a.5.3.1 Notification via POST

To send the information about reserved ports and their configuration to the SCS/AS, the SCEF shall use the HTTP POST method on the notification endpoint in SCS/AS as follows:

- the body of the message is encoded in JSON format with the data structure defined in table 5.6.2.1.10-1.

This method shall support the request data structures specified in table 5.6.3a.5.3.1-1 and the response data structures and response codes specified in table 5.6.3a.5.3.1-2.

Table 5.6.3a.5.3.1-1: Data structures supported by the POST Request Body

|  |  |  |
| --- | --- | --- |
| Data type | Cardinality | Description |
| ManagePortNotification | 1 | The parameters that represents the information about port numbers that are reserved for use with an application. |

Table 5.6.3a.5.3.1-2: Data structures supported by the POST Response Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Cardinality | Response codes | Description |
| Acknowledgement | 1 | 200 OK | The successful notification of reserved port configuration. |
| (None) |  | 204 No Content | The successful acknowledgement of the reserved port configuration without a body. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 also apply. |

###### 5.6.3a.5.3.2 Notification via Websocket

If supported by both SCS/AS and SCEF and successfully negotiated, the ManagePortNotification may alternatively be delivered through the Websocket mechanism as defined in subclause 5.2.5.4.

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

#### 5.7.3.1 General

All resource URIs of this API should have the following root:

**{apiRoot}/3gpp-device-triggering/v1/**

"apiRoot" is set as described in subclause 5.2.4. All resource URIs in the subclauses below are defined relative to the above root URI.

The following resources and HTTP methods are supported for this API:

Table 5.7.3.1-1: Resources and methods overview

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | HTTP initiator | Meaning |
| Device Triggering Transactions | 3gpp-device-triggering/v1/{scsAsId}/transactions | GET | SCS/AS | Read all active device triggering transaction resources for a given SCS/AS  |
| POST | SCS/AS | Create a new device triggering transaction resource |
| Individual Device Triggering Transaction | 3gpp-device-triggering/v1/{scsAsId}/transactions/{transactionId} | PUT | SCS/AS | Replace an existing device triggering transaction resource and the corresponding device trigger request |
| GET | SCS/AS | Read a device triggering transaction resource |
| DELETE | SCS/AS | Delete an existing device triggering transaction resource and cancel the device triggering |
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\*\*\* Next Change \*\*\*

#### 5.7.3.4 Void

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

### 5.7.3a Notifications

#### 5.7.3a.1 General

The notifications provided by the DeviceTriggering API are specified in this clause.

Table 5.7.3a-1: Notifications overview

|  |  |  |  |
| --- | --- | --- | --- |
| Notification | Callback URI | HTTP method or custom operation | Description(service operation) |
| Device Triggering Delivery Report Notification | {notification\_uri} | POST | Report a device triggering delivery report to SCS/AS. |

#### 5.7.3a.2 Device Triggering Delivery Report Notification

##### 5.7.3a.2.1 Description

The Device Triggering Delivery Report Notification allows the SCEF to send notifications about device triggering delivery report events to the SCS/AS.

##### 5.7.3a.2.2 Target URI

The Callback URI **"{**notification\_uri**}"** shall be used with the callback URI variables defined in table 5.7.3a.2.2-1.

Table 5.7.3a.2.2-1: Callback URI variables

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| notification\_uri | Link | A URI indicating the notification destination URI where T8 notification requests shall be delivered.This URI can be provided within the "notificationDestination" attribute in the DeviceTriggering type. |

##### 5.7.3a.2.3 Standard Methods

###### 5.7.3a.2.3.1 Notification via POST

To report the delivery status of the device trigging delivery, the SCEF shall use the HTTP POST method on the notification endpoint as follows:

- the body of the message is encoded in JSON format with the data structure defined in table 5.7.2.1.4-1.

This method shall support the request data structures specified in table 5.7.3a.2.3.1-1 and the response data structures and response codes specified in table 5.7.3a.2.3.1-2.

