**3GPP TSG-SA5 Meeting #143-e *S5-223086***

e-meeting, 9 - 17 May 2022

|  |
| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **32.291** | **CR** | **0370** | **rev** | **1** | **Current version:** | **17.2.0** |  |
|  |
| *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** |

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|  |
| ***Title:***  | Correcting response code 3xx |
|  |  |
| ***Source to WG:*** | Ericsson LM |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** | TEI17 |  | ***Date:*** | 2022-04-20 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-17 |
|  | *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:*** | There use of 3xx response codes are inconsistent between the description and the yaml. |
|  |  |
| ***Summary of change:*** | Adding feature for the support of response codes 3xx. With the addition of the response codes 307 and 308 in the tables and yaml, as well as adding the header handling for these. |
|  |  |
| ***Consequences if not approved:*** | The handling of response codes for redirect is unspecified which may lead to interoperability issues. |
|  |  |
| ***Clauses affected:*** | 6.1.3.2.3.1, 6.1.3.3.4.2.2, 6.1.3.3.4.3.2, 6.1.5.2.3.1, 6.1.8, A2 |
|  |  |
|  | **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's revision history:*** | Revision of S5-221305 which was not pursued at SA5#141e. |

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| **First change** |

###### 6.1.3.2.3.1 POST

This method shall support the URI query parameters specified in table 6.1.3.2.3.1-1.

Table 6.1.3.2.3.1-1: URI query parameters supported by the POST method on this resource

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

This method shall support the request data structures specified in table 6.1.3.2.3.1-2 and the response data structures and response codes specified in table 6.1.3.2.3.1-3.

Table 6.1.3.2.3.1-2: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| ChargingDataRequest | M | 1 | Parameters to create a new Charging Data resource.  |

Table 6.1.3.2.3.1-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| ChargingDataResponse | M | 1 | 201 Created | The creation of a Charging Data resource is confirmed, and a representation of that resource is returned.The Charging Data resource which is created and returned successfully. The representation of created resource is identified via Location header field in the 201 response. |
| n/a |  |  | 307 Temporary Redirect | Dependent on support of ES3XX(NOTE 2) |
| n/a |  |  | 308 Permanent Redirect | Dependent on support of ES3XX(NOTE 2) |
| ProblemDetails | O | 0..1 | 400 Bad Request | Dependent on support of ES4XX(NOTE 2) |
| ChargingDataResponse | O | 0..1 | 400 Bad Request | Dependent on support of ES4XX(NOTE 2) |
| n/a |  |  | 401 Unauthorized | (NOTE 2) |
| ProblemDetails | O | 0..1 | 403 Forbidden | Dependent on support of ES4XX(NOTE 2) |
| ChargingDataResponse | O | 0..1 | 403 Forbidden | Dependent on support of ES4XX(NOTE 2) |
| ProblemDetails | O | 0..1 | 404 Not Found | Dependent on support of ES4XX(NOTE 2) |
| ChargingDataResponse | O | 0..1 | 404 Not Found | Dependent on support of ES4XX(NOTE 2) |
| n/a |  |  | 405 Method Not Allowed | (NOTE 2) |
| n/a |  |  | 408 Request Timeout | (NOTE 2) |
| n/a |  |  | 410 Gone | (NOTE 2) |
| n/a |  |  | 411 Length Required | (NOTE 2) |
| n/a |  |  | 413 Payload Too Large | (NOTE 2) |
| NOTE 1: In addition, the HTTP status codes which are specified as mandatory in table 5.2.7.1-1 of 3GPP TS 29.500 [299] for the POST method also apply.NOTE 2: Failure cases are described in clause 6.1.7. |

Table 6.1.3.2.3.1-4: 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}/nchf-convergedcharging/[apiversion}/chargingdata/{chargingDataRef} |

Table 6.1.3.2.3.1-5: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | String | M | 1 | An alternative URI of the resource located in an alternative CHF (service) instance. |
| 3gpp-Sbi-Target-Nf-Id | String | O | 0..1 | Identifier of the target NF (service) instance towards which the request is redirected |

Table 6.1.3.2.3.1-6: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative CHF (service) instance. |
| 3gpp-Sbi-Target-Nf-Id | string | O | 0..1 | Identifier of the target NF (service) instance towards which the request is redirected |

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| **Second change** |

6.1.3.3.4.2.2 Operation Definition

This operation shall support the request data structures specified in table 6.1.3.3.4.2.2-1 and the response data structures and response codes specified in table 6.1.3.3.4.2.2-2.

Table 6.1.3.3.4.2.2-1: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| ChargingDataRequest | M | 1 | Parameters to modify an existing Charging Data resource matching the ChargingDataRef according to the representation in the ChargingData.The request URI is the representation in the Location header field in the 201 response of resource creation.  |

Table 6.1.3.3.4.2.2-2: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| ChargingDataResponse | M | 1 | 200 OK | The modification of a Charging Data resource is confirmed, and a representation of that resource is returned.The Charging Data resource which is modified and returned successfully. |
| n/a |  |  | 307 Temporary Redirect | Dependent on support of ES3XX(NOTE 2) |
| n/a |  |  | 308 Permanent Redirect | Dependent on support of ES3XX(NOTE 2) |
| ProblemDetails | O | 0..1 | 400 Bad Request | Dependent on support of ES4XX(NOTE 2) |
| ChargingDataResponse | O | 0..1 | 400 Bad Request | Dependent on support of ES4XX(NOTE 2) |
| n/a |  |  | 401 Unauthorized | (NOTE 2) |
| ProblemDetails | O | 0..1 | 403 Forbidden | Dependent on support of ES4XX(NOTE 2) |
| ChargingDataResponse | O | 0..1 | 403 Forbidden | Dependent on support of ES4XX(NOTE 2) |
| ProblemDetails | O | 0..1 | 404 Not Found | Dependent on support of ES4XX(NOTE 2) |
| ChargingDataResponse | O | 0..1 | 404 Not Found | Dependent on support of ES4XX(NOTE 2) |
| n/a |  |  | 405 Method Not Allowed | (NOTE 2) |
| n/a |  |  | 408 Request Timeout | (NOTE 2) |
| n/a |  |  | 410 Gone | (NOTE 2) |
| n/a |  |  | 411 Length Required | (NOTE 2) |
| n/a |  |  | 413 Payload Too Large | (NOTE 2) |
| NOTE 1: In addition, the HTTP status codes which are specified as mandatory in table 5.2.7.1-1 of 3GPP TS 29.500 [299] for the POST method also apply.NOTE 2: Failure cases are described in clause 6.1.7. |

Table 6.1.3.3.4.2.2-3: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative CHF (service) instance. |
| 3gpp-Sbi-Target-Nf-Id | string | O | 0..1 | Identifier of the target NF (service) instance towards which the request is redirected |

Table 6.1.3.3.4.2.2-4: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative CHF (service) instance. |
| 3gpp-Sbi-Target-Nf-Id | string | O | 0..1 | Identifier of the target NF (service) instance towards which the request is redirected |

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| **Third change** |

6.1.3.3.4.3.2 Operation Definition

This operation shall support the request data structures specified in table 6.1.3.3.4.3.2-1 and the response data structures and response codes specified in table 6.1.3.3.4.3.2-2.