Table 5.7.3a.2.3.1-1: Data structures supported by the POST Request Body

|  |  |  |
| --- | --- | --- |
| Data type | Cardinality | Description |
| DeviceTriggeringDeliveryReportNotification | 1 | The Device Triggering delivery report. |

Table 5.7.3a.2.3.1-2: Data structures supported by the POST Response Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Cardinality | Response codes | Description |
| Acknowledgement | 1 | 200 OK | The successful acknowledgement of the notification. |
| (None) |  | 204 No Content | The successful acknowledgement of the notification without a body. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 also apply. |

###### 5.7.3a.2.3.2 Notification via Websocket

If supported by both SCS/AS and SCEF and successfully negotiated, the DeviceTriggeringDeliveryReportNotification may alternatively be delivered through the Websocket mechanism as defined in subclause 5.2.5.4.

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

##### 5.8.2.2.1 General

All resource URIs of this API should have the following root:

**{apiRoot}/3gpp-group-message-delivery-mb2/v1/**

"apiRoot" is set as described in subclause 5.2.4. "apiName" shall be set to "3gpp**-**group**-**message**-**delivery**-**mb2" and "apiVersion" shall be set to "v1" for the version defined in the present document. All resource URIs in the subclauses below are defined relative to the above root URI.

The following resources and HTTP methods are supported for this API:

Table 5.8.2.2.1-1: Resources and methods overview

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | HTTP initiator | Meaning |
| TMGI Allocation | 3gpp-group-message-delivery-mb2/v1/{scsAsId}/tmgi-allocation | GET | SCS/AS | Read all active TMGI resources for a given SCS/AS  |
| POST | SCS/AS | Create a new TMGI resource for a given SCS/AS  |
| Individual TMGI Allocation | 3gpp-group-message-delivery-mb2/v1/{scsAsId}/tmgi-allocation/{tmgi} | PUT | SCS/AS | Replace an existing TMGI resource for a given SCS/AS and TMGI |
| PATCH | SCS/AS | Modify an existing TMGI resource for a given SCS/AS and TMGI |
| GET | SCS/AS | Read a TMGI allocation resource for a given SCS/AS and a TMGI |
| DELETE | SCS/AS | Deallocate an existing TMGI resource for agiven SCS/AS and TMGI |
| GMD via MBMS by MB2 | 3gpp-group-message-delivery-mb2/v1/{scsAsId}/tmgi-allocation/{tmgi}/delivery-via-mbms | GET | SCS/AS | Read all group message delivery resources for a given SCS/AS and TMGI. |
| POST | SCS/AS | Create a group message delivery resource for given SCS/AS and TMGI selected by the SCS/AS when MB2 is used as a southbound interface. |
| Individual GMD via MBMS by MB2 | 3gpp-group-message-delivery-mb2/v1/{scsAsId}/tmgi-allocation/{tmgi}/delivery-via-mbms/{transactionId} | PUT | SCS/AS | Replace a group message delivery resource |
| PATCH | SCS/AS | Modify a group message delivery resource. |
| GET | SCS/AS | Read a group message delivery resource. |
| DELETE | SCS/AS | Delete a group message delivery resource. |
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\*\*\* Next Change \*\*\*

##### 5.8.2.2.6 Void

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

#### 5.8.2.2a Notifications

##### 5.8.2.2a.1 General

The notifications provided by the GMDviaMBMSbyMB2 API are specified in this clause.

Table 5.8.2.2a.1-1: Notifications overview

|  |  |  |  |
| --- | --- | --- | --- |
| Notification | Callback URI | HTTP method or custom operation | Description(service operation) |
| GMD via MBMS by MB2 Notification | {notificationDestination} | POST | Report a specific group message delivery result to the SCS/AS for a given transaction Id selected by the SCEF. |

##### 5.8.2.2a.2 GMD via MBMS by MB2 Notification

###### 5.8.2.2a.2.1 Description

The GMD via MBMS by MB2 Notification allows the SCEF report the delivery trigger status to the SCS/AS to indicate whether group message delivery was triggered successful.

###### 5.8.2.2a.2.2 Target URI

The Callback URI **"{**notificationDestination**}"** shall be used with the callback URI variables defined in table 5.8.2.2a.2.2-1.

Table 5.8.2.2a.2.2-1: Callback URI variables

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| notificationDestination | Link | A URI indicating the notification destination where T8 notification requests shall be delivered.This URI shall be provided within the field "notificationDestination" in the GMDViaMBMSByMb2 type. |

###### 5.8.2.2a.2.3 Standard Methods

5.8.2.2a.2.3.1 Notification via POST

To report the status of the delivery trigger status to the SCS/AS, the SCEF shall use the HTTP POST method on the notification point as follows:

- the body of the message is encoded in JSON format with the data structure defined in table 5.8.2.1.1.4-1.

This method shall support the request data structures specified in table 5.8.2.2a.2.3.1-1 and the response data structures and response codes specified in table 5.8.2.2a.2.3.1-2.

Table 5.8.2.2a.2.3.1-1: Data structures supported by the POST Request Body

|  |  |  |
| --- | --- | --- |
| Data type | Cardinality | Description |
| GMDByMb2Notification | 1 | The delivery status notification. |

Table 5.8.2.2a.2.3.1-2: Data structures supported by the POST Response Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Cardinality | Response codes | Description |
| Acknowledgement | 1 | 200 OK | The successful acknowledgement of the notification with a body. |
| (None) |  | 204 No Content | The successful acknowledgement of the notification without a body. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 also apply. |

5.8.2.2a.2.3.2 Notification via Websocket

If supported by both SCS/AS and SCEF and successfully negotiated, the GMDByMb2Notification may alternatively be delivered through the Websocket mechanism as defined in subclause 5.2.5.4.

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

##### 5.8.3.2.1 General

All resource URIs of this API should have the following root:

**{apiRoot}/3gpp-group-message-delivery-xmb/v1/**

"apiRoot" is set as described in subclause 5.2.4. "apiName" shall be set to "3gpp-group-message-delivery-xmb" and "apiVersion" shall be set to "v1" for the version defined in the present document. All resource URIs in the subclauses below are defined relative to the above root URI.

The following resources and HTTP methods are supported for this API:

Table 5.8.3.2.1-1: Resources and methods overview

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | HTTP initiator | Meaning |
| xMB Services | 3gpp-group-message-delivery-xmb/v1/{scsAsId}/services/ | POST | SCS/AS | Create a service when xMB is used as a southbound interface. |
| GET | SCS/AS | Read all active service resources for a given SCS/AS. |
| Individual xMB Service | 3gpp-group-message-delivery-xmb/v1/{scsAsId}/services/{serviceId} | GET | SCS/AS | Read an active service resource for a given SCS/AS and Service Id. |
| DELETE | SCS/AS | Delete an existing service resource for agiven SCS/AS and Service Id. |
| GMD via MBMS by xMB | 3gpp-group-message-delivery-xmb/v1/{scsAsId}/services/{serviceId}/delivery-via-mbms | GET | SCS/AS | Read all group message delivery resources for a given SCS/AS and Service Id. |
| POST | SCS/AS | Create a group message delivery resource for given SCS/AS and Service Id when xMB is used as a southbound interface. |
| Individual GMD via MBMS by xMB | 3gpp-group-message-delivery-xmb/v1/{scsAsId}/services/{serviceId}/delivery-via-mbms/{transactionId} | PUT | SCS/AS | Replace a group message delivery resource |
| PATCH | SCS/AS | Modify a group message delivery resource. |
| GET | SCS/AS | Read a group message delivery resource. |
| DELETE | SCS/AS | Delete a group message delivery resource. |
|  |  |  |  |  |

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

##### 5.8.3.2.6 Void

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

#### 5.8.3.2a Notifications

##### 5.8.3.2a.1 General

The notifications provided by the GMDviaMBMSbyxMB API are specified in this clause.

Table 5.8.3.2a.1-1: Notifications overview

|  |  |  |  |
| --- | --- | --- | --- |
| Notification | Callback URI | HTTP method or custom operation | Description(service operation) |
| GMD via MBMS by xMB Notification | {notificationDestination} | POST | Report a specific group message delivery result to the SCS/AS for a given Transaction Id selected by the SCEF. |

##### 5.8.3.2a.2 GMD via MBMS by xMB Notification

###### 5.8.3.2a.2.1 Description

The GMD via MBMS by xMB Notification allows the SCEF report the delivery trigger status to the SCS/AS to indicate whether group message delivery was triggered successful.