Table 6.1.3.3.4.3.2-1: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| ChargingDataRequest | M | 1 | Parameters to modify and then release the Charging Data resource matching the ChargingDataRef according to the representation in the ChargingData.The request URI is the representation in the Location header field in the 201 response of resource creation.  |

Table 6.1.3.3.4.3.2-2: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| n/a |  |  | 204 No Content | Successful case: The Charging Data resource matching the ChargingDataRef is modified and then released. |
| n/a |  |  | 307 Temporary Redirect | Dependent on support of ES3XX(NOTE 2) |
| n/a |  |  | 308 Permanent Redirect | Dependent on support of ES3XX(NOTE 2) |
| n/a |  |  | 401 Unauthorized | (NOTE 2) |
| ProblemDetails | O | 0..1 | 404 Not Found | Dependent on support of ES4XX(NOTE 2) |
| ChargingDataResponse | O | 0..1 | 404 Not Found | Dependent on support of ES4XX(NOTE 2) |
| n/a |  |  | 410 Gone | (NOTE 2) |
| n/a |  |  | 411 Length Required | (NOTE 2) |
| n/a |  |  | 413 Payload Too Large | (NOTE 2) |
| NOTE 1: The mandatory HTTP error status codes for the POST method listed in table 5.2.7.1-1 of TS 29.500 [4] also apply.NOTE 2: Failure cases are described in clause 6.1.7. |

Table 6.1.3.3.4.3.2-3: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative CHF (service) instance. |
| 3gpp-Sbi-Target-Nf-Id | string | O | 0..1 | Identifier of the target NF (service) instance towards which the request is redirected |

Table 6.1.3.3.4.3.2-4: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative CHF (service) instance. |
| 3gpp-Sbi-Target-Nf-Id | string | O | 0..1 | Identifier of the target NF (service) instance towards which the request is redirected |

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| **Fourth change** |

###### 6.1.5.2.3.1 POST

This method shall support the request data structures specified in table 6.1.5.2.3.1-1 and the response data structures and response codes specified in table 6.1.5.2.3.1-2.

Table 6.1.5.2.3.1-1: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| ChargingNotifyRequest | M | 1 | Provides Information about active Charging events. ChargingNotifyRequest data type is defined in subclause 6.1.6. |

Table 6.1.5.2.3.1-2: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| ChargingNotifyResponse | O | 0..1 | 200 | The receipt of the notification acknowledged, with information.Dependent on support of NotifyInfoResponse |
| n/a |  |  | 204 No Content | The receipt of the notification is acknowledged, without information. |
| n/a |  |  | 307 Temporary Redirect | Dependent on support of ES3XX(NOTE 2) |
| n/a |  |  | 308 Permanent Redirect | Dependent on support of ES3XX(NOTE 2) |
| ProblemDetails | O | 0..1 | 400 Bad Request | Dependent on support of NotifyInfoResponse(NOTE 2) |
| ChargingNotifyResponse | O | 0..1 | 400 Bad Request | Dependent on support of NotifyInfoResponse(NOTE 2) |
| NOTE 1: In addition, the HTTP status codes which are specified as mandatory in table 5.2.7.1-1 of 3GPP TS 29.500 [299] for the POST method also apply.NOTE 2: Failure cases are described in subclause 6.1.7. |

Table 6.1.5.2.3.1-3: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative NF (service) instance. |
| 3gpp-Sbi-Target-Nf-Id | string | O | 0..1 | Identifier of the target NF (service) instance towards which the request is redirected |

Table 6.1.5.2.3.1-4: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative NF (service) instance. |
| 3gpp-Sbi-Target-Nf-Id | string | O | 0..1 | Identifier of the target NF (service) instance towards which the request is redirected |

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| **Fifth change** |

### 6.1.8 Feature negotiation

The optional features in table 6.1.8-1 are defined for the Nchf\_ConvergedCharging API. They shall be negotiated using the extensibility mechanism defined in subclause 6.6 of 3GPP TS 29.500 [299].

Table 6.1.8-1: Supported Features

|  |  |  |
| --- | --- | --- |
| Feature number | Feature Name | Description |
| 1 | CHFCQM | CHF-controlled quota management i.e. support for temporary offline |
| 2 | AF\_Charging\_Identifier | Indicates the support of long character strings as charging identifiers. |
| 3 | 5GIEPC\_CH | 5GS interworking with EPC |
| 4 | ATSSS | This feature indicates support of Access Traffic Steering, Switching, Splitting (ATSSS). |
| 5 | ETSUN | This feature indicates support of Enhancing Topology of SMF and UPF in 5G Networks (ETSUN). |
| 6 | EnhancedDiagnostics | Support the enhanced diagnostics |
| 7 | AMF\_subs\_PRA | PRA(s) subscription by CHF in AMF |
| 8 | FilterRuleList | Support of multiple filter rules in the final unit indication |
| 9 | TEI17\_NIESGU | This feature indicates support of GERAN/UTRAN access |
| 10 | IMS | This feature indicates support of IMS. |
| 11 | QoSMonitoring | This feature indicates support of QoS Monitoring |
| 12 | Announcement | This feature indicates support of announcements. |
| 13 | 5GLAN | This feature indicates support of 5G LAN-type services. |
| 13 | URLLC | This feature indicates support of URLLC. |
| 14 | NotifyInfoResponse | This feature indicates support of response with information for a notification. |
| 15 | ES4xx | Extended Support of HTTP 400, 403, 404 allowing use of either ChargingDataResponse or ProblemDetails in the response. |
| 16 | ES3xx | Extended Support of HTTP 307 and 308 redirections, an NF that does not support this feature does only support HTTP redirection as specified for 3GPP Release 15 and 16. |

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| **Fifth change** |

## A.2 Nchf\_ConvergedCharging API

openapi: 3.0.0

info:

 title: Nchf\_ConvergedCharging

 version: 3.1.0-alpha.3

 description: |

 ConvergedCharging Service © 2021, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).