###### 5.8.3.2a.2.2 Target URI

The Callback URI **"{**notificationDestination**}"** shall be used with the callback URI variables defined in table 5.8.3.2a.2.2-1.

Table 5.8.3.2a.2.2-1: Callback URI variables

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| notificationDestination | Link | A URI indicating the notification destination where T8 notification requests shall be delivered.This URI shall be provided within the field "notificationDestination" in the GMDViaMBMSByxMB type.  |

###### 5.8.3.2a.2.3 Standard Methods

5.8.3.2a.2.3.1 Notification via POST

To report the status of the delivery trigger status to the SCS/AS, the SCEF shall use the HTTP POST method on the notification point as follows:

- the body of the message is encoded in JSON format with the data structure defined in table 5.8.3.1.1.4-1.

This method shall support the request data structures specified in table 5.8.3.2a.2.3.1-1 and the response data structures and response codes specified in table 5.8.3.2a.2.3.1-2.

Table 5.8.3.2a.2.3.1-1: Data structures supported by the POST Request Body

|  |  |  |
| --- | --- | --- |
| Data type | Cardinality | Description |
| GMDByxMBNotification | 1 | The delivery status notification. |

Table 5.8.3.2a.2.3.1-2: Data structures supported by the POST Response Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Cardinality | Response codes | Description |
| Acknowledgement | 1 | 200 OK | The successful acknowledgement of the notification with a body. |
| (None) |  | 204 No Content | The successful acknowledgement of the notification without a body. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 also apply. |

5.8.3.2a.2.3.2 Notification via Websocket

If supported by both SCS/AS and SCEF and successfully negotiated, the GMDByxMBNotification may alternatively be delivered through the Websocket mechanism as defined in subclause 5.2.5.4.

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

#### 5.9.3.1 General

All resource URIs of this API should have the following root:

**{apiRoot}/3gpp-net-stat-report/v1/**

"apiRoot" is set as described in subclause 5.2.4. All resource URIs in the subclauses below are defined relative to the above root URI.

The following resources and HTTP methods are supported for this API:

Table 5.9.3.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | Meaning |
| Network Status Reporting Subscriptions | 3gpp-net-stat-report/v1/{scsAsId}/subscriptions | GET | Read all network status reporting subscription resources for a given SCS/AS. |
| POST | Create a new network status reporting subscription resource. |
| Individual Network Status Reporting subscription | 3gpp-net-stat-report/v1/{scsAsId}/subscriptions/{subscriptionId} | GET | Read a network status reporting subscription resource. |
| PUT | Modify an existing continuous network status reporting subscription resource. |
| DELETE | Delete an existing continuous network status reporting subscription resource. |
|  |  |  |  |

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

#### 5.9.3.4 Void

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

### 5.9.3a Notifications

#### 5.9.3a.1 General

The notifications provided by the ReportingNetworkStatus API are specified in this clause.

Table 5.9.3a-1: Notifications overview

|  |  |  |  |
| --- | --- | --- | --- |
| Notification | Callback URI | HTTP method or custom operation | Description(service operation) |
| Network Status Reporting Notification | {notificationDestination} | POST | Report a detected network status for a subscription from the SCEF to the SCS/AS |

#### 5.9.3a.2 Network Status Reporting Notification

##### 5.9.3a.2.1 Description

The Network Status Reporting Notification allows the SCEF to send notifications about the detected network status to the SCS/AS.

##### 5.9.3a.2.2 Target URI

The Callback URI **"{**notification\_uri**}"** shall be used with the callback URI variables defined in table 5.9.3a.2.2-1.

Table 5.9.3a.2.2-1: Callback URI variables

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| notificationDestination | Link | Callback reference provided by the SCS/AS during creation of the network status reporting subscription. |

##### 5.9.3a.2.3 Standard Methods

###### 5.9.3a.2.3.1 Notification via POST

The HTTP POST method reports the detected network status for a network status subscription. The SCEF shall initiate the HTTP POST request message and the SCS/AS shall respond to the message.

This method shall support the request data structures specified in table 5.9.3a.2.3.1-1 and the response data structures and response codes specified in table 5.9.3a.2.3.1-2.