 All rights reserved.

externalDocs:

 description: >

 3GPP TS 32.291 V17.2.0: Telecommunication management; Charging management;

 5G system, charging service; Stage 3.

 url: 'http://www.3gpp.org/ftp/Specs/archive/32\_series/32.291/'

servers:

 - url: '{apiRoot}/nchf-convergedcharging/v3'

 variables:

 apiRoot:

 default: https://example.com

 description: apiRoot as defined in subclause 4.4 of 3GPP TS 29.501.

security:

 - {}

 - oAuth2ClientCredentials:

 - nchf-convergedcharging

paths:

 /chargingdata:

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: Created

 content:

 application/json:

 schema:

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

 '400':

 description: Bad request

 content:

 application/problem+json:

 schema:

 oneOf:

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

 - $ref: '#/components/schemas/ChargingDataResponse'

 '307':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/308'

 '401':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/401'

 '403':

 description: Forbidden

 content:

 application/problem+json:

 schema:

 oneOf:

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

 - $ref: '#/components/schemas/ChargingDataResponse'

 '404':

 description: Not Found

 content:

 application/problem+json:

 schema:

 oneOf:

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

 - $ref: '#/components/schemas/ChargingDataResponse'

 '405':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/405'

 '408':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/408'

 '410':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/410'

 '411':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/413'

 '500':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29571\_CommonData.yaml#/components/responses/default'

 callbacks:

 chargingNotification:

 '{$request.body#/notifyUri}':

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '200':

 description: OK.

 content:

 application/ json:

 schema:

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

 '204':

 description: 'No Content, Notification was succesfull'

 '307':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/308'

 '400':

 description: Bad request

 content:

 application/problem+json:

 schema:

 oneOf:

 - $ref: TS29571\_CommonData.yaml#/components/schemas/ProblemDetails

 - $ref: '#/components/schemas/ChargingNotifyResponse'

 default:

 $ref: 'TS29571\_CommonData.yaml#/components/responses/default'

 '/chargingdata/{ChargingDataRef}/update':

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 parameters:

 - name: ChargingDataRef

 in: path

 description: a unique identifier for a charging data resource in a PLMN

 required: true

 schema:

 type: string

 responses:

 '200':

 description: OK. Updated Charging Data resource is returned

 content:

 application/json:

 schema:

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

 '307':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/308'

 '400':

 description: Bad request

 content:

 application/problem+json:

 schema:

 oneOf:

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

 - $ref: '#/components/schemas/ChargingDataResponse'

 '401':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/401'

 '403':

 description: Forbidden

 content:

 application/problem+json:

 schema:

 oneOf:

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

 - $ref: '#/components/schemas/ChargingDataResponse'

 '404':

 description: Not Found

 content:

 application/problem+json:

 schema:

 oneOf:

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

 - $ref: '#/components/schemas/ChargingDataResponse'

 '405':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/405'

 '408':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/408'

 '410':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/410'

 '411':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/413'

 '500':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29571\_CommonData.yaml#/components/responses/default'

 '/chargingdata/{ChargingDataRef}/release':

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 parameters:

 - name: ChargingDataRef

 in: path

 description: a unique identifier for a charging data resource in a PLMN

 required: true

 schema:

 type: string

 responses:

 '204':

 description: No Content.

 '307':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/308'

 '401':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/401'

 '404':

 description: Not Found

 content:

 application/problem+json:

 schema:

 oneOf:

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

 - $ref: '#/components/schemas/ChargingDataResponse'

 '410':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/410'

 '411':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/413'

 '500':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29571\_CommonData.yaml#/components/responses/default'

components:

 securitySchemes:

 oAuth2ClientCredentials:

 type: oauth2

 flows:

 clientCredentials:

 tokenUrl: '{nrfApiRoot}/oauth2/token'

 scopes:

 nchf-convergedcharging: Access to the Nchf\_ConvergedCharging API

 schemas:

 ChargingDataRequest:

 type: object

 properties:

 subscriberIdentifier:

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

 tenantIdentifier:

 type: string

 chargingId:

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

 mnSConsumerIdentifier:

 type: string

 nfConsumerIdentification:

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

 invocationTimeStamp:

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

 invocationSequenceNumber:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 retransmissionIndicator:

 type: boolean

 oneTimeEvent:

 type: boolean

 oneTimeEventType:

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

 notifyUri:

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

 supportedFeatures:

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

 serviceSpecificationInfo:

 type: string

 multipleUnitUsage:

 type: array

 items:

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

 minItems: 0

 triggers:

 type: array

 items:

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

 minItems: 0

 pDUSessionChargingInformation:

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

 roamingQBCInformation:

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

 sMSChargingInformation:

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

 nEFChargingInformation:

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

 registrationChargingInformation:

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

 n2ConnectionChargingInformation:

 $ref: '#/components/schemas/N2ConnectionChargingInformation'

 locationReportingChargingInformation:

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

 nSPAChargingInformation:

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

 nSMChargingInformation:

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

 mMTelChargingInformation:

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

 iMSChargingInformation:

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

 required:

 - nfConsumerIdentification

 - invocationTimeStamp

 - invocationSequenceNumber

 ChargingDataResponse:

 type: object

 properties:

 invocationTimeStamp:

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

 invocationSequenceNumber:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 invocationResult:

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

 sessionFailover:

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

 supportedFeatures:

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

 multipleUnitInformation:

 type: array

 items:

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

 minItems: 0

 triggers:

 type: array

 items:

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

 minItems: 0

 pDUSessionChargingInformation:

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

 roamingQBCInformation:

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

 locationReportingChargingInformation:

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

 required:

 - invocationTimeStamp

 - invocationSequenceNumber

 ChargingNotifyRequest:

 type: object

 properties:

 notificationType:

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

 reauthorizationDetails:

 type: array

 items:

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

 minItems: 0

 required:

 - notificationType

 ChargingNotifyResponse:

 type: object

 properties:

 invocationResult:

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

 NFIdentification:

 type: object

 properties:

 nFName:

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

 nFIPv4Address:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

 nFIPv6Address:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

 nFPLMNID:

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

 nodeFunctionality:

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

 nFFqdn:

 type: string

 required:

 - nodeFunctionality

 MultipleUnitUsage:

 type: object

 properties:

 ratingGroup:

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

 requestedUnit:

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

 usedUnitContainer:

 type: array

 items:

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

 minItems: 0

 uPFID:

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

 multihomedPDUAddress:

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

 required:

 - ratingGroup

 InvocationResult:

 type: object

 properties:

 error:

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

 failureHandling:

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

 Trigger:

 type: object

 properties:

 triggerType:

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

 triggerCategory:

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

 timeLimit:

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

 volumeLimit:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 volumeLimit64:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 eventLimit:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 maxNumberOfccc:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 tariffTimeChange:

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

 required:

 - triggerType

 - triggerCategory

 MultipleUnitInformation:

 type: object

 properties:

 resultCode:

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

 ratingGroup:

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

 grantedUnit:

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

 triggers:

 type: array

 items:

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

 minItems: 0

 validityTime:

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

 quotaHoldingTime:

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

 finalUnitIndication:

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

 timeQuotaThreshold:

 type: integer

 volumeQuotaThreshold:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 unitQuotaThreshold:

 type: integer

 uPFID:

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

 announcementInformation:

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

 required:

 - ratingGroup

 RequestedUnit:

 type: object

 properties:

 time:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 totalVolume:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 uplinkVolume:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 downlinkVolume:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 serviceSpecificUnits:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 UsedUnitContainer:

 type: object

 properties:

 serviceId:

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

 quotaManagementIndicator:

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

 triggers:

 type: array

 items:

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

 minItems: 0

 triggerTimestamp:

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

 time:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 totalVolume:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 uplinkVolume:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 downlinkVolume:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 serviceSpecificUnits:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 eventTimeStamps:

 type: array

 items:

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

 minItems: 0

 localSequenceNumber:

 type: integer

 pDUContainerInformation:

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

 nSPAContainerInformation:

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

 required:

 - localSequenceNumber

 GrantedUnit:

 type: object

 properties:

 tariffTimeChange:

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

 time:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 totalVolume:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 uplinkVolume:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 downlinkVolume:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 serviceSpecificUnits:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 FinalUnitIndication:

 type: object

 properties:

 finalUnitAction:

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

 restrictionFilterRule:

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

 restrictionFilterRuleList:

 type: array

 items:

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

 minItems: 1

 filterId:

 type: string

 filterIdList:

 type: array

 items:

 type: string

 minItems: 1

 redirectServer:

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

 required:

 - finalUnitAction

 RedirectServer:

 type: object

 properties:

 redirectAddressType:

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

 redirectServerAddress:

 type: string

 required:

 - redirectAddressType

 - redirectServerAddress

 ReauthorizationDetails:

 type: object

 properties:

 serviceId:

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

 ratingGroup:

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

 quotaManagementIndicator:

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

 PDUSessionChargingInformation:

 type: object

 properties:

 chargingId:

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

 homeProvidedChargingId:

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

 userInformation:

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

 userLocationinfo:

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

 mAPDUNon3GPPUserLocationInfo:

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

 non3GPPUserLocationTime:

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

 mAPDUNon3GPPUserLocationTime:

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

 presenceReportingAreaInformation:

 type: object

 additionalProperties:

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

 minProperties: 0

 uetimeZone:

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

 pduSessionInformation:

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

 unitCountInactivityTimer:

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

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

 UserInformation:

 type: object

 properties:

 servedGPSI:

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

 servedPEI:

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

 unauthenticatedFlag:

 type: boolean

 roamerInOut:

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

 PDUSessionInformation:

 type: object

 properties:

 networkSlicingInfo:

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

 pduSessionID:

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

 pduType:

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

 sscMode:

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

 hPlmnId:

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

 servingNetworkFunctionID:

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

 ratType:

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

 mAPDUNon3GPPRATType:

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

 dnnId:

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

 dnnSelectionMode:

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

 chargingCharacteristics:

 type: string

 pattern: '^[0-9a-fA-F]{1,4}$'

 chargingCharacteristicsSelectionMode:

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

 startTime:

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

 stopTime:

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

 3gppPSDataOffStatus:

 $ref: '#/components/schemas/3GPPPSDataOffStatus'

 sessionStopIndicator:

 type: boolean

 pduAddress:

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

 diagnostics:

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

 authorizedQoSInformation:

 $ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/AuthorizedDefaultQos'

 subscribedQoSInformation:

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

 authorizedSessionAMBR:

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

 subscribedSessionAMBR:

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

 servingCNPlmnId:

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

 mAPDUSessionInformation:

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

 enhancedDiagnostics:

 $ref: '#/components/schemas/EnhancedDiagnostics5G'

 redundantTransmissionType:

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

 pDUSessionPairID:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 qosMonitoringReport:

 type: array

 items:

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

 minItems: 0

 5GLANTypeService:

 $ref: '#/components/schemas/5GLANTypeService'

 required:

 - pduSessionID

 - dnnId

 PDUContainerInformation:

 type: object

 properties:

 timeofFirstUsage:

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

 timeofLastUsage:

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

 qoSInformation:

 $ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/QosData'

 qoSCharacteristics:

 $ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/QosCharacteristics'

 afChargingIdentifier:

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

 afChargingIdString:

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

 userLocationInformation:

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

 uetimeZone:

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

 rATType:

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

 servingNodeID:

 type: array

 items:

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

 minItems: 0

 presenceReportingAreaInformation:

 type: object

 additionalProperties:

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

 minProperties: 0

 3gppPSDataOffStatus:

 $ref: '#/components/schemas/3GPPPSDataOffStatus'

 sponsorIdentity:

 type: string

 applicationserviceProviderIdentity:

 type: string

 chargingRuleBaseName:

 type: string

 mAPDUSteeringFunctionality:

 $ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/SteeringFunctionality'

 mAPDUSteeringMode:

 $ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/SteeringMode'

 trafficForwardingWay:

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

 NSPAContainerInformation:

 type: object

 properties:

 latency:

 type: integer

 throughput:

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

 maximumPacketLossRate:

 type: string

 serviceExperienceStatisticsData:

 $ref: 'TS29520\_Nnwdaf\_EventsSubscription.yaml#/components/schemas/ServiceExperienceInfo'

 theNumberOfPDUSessions:

 type: integer

 theNumberOfRegisteredSubscribers:

 type: integer

 loadLevel:

 $ref: 'TS29520\_Nnwdaf\_EventsSubscription.yaml#/components/schemas/NsiLoadLevelInfo'

 NSPAChargingInformation:

 type: object

 properties:

 singleNSSAI:

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

 required:

 - singleNSSAI

 NetworkSlicingInfo:

 type: object

 properties:

 sNSSAI:

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

 required:

 - sNSSAI

 PDUAddress:

 type: object

 properties:

 pduIPv4Address:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

 pduIPv6AddresswithPrefix:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

 pduAddressprefixlength:

 type: integer

 iPv4dynamicAddressFlag:

 type: boolean

 iPv6dynamicPrefixFlag:

 type: boolean

 addIpv6AddrPrefixes:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

 ServingNetworkFunctionID:

 type: object

 properties:

 servingNetworkFunctionInformation:

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

 aMFId:

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

 required:

 - servingNetworkFunctionInformation

 RoamingQBCInformation:

 type: object

 properties:

 multipleQFIcontainer:

 type: array

 items:

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

 minItems: 0

 uPFID:

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

 roamingChargingProfile:

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

 MultipleQFIcontainer:

 type: object

 properties:

 triggers:

 type: array

 items:

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

 minItems: 0

 triggerTimestamp:

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

 time:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 totalVolume:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 uplinkVolume:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 downlinkVolume:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 localSequenceNumber:

 type: integer

 qFIContainerInformation:

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

 required:

 - localSequenceNumber

 QFIContainerInformation:

 type: object

 properties:

 qFI:

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

 reportTime:

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

 timeofFirstUsage:

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

 timeofLastUsage:

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

 qoSInformation:

 $ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/QosData'

 qoSCharacteristics:

 $ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/QosCharacteristics'

 userLocationInformation:

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

 uetimeZone:

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

 presenceReportingAreaInformation:

 type: object

 additionalProperties:

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

 minProperties: 0

 rATType:

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

 servingNetworkFunctionID:

 type: array

 items:

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

 minItems: 0

 3gppPSDataOffStatus:

 $ref: '#/components/schemas/3GPPPSDataOffStatus'

 3gppChargingId:

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

 diagnostics:

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

 enhancedDiagnostics:

 type: array

 items:

 type: string

 required:

 - reportTime

 RoamingChargingProfile:

 type: object

 properties:

 triggers:

 type: array

 items:

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

 minItems: 0

 partialRecordMethod:

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

 SMSChargingInformation:

 type: object

 properties:

 originatorInfo:

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

 recipientInfo:

 type: array

 items:

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

 minItems: 0

 userEquipmentInfo:

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

 roamerInOut:

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

 userLocationinfo:

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

 uetimeZone:

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

 rATType:

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

 sMSCAddress:

 type: string

 sMDataCodingScheme:

 type: integer

 sMMessageType:

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

 sMReplyPathRequested:

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

 sMUserDataHeader:

 type: string

 sMStatus:

 type: string

 pattern: '^[0-7]?[0-9a-fA-F]$'

 sMDischargeTime:

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

 numberofMessagesSent:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 sMServiceType:

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

 sMSequenceNumber:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 sMSresult:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 submissionTime:

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

 sMPriority:

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

 messageReference:

 type: string

 messageSize:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 messageClass:

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

 deliveryReportRequested:

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

 OriginatorInfo:

 type: object

 properties:

 originatorSUPI:

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

 originatorGPSI:

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

 originatorOtherAddress:

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

 originatorReceivedAddress:

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

 originatorSCCPAddress:

 type: string

 sMOriginatorInterface:

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

 sMOriginatorProtocolId:

 type: string

 RecipientInfo:

 type: object

 properties:

 recipientSUPI:

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

 recipientGPSI:

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

 recipientOtherAddress:

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

 recipientReceivedAddress:

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

 recipientSCCPAddress:

 type: string

 sMDestinationInterface:

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

 sMrecipientProtocolId:

 type: string

 SMAddressInfo:

 type: object

 properties:

 sMaddressType:

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

 sMaddressData:

 type: string

 sMaddressDomain:

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

 RecipientAddress:

 type: object

 properties:

 recipientAddressInfo:

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

 sMaddresseeType:

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

 MessageClass:

 type: object

 properties:

 classIdentifier:

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

 tokenText:

 type: string

 SMAddressDomain:

 type: object

 properties:

 domainName:

 type: string

 3GPPIMSIMCCMNC:

 type: string

 SMInterface:

 type: object

 properties:

 interfaceId:

 type: string

 interfaceText:

 type: string

 interfacePort:

 type: string

 interfaceType:

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

 RANSecondaryRATUsageReport:

 type: object

 properties:

 rANSecondaryRATType:

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

 qosFlowsUsageReports:

 type: array

 items:

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

 Diagnostics:

 type: integer

 IPFilterRule:

 type: string

 QosFlowsUsageReport:

 type: object

 properties:

 qFI:

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

 startTimestamp:

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

 endTimestamp:

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

 uplinkVolume:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 downlinkVolume:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

 5GLANTypeService:

 type: object

 properties:

 internalGroupIdentifier:

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

 NEFChargingInformation:

 type: object

 properties:

 externalIndividualIdentifier:

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

 externalGroupIdentifier:

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

 groupIdentifier:

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

 aPIDirection:

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

 aPITargetNetworkFunction:

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

 aPIResultCode:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 aPIName:

 type: string

 aPIReference:

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

 aPIContent:

 type: string

 required:

 - aPIName

 RegistrationChargingInformation:

 type: object

 properties:

 registrationMessagetype:

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

 userInformation:

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

 userLocationinfo:

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

 pSCellInformation:

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

 uetimeZone:

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

 rATType:

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

 5GMMCapability:

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

 mICOModeIndication:

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

 smsIndication:

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

 taiList:

 type: array

 items:

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

 minItems: 0

 serviceAreaRestriction:

 type: array

 items:

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

 minItems: 0

 requestedNSSAI:

 type: array

 items:

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

 minItems: 0

 allowedNSSAI:

 type: array

 items:

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

 minItems: 0

 rejectedNSSAI:

 type: array

 items:

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

 minItems: 0

 nSSAIMapList:

 type: array

 items:

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

 minItems: 0

 amfUeNgapId:

 type: integer

 ranUeNgapId:

 type: integer

 ranNodeId:

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

 required:

 - registrationMessagetype

 PSCellInformation:

 type: object

 properties:

 nrcgi:

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

 ecgi:

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

 NSSAIMap:

 type: object

 properties:

 servingSnssai:

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

 homeSnssai:

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

 required:

 - servingSnssai

 - homeSnssai

 N2ConnectionChargingInformation:

 type: object

 properties:

 n2ConnectionMessageType:

 $ref: '#/components/schemas/N2ConnectionMessageType'

 userInformation:

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

 userLocationinfo:

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

 pSCellInformation:

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

 uetimeZone:

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

 rATType:

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

 amfUeNgapId:

 type: integer

 ranUeNgapId:

 type: integer

 ranNodeId:

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

 restrictedRatList:

 type: array

 items:

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

 minItems: 0

 forbiddenAreaList:

 type: array

 items:

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

 minItems: 0

 serviceAreaRestriction:

 type: array

 items:

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

 minItems: 0

 restrictedCnList:

 type: array

 items:

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

 minItems: 0

 allowedNSSAI:

 type: array

 items:

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

 minItems: 0

 rrcEstCause:

 type: string

 pattern: '^[0-9a-fA-F]+$'

 required:

 - n2ConnectionMessageType

 LocationReportingChargingInformation:

 type: object

 properties:

 locationReportingMessageType:

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

 userInformation:

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

 userLocationinfo:

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

 pSCellInformation:

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

 uetimeZone:

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

 rATType:

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

 presenceReportingAreaInformation:

 type: object

 additionalProperties:

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

 minProperties: 0

 required:

 - locationReportingMessageType

 N2ConnectionMessageType:

 type: integer

 LocationReportingMessageType:

 type: integer

 NSMChargingInformation:

 type: object

 properties:

 managementOperation:

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

 idNetworkSliceInstance:

 type: string

 listOfserviceProfileChargingInformation:

 type: array

 items:

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

 minItems: 0

 managementOperationStatus:

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

# To be introduced once the reference to 'generic.yaml is resolved

# managementOperationalState:

# $ref: 'genericNrm.yaml#/components/schemas/OperationalState'

# managementAdministrativeState:

# $ref: 'genericNrm.yaml#/components/schemas/AdministrativeState'

 required:

 - managementOperation

 ServiceProfileChargingInformation:

 type: object

 properties:

 serviceProfileIdentifier:

 type: string

 sNSSAIList:

 type: array

 items:

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

 minItems: 0

# To be introduced once the reference to 'nrNrm.yaml is resolved

# sST:

# $ref: 'nrNrm.yaml#/components/schemas/Sst'

 latency:

 type: integer

 availability:

 type: number

# To be introduced once the reference to sliceNrm.yaml is resolved

# resourceSharingLevel:

# $ref: 'sliceNrm.yaml#/components/schemas/SharingLevel'

 jitter:

 type: integer

 reliability:

 type: string

 maxNumberofUEs:

 type: integer

 coverageArea:

 type: string

# To be introduced once the reference to sliceNrm.yaml is resolved

# uEMobilityLevel:

# $ref: 'sliceNrm.yaml#/components/schemas/MobilityLevel'

# delayToleranceIndicator:

# $ref: 'sliceNrm.yaml#/components/schemas/Support'

 dLThptPerSlice:

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

 dLThptPerUE:

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

 uLThptPerSlice:

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

 uLThptPerUE:

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

 maxNumberofPDUsessions:

 type: integer

 kPIMonitoringList:

 type: string

 supportedAccessTechnology:

 type: integer

# To be introduced once the reference to sliceNrm.yaml is resolved

# v2XCommunicationModeIndicator:

# $ref: 'sliceNrm.yaml#/components/schemas/Support'

 addServiceProfileInfo:

 type: string

 Throughput:

 type: object

 properties:

 guaranteedThpt:

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

 maximumThpt:

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

 MAPDUSessionInformation:

 type: object

 properties:

 mAPDUSessionIndicator:

 $ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/MaPduIndication'

 aTSSSCapability:

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

 EnhancedDiagnostics5G:

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

 RanNasCauseList:

 type: array

 items:

 $ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/RanNasRelCause'

 QosMonitoringReport:

 description: Contains reporting information on QoS monitoring.

 type: object

 properties:

 ulDelays:

 type: array

 items:

 type: integer

 minItems: 0

 dlDelays:

 type: array

 items:

 type: integer

 minItems: 0

 rtDelays:

 type: array

 items:

 type: integer

 minItems: 0

 AnnouncementInformation:

 type: object

 properties:

 announcementIdentifier:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 announcementReference:

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

 variableParts:

 type: array

 items:

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

 minItems: 0

 timeToPlay:

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

 quotaConsumptionIndicator:

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

 announcementPriority:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 playToParty:

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

 announcementPrivacyIndicator:

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

 Language:

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

 VariablePart:

 type: object

 properties:

 variablePartType:

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

 variablePartValue:

 type: array

 items:

 type: string

 minItems: 1

 variablePartOrder:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 required:

 - variablePartType

 - variablePartValue

 Language:

 type: string

 MMTelChargingInformation:

 type: object

 properties:

 supplementaryServices:

 type: array

 items:

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

 minItems: 1

 SupplementaryService:

 type: object

 properties:

 supplementaryServiceType:

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

 supplementaryServiceMode:

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

 numberOfDiversions:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 associatedPartyAddress:

 type: string

 conferenceId:

 type: string

 participantActionType:

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

 changeTime:

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

 numberOfParticipants:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 cUGInformation:

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

 IMSChargingInformation:

 type: object

 properties:

 eventType:

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

 iMSNodeFunctionality:

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

 roleOfNode:

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

 userInformation:

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

 userLocationInfo:

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

 ueTimeZone:

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

 3gppPSDataOffStatus:

 $ref: '#/components/schemas/3GPPPSDataOffStatus'

 isupCause:

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

 controlPlaneAddress:

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

 vlrNumber:

 $ref: '#/components/schemas/E164'

 mscAddress:

 $ref: '#/components/schemas/E164'

 userSessionID:

 type: string

 outgoingSessionID:

 type: string

 sessionPriority:

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

 callingPartyAddresses:

 type: array

 items:

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

 minItems: 1

 calledPartyAddress:

 type: string

 numberPortabilityRoutinginformation:

 type: string

 carrierSelectRoutingInformation:

 type: string

 alternateChargedPartyAddress:

 type: string

 requestedPartyAddress:

 type: array

 items:

 type: string

 minItems: 1

 calledAssertedIdentities:

 type: array

 items:

 type: string

 minItems: 1

 calledIdentityChange:

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

 associatedURI:

 type: array

 items:

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

 minItems: 1

 timeStamps:

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

 applicationServerInformation:

 type: array

 items:

 type: string

 minItems: 1

 interOperatorIdentifier:

 type: array

 items:

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

 minItems: 1

 imsChargingIdentifier:

 type: string

 relatedICID:

 type: string

 relatedICIDGenerationNode:

 type: string

 transitIOIList:

 type: array

 items:

 type: string

 minItems: 1

 earlyMediaDescription:

 type: array

 items:

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

 minItems: 1

 sdpSessionDescription:

 type: array

 items:

 type: string

 minItems: 1

 sdpMediaComponent:

 type: array

 items:

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

 minItems: 1

 servedPartyIPAddress:

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

 serverCapabilities:

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

 trunkGroupID:

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

 bearerService:

 type: string

 imsServiceId:

 type: string

 messageBodies:

 type: array

 items:

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

 minItems: 1

 accessNetworkInformation:

 type: array

 items:

 type: string

 minItems: 1

 additionalAccessNetworkInformation:

 type: string

 cellularNetworkInformation:

 type: string

 accessTransferInformation:

 type: array

 items:

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

 minItems: 1

 accessNetworkInfoChange:

 type: array

 items:

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

 minItems: 1

 imsCommunicationServiceID:

 type: string

 imsApplicationReferenceID:

 type: string

 causeCode:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 reasonHeader:

 type: array

 items:

 type: string

 minItems: 1

 initialIMSChargingIdentifier:

 type: string

 nniInformation:

 type: array

 items:

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

 minItems: 1

 fromAddress:

 type: string

 imsEmergencyIndication:

 type: boolean

 imsVisitedNetworkIdentifier:

 type: string

 sipRouteHeaderReceived:

 type: string

 sipRouteHeaderTransmitted:

 type: string

 tadIdentifier:

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

 feIdentifierList:

 type: string

 OctetString:

 type: string

 pattern: '^[0-9a-fA-F]+$'

 E164:

 type: string

 pattern: '^[0-9a-fA-F]+$'

 IMSAddress:

 type: object

 properties:

 ipv4Addr:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

 ipv6Addr:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

 e164:

 $ref: '#/components/schemas/E164'

 anyOf:

 - required: [ ipv4Addr ]

 - required: [ ipv6Addr ]

 - required: [ e164 ]

 ServingNodeAddress:

 type: object

 properties:

 ipv4Addr:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

 ipv6Addr:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

 anyOf:

 - required: [ ipv4Addr ]

 - required: [ ipv6Addr ]

 SIPEventType:

 type: object

 properties:

 sIPMethod:

 type: string

 eventHeader:

 type: string

 expiresHeader:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 ISUPCause:

 type: object

 properties:

 iSUPCauseLocation:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 iSUPCauseValue:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 iSUPCauseDiagnostics:

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

 CalledIdentityChange:

 type: object

 properties:

 calledIdentity:

 type: string

 changeTime:

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

 InterOperatorIdentifier:

 type: object

 properties:

 originatingIOI:

 type: string

 terminatingIOI:

 type: string

 EarlyMediaDescription:

 type: object

 properties:

 sDPTimeStamps:

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

 sDPMediaComponent:

 type: array

 items:

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

 minItems: 0

 sDPSessionDescription:

 type: array

 items:

 type: string

 minItems: 0

 SDPTimeStamps:

 type: object

 properties:

 sDPOfferTimestamp:

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

 sDPAnswerTimestamp:

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

 SDPMediaComponent:

 type: object

 properties:

 sDPMediaName:

 type: string

 SDPMediaDescription:

 type: array

 items:

 type: string

 minItems: 0

 localGWInsertedIndication:

 type: boolean

 ipRealmDefaultIndication:

 type: boolean

 transcoderInsertedIndication:

 type: boolean

 mediaInitiatorFlag:

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

 mediaInitiatorParty:

 type: string

 threeGPPChargingId:

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

 accessNetworkChargingIdentifierValue:

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

 sDPType:

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

 ServerCapabilities:

 type: object

 properties:

 mandatoryCapability:

 type: array

 items:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 minItems: 0

 optionalCapability :

 type: array

 items:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 minItems: 0

 serverName:

 type: array

 items:

 type: string

 minItems: 0

 TrunkGroupID:

 type: object

 properties:

 incomingTrunkGroupID:

 type: string

 outgoingTrunkGroupID:

 type: string

 MessageBody:

 type: object

 properties:

 contentType:

 type: string

 contentLength:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 contentDisposition:

 type: string

 originator:

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

 required:

 - contentType

 - contentLength

 AccessTransferInformation:

 type: object

 properties:

 accessTransferType:

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

 accessNetworkInformation:

 type: array

 items:

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

 minItems: 0

 cellularNetworkInformation:

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

 interUETransfer:

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

 userEquipmentInfo:

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

 instanceId:

 type: string

 relatedIMSChargingIdentifier:

 type: string

 relatedIMSChargingIdentifierNode:

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

 changeTime:

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

 AccessNetworkInfoChange:

 type: object

 properties:

 accessNetworkInformation:

 type: array

 items:

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

 minItems: 0

 cellularNetworkInformation:

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

 changeTime:

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

 NNIInformation:

 type: object

 properties:

 sessionDirection:

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

 nNIType:

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

 relationshipMode:

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

 neighbourNodeAddress:

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

 NotificationType:

 anyOf:

 - type: string

 enum:

 - REAUTHORIZATION

 - ABORT\_CHARGING

 - type: string

 NodeFunctionality:

 anyOf:

 - type: string

 enum:

 - AMF

 - SMF

 - SMS

 - PGW\_C\_SMF

 - NEFF # Included for backwards compatibility, shall not be used

 - SGW

 - I\_SMF

 - ePDG

 - CEF

 - NEF

 - MnS\_Producer

 - SGSN

 - type: string

 ChargingCharacteristicsSelectionMode:

 anyOf:

 - type: string

 enum:

 - HOME\_DEFAULT

 - ROAMING\_DEFAULT

 - VISITING\_DEFAULT

 - type: string

 TriggerType:

 anyOf:

 - type: string

 enum:

 - QUOTA\_THRESHOLD

 - QHT

 - FINAL

 - QUOTA\_EXHAUSTED

 - VALIDITY\_TIME

 - OTHER\_QUOTA\_TYPE

 - FORCED\_REAUTHORISATION

 - UNUSED\_QUOTA\_TIMER # Included for backwards compatibility, shall not be used

 - UNIT\_COUNT\_INACTIVITY\_TIMER

 - ABNORMAL\_RELEASE

 - QOS\_CHANGE

 - VOLUME\_LIMIT

 - TIME\_LIMIT

 - EVENT\_LIMIT

 - PLMN\_CHANGE

 - USER\_LOCATION\_CHANGE

 - RAT\_CHANGE

 - SESSION\_AMBR\_CHANGE

 - UE\_TIMEZONE\_CHANGE

 - TARIFF\_TIME\_CHANGE

 - MAX\_NUMBER\_OF\_CHANGES\_IN\_CHARGING\_CONDITIONS

 - MANAGEMENT\_INTERVENTION

 - CHANGE\_OF\_UE\_PRESENCE\_IN\_PRESENCE\_REPORTING\_AREA

 - CHANGE\_OF\_3GPP\_PS\_DATA\_OFF\_STATUS

 - SERVING\_NODE\_CHANGE

 - REMOVAL\_OF\_UPF

 - ADDITION\_OF\_UPF

 - INSERTION\_OF\_ISMF

 - REMOVAL\_OF\_ISMF

 - CHANGE\_OF\_ISMF

 - START\_OF\_SERVICE\_DATA\_FLOW

 - ECGI\_CHANGE

 - TAI\_CHANGE

 - HANDOVER\_CANCEL

 - HANDOVER\_START

 - HANDOVER\_COMPLETE

 - GFBR\_GUARANTEED\_STATUS\_CHANGE

 - ADDITION\_OF\_ACCESS

 - REMOVAL\_OF\_ACCESS

 - START\_OF\_SDF\_ADDITIONAL\_ACCESS

 - REDUNDANT\_TRANSMISSION\_CHANGE

 - CGI\_SAI\_CHANGE

 - RAI\_CHANGE

 - type: string

 FinalUnitAction:

 anyOf:

 - type: string

 enum:

 - TERMINATE

 - REDIRECT

 - RESTRICT\_ACCESS

 - type: string

 RedirectAddressType:

 anyOf:

 - type: string

 enum:

 - IPV4

 - IPV6

 - URL

 - type: string

 TriggerCategory:

 anyOf:

 - type: string

 enum:

 - IMMEDIATE\_REPORT

 - DEFERRED\_REPORT

 - type: string

 QuotaManagementIndicator:

 anyOf:

 - type: string

 enum:

 - ONLINE\_CHARGING

 - OFFLINE\_CHARGING

 - QUOTA\_MANAGEMENT\_SUSPENDED

 - type: string

 FailureHandling:

 anyOf:

 - type: string

 enum:

 - TERMINATE

 - CONTINUE

 - RETRY\_AND\_TERMINATE

 - type: string

 SessionFailover:

 anyOf:

 - type: string

 enum:

 - FAILOVER\_NOT\_SUPPORTED

 - FAILOVER\_SUPPORTED

 - type: string

 3GPPPSDataOffStatus:

 anyOf:

 - type: string

 enum:

 - ACTIVE

 - INACTIVE

 - type: string

 ResultCode:

 anyOf:

 - type: string

 enum:

 - SUCCESS

 - END\_USER\_SERVICE\_DENIED

 - QUOTA\_MANAGEMENT\_NOT\_APPLICABLE

 - QUOTA\_LIMIT\_REACHED

 - END\_USER\_SERVICE\_REJECTED

 - USER\_UNKNOWN

 - RATING\_FAILED

 - QUOTA\_MANAGEMENT

 - type: string

 PartialRecordMethod:

 anyOf:

 - type: string

 enum:

 - DEFAULT

 - INDIVIDUAL

 - type: string

 RoamerInOut:

 anyOf:

 - type: string

 enum:

 - IN\_BOUND

 - OUT\_BOUND

 - type: string

 SMMessageType:

 anyOf:

 - type: string

 enum:

 - SUBMISSION

 - DELIVERY\_REPORT

 - SM\_SERVICE\_REQUEST

 - DELIVERY

 - type: string

 SMPriority:

 anyOf:

 - type: string

 enum:

 - LOW

 - NORMAL

 - HIGH

 - type: string

 DeliveryReportRequested:

 anyOf:

 - type: string

 enum:

 - YES

 - NO

 - type: string

 InterfaceType:

 anyOf:

 - type: string

 enum:

 - UNKNOWN

 - MOBILE\_ORIGINATING

 - MOBILE\_TERMINATING

 - APPLICATION\_ORIGINATING

 - APPLICATION\_TERMINATING

 - type: string

 ClassIdentifier:

 anyOf:

 - type: string

 enum:

 - PERSONAL

 - ADVERTISEMENT

 - INFORMATIONAL

 - AUTO

 - type: string

 SMAddressType:

 anyOf:

 - type: string

 enum:

 - EMAIL\_ADDRESS

 - MSISDN

 - IPV4\_ADDRESS

 - IPV6\_ADDRESS

 - NUMERIC\_SHORTCODE

 - ALPHANUMERIC\_SHORTCODE

 - OTHER

 - IMSI

 - type: string

 SMAddresseeType:

 anyOf:

 - type: string

 enum:

 - TO

 - CC

 - BCC

 - type: string

 SMServiceType:

 anyOf:

 - type: string

 enum:

 - VAS4SMS\_SHORT\_MESSAGE\_CONTENT\_PROCESSING

 - VAS4SMS\_SHORT\_MESSAGE\_FORWARDING

 - VAS4SMS\_SHORT\_MESSAGE\_FORWARDING\_MULTIPLE\_SUBSCRIPTIONS

 - VAS4SMS\_SHORT\_MESSAGE\_FILTERING

 - VAS4SMS\_SHORT\_MESSAGE\_RECEIPT

 - VAS4SMS\_SHORT\_MESSAGE\_NETWORK\_STORAGE

 - VAS4SMS\_SHORT\_MESSAGE\_TO\_MULTIPLE\_DESTINATIONS

 - VAS4SMS\_SHORT\_MESSAGE\_VIRTUAL\_PRIVATE\_NETWORK(VPN)

 - VAS4SMS\_SHORT\_MESSAGE\_AUTO\_REPLY

 - VAS4SMS\_SHORT\_MESSAGE\_PERSONAL\_SIGNATURE

 - VAS4SMS\_SHORT\_MESSAGE\_DEFERRED\_DELIVERY

 - type: string

 ReplyPathRequested:

 anyOf:

 - type: string

 enum:

 - NO\_REPLY\_PATH\_SET

 - REPLY\_PATH\_SET

 - type: string

 oneTimeEventType:

 anyOf:

 - type: string

 enum:

 - IEC

 - PEC

 - type: string

 dnnSelectionMode:

 anyOf:

 - type: string

 enum:

 - VERIFIED

 - UE\_DNN\_NOT\_VERIFIED

 - NW\_DNN\_NOT\_VERIFIED

 - type: string

 APIDirection:

 anyOf:

 - type: string

 enum:

 - INVOCATION

 - NOTIFICATION

 - type: string

 RegistrationMessageType:

 anyOf:

 - type: string

 enum:

 - INITIAL

 - MOBILITY

 - PERIODIC

 - EMERGENCY

 - DEREGISTRATION

 - type: string

 MICOModeIndication:

 anyOf:

 - type: string

 enum:

 - MICO\_MODE

 - NO\_MICO\_MODE

 - type: string

 SmsIndication:

 anyOf:

 - type: string

 enum:

 - SMS\_SUPPORTED

 - SMS\_NOT\_SUPPORTED

 - type: string

 ManagementOperation:

 anyOf:

 - type: string

 enum:

 - CreateMOI

 - ModifyMOIAttributes

 - DeleteMOI

 - type: string

 ManagementOperationStatus:

 anyOf:

 - type: string

 enum:

 - OPERATION\_SUCCEEDED

 - OPERATION\_FAILED

 - type