Table 5.9.3a.2.3.1-1: Data structures supported by the POST Request Body

|  |  |  |
| --- | --- | --- |
| Data type | Cardinality | Description |
| NetworkStatusReportingNotification | 1 | The network status reporting notification provided by the SCEF. |

Table 5.9.3a.2.3.1-2: Data structures supported by the POST Response Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Cardinality | Response codes | Description |
| none |  | 204 No Content | The network status reporting notification is received successfully. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 also apply. |

###### 5.9.3a.2.3.2 Notification via Websocket

If supported by both SCS/AS and SCEF and successfully negotiated, the NetworkStatusReportingNotification may alternatively be delivered through the Websocket mechanism as defined in subclause 5.2.5.4.

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

#### 5.11.3.1 General

All resource URIs of this API should have the following root:

**{apiRoot}/3gpp-pfd-management/v1/**

"apiRoot" is set as described in subclause 5.2.4. "apiName" shall be set to "3gpp-pfd-management" and "apiVersion" shall be set to "v1" for the version defined in the present document. All resource URIs in the subclauses below are defined relative to the above root URI.

The following resources and HTTP methods are supported for this API:

Table 5.11.3.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | Meaning |
| PFD Management Transactions | 3gpp-pfd-management/v1/{scsAsId}/transactions/ | GET | Read all PFDs for a given SCS/AS |
| POST | Create PFDs for a given SCS/AS and one or more external Application Identifier(s) |
| Individual PFD Management Transaction | 3gpp-pfd-management/v1/{scsAsId}/transactions/{transactionId} | GET | Read all PFDs for a given SCS/AS and a transaction for one or more external Application Identifier(s) |
| PUT | Update PFDs for a given SCS/AS and a transaction for one or more external Application Identifier(s) |
| DELETE | Delete PFDs for a given SCS/AS and a transaction for one or more external Application Identifier(s) |
| Individual Application PFD Management | 3gpp-pfd-management/v1/{scsAsId}/transactions/{transactionId}/applications/{appId}(NOTE) | PUT | Update PFDs at individual application level |
| PATCH | Update PFDs at individual application level |
| GET | Read PFDs at individual application level |
| DELETE | Delete PFDs at individual application level |
|  |  |  |  |
| NOTE: The appId as the resource identifier is not necessarily identical as the external application identifier received from the SCS/AS. |

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

#### 5.11.3.5 Void

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

### 5.11.3a Notifications

#### 5.11.3a.1 General

The notifications provided by the PfdManagement API are specified in this clause.

Table 5.11.3a-1: Notifications overview

|  |  |  |  |
| --- | --- | --- | --- |
| Notification | Callback URI | HTTP method or custom operation | Description(service operation) |
| PFD Management Notification | {notificationDestination} | POST | Send asynchronous PFD management result. |

#### 5.11.3a.2 PFD Management Notification

##### 5.11.3a.2.1 Description

The PFD Management Notification allows the SCEF to send notification about PFD management result to the SCS/AS, if the PFD provisioning fails within the allowed delay.

##### 5.11.3a.2.2 Target URI

The Callback URI **"{**notificationDestination**}"** shall be used with the callback URI variables defined in table 5.11.3a.2.2-1.

Table 5.11.3a.2.2-1: Callback URI variables

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| notificationDestination | Link | Callback reference provided by the SCS/AS during creation of the PFD management transaction. |

##### 5.11.3a.2.3 Standard Methods

###### 5.11.3a.2.3.1 Notification via POST

The HTTP POST method reports the asynchronous PFD management result. The SCEF shall initiate the HTTP POST request message and the SCS/AS shall respond to the message.

This method shall support the request data structures specified in table 5.11.3a.2.3.1-1 and the response data structures and response codes specified in table 5.11.3a.2.3.1-2.

Table 5.11.3a.2.3.1-1: Data structures supported by the POST Request Body

|  |  |  |
| --- | --- | --- |
| Data type | Cardinality | Description |
| PfdReport | 1..N | The PFD management notification provided by the SCEF. |

Table 5.11.3a.2.3.1-2: Data structures supported by the POST Response Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Cardinality | Response codes | Description |
| none |  | 204 No Content | The PFD management notification is received successfully. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 also apply. |

###### 5.11.3a.2.3.2 Notification via Websocket

If supported by both SCS/AS and SCEF and successfully negotiated, the PfdReport may alternatively be delivered through the Websocket mechanism as defined in subclause 5.2.5.4.

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

#### 5.13.3.1 General

All resource URIs of this API should have the following root:

**{apiRoot}/3gpp-network-parameter-configuration/v1/**

"apiRoot" is set as described in subclause 5.2.4. "apiName" shall be set to "3gpp-network-parameter-configuration" and "apiVersion" shall be set to "v1" for the version defined in the present document. All resource URIs in the subclauses below are defined relative to the above root URI.

The following resources and HTTP methods are supported for this API:

Table 5.13.3.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | Meaning |
| NP Configurations | 3gpp-network-parameter-configuration /v1/{scsAsId}/configurations/ | GET | Read all NP configurations for a given SCS/AS |
| POST | Create a new np configuration |
| Individual NP Configuration | 3gpp-network-parameter-configuration /v1/{scsAsId}/configurations/{configurationId}  | PUT | Replace all of the properties in an existing np configuration |
| PATCH | Modify some properties in an existing np configuration |
| GET | Read an existing NP configuration |
| DELETE | Delete a NP configuration |
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\*\*\* Next Change \*\*\*

#### 5.13.3.4 Void

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

### 5.13.3a Notifications

#### 5.13.3a.1 General

The notifications provided by the NpConfiguration API are specified in this clause.

Table 5.13.3a-1: Notifications overview

|  |  |  |  |
| --- | --- | --- | --- |
| Notification | Callback URI | HTTP method or custom operation | Description(service operation) |
| Configuration Notification | {notificationDestination} | POST | Report a grouping configuration result from the SCEF to the SCS/AS |

#### 5.13.3a.2 Configuration Notification

##### 5.13.3a.2.1 Description

The Configuration Notification allows the SCEF to send notifications about grouping configuration result to the SCS/AS.

##### 5.13.3a.2.2 Target URI

The Callback URI **"{**notificationDestination**}"** shall be used with the callback URI variables defined in table 5.13.3a.2.2-1.

Table 5.13.3a.2.2-1: Callback URI variables

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| notificationDestination | Link | Callback reference provided by the SCS/AS during creation of the NP configuration subscription. |

##### 5.13.3a.2.3 Standard Methods

###### 5.13.3a.2.3.1 Notification via POST

The HTTP POST method reports the grouping configuration results for a NP configuration subscription. The SCEF shall initiate the HTTP POST request message and the SCS/AS shall respond to the message.

This method shall support the request data structures specified in table 5.13.3a.2.3.1-1 and the response data structures and response codes specified in table 5.13.3a.2.3.1-2.

Table 5.13.3a.2.3.1-1: Data structures supported by the POST Request Body

|  |  |  |
| --- | --- | --- |
| Data type | Cardinality | Description |
| ConfiguationNotification | 1 | The grouping configuration result notification provided by the SCEF. |

Table 5.13.3a.2.3.1-2: Data structures supported by the POST Response Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Cardinality | Response codes | Description |
| none |  | 204 No Content | The notification is received successfully. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 also apply. |

###### 5.13.3a.2.3.2 Notification via Websocket

If supported by both SCS/AS and SCEF and successfully negotiated, the ConfigurationNotification may alternatively be delivered through the Websocket mechanism as defined in subclause 5.2.5.4.

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

#### 5.14.3.1 General

All resource URIs of this API should have the following root:

**{apiRoot}/3gpp-as-session-with-qos/v1/**

"apiRoot" is set as described in subclause 5.2.4. "apiName" shall be set to "3gpp**-**as**-**session**-**with**-**qos" and "apiVersion" shall be set to "v1" for the version defined in the present document. All resource URIs in the subclauses below are defined relative to the above root URI.

The following resources and HTTP methods are supported for this API:

Table 5.14.3.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | Meaning |
| AS Session with Required QoS Subscriptions | 3gpp**-**as**-**session**-**with**-**qos/v1/{scsAsId}/subscriptions/ | GET | Get all subscription resources for a given SCS/AS. |
| POST | Create a new AS session. |
| Individual AS Session with Required QoS Subscription | 3gpp**-**as**-**session**-**with**-**qos/v1/{scsAsId}/subscriptions/{subscriptionId} | GET | Read a subscription resource for a given SCS/AS and a subscription Id. |
| PUT | Modify a subscription resource for a given SCS/AS and a subscription Id. |
| PATCH | Modify a subscription resource for a given SCS/AS and a subscription Id. |
| DELETE | Delete a subscription resource for a given SCS/AS and a subscription Id. |
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\*\*\* Next Change \*\*\*

#### 5.14.3.4 Void

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

### 5.14.3a Notifications

#### 5.14.3a.1 General

The notifications provided by the AsSessionWithQoS API are specified in this clause.

Table 5.14.3a-1: Notifications overview

|  |  |  |  |
| --- | --- | --- | --- |
| Notification | Callback URI | HTTP method or custom operation | Description(service operation) |
| Event Notification | {notificationUri} | POST | Notify the bearer level event(s) from the SCEF to the SCS/AS |

#### 5.14.3a.2 Event Notification

##### 5.14.3a.2.1 Description

The Event Notification allows the SCEF to notify the SCS/AS of the bearer level event(s).

##### 5.14.3a.2.2 Target URI

The Callback URI **"{**notification\_uri**}"** shall be used with the callback URI variables defined in table 5.14.3a.2.2-1.

Table 5.14.3a.2.2-1: Callback URI variables

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| notificationUri | Link | Reference provided by the SCS/AS when the SCS/AS requests to sponsor the traffic from the beginning or to become the chargeable party at a later point. |

##### 5.14.3a.2.3 Standard Methods

###### 5.14.3a.2.3.1 Notification via POST

The POST method allows to notify SCS/AS of the bearer level event(s) by the SCEF and the SCS/AS shall respond to the message.

This method shall support the request data structures specified in table 5.14.3a.2.3.1-1 and the response data structures and response codes specified in table 5.14.3a.2.3.1-2.

Table 5.14.3a.2.3.1-1: Data structures supported by the POST Request Body

|  |  |  |
| --- | --- | --- |
| Data type | Cardinality | Description |
| UserPlaneNotificationData | 1 | Representation of the bearer level notification. |

Table 5.14.3a.2.3.1-2: Data structures supported by the POST Response Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Cardinality | Response codes | Description |
| none | 1 | 200 OK | This case represents a successful notification of bearer level event(s). |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 also apply. |

###### 5.14.3a.2.3.2 Notification via Websocket

If supported by both SCS/AS and SCEF and successfully negotiated, the UserPlaneNotificationData may alternatively be delivered through the Websocket mechanism as defined in subclause 5.2.5.4.

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

#### 5.15.3.2 MSISDN-less MO SMS Notification

##### 5.15.3.2.1 Introduction

The MSISDN-less MO SMS Notification allows the SCEF to deliver a received MSIDN-less MO SMS to the SCS/AS.

##### 5.15.3.2.2 Resource definition

The Callback URI: **{**notificationDestination**}** shall support the callback URI variables defined in table 5.15.3.2.2-1.

Table 5.15.3.2.2-1: Callback URI variables for resource "MSISDN-less MO SMS Notification"

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| notificationDestination | Link | A URI indicating the notification destination where T8 notification requests shall be delivered to.This URI shall be preconfigured in the SCEF. |

##### 5.15.3.2.3 Standard methods

###### 5.15.3.2.3.1 Notification via POST

The HTTP POST method delivers a received MSISDN-less MO SMS. The SCEF shall initiate the HTTP POST request message and the SCS/AS shall respond to the message.

This method shall support the URI query parameters, request and response data structures, and response codes, as specified in the table 5.15.3.2.3.1-1 and table 5.15.3.2.3.1-2.

Table 5.15.3.2.3.1-1: URI query parameters supported by the POST method on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Data type | Cardinality | Remarks |
| none specified |  |  |  |

Table 5.15.3.3.3.1-2: Data structures supported by the POST request/response by the resource

|  |  |  |  |
| --- | --- | --- | --- |
| Request body | Data type | Cardinality | Remarks |
| MsisdnLessMoSmsNotification | 1 | The MSISDN-less MO SMS. |
| Response body | Data type | Cardinality | Responsecodes | Remarks |
| MsisdnLessMoSmsNotificationReply |  | 200 OK | The MSISDN-less MO SMS is received successfully. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 also apply. |

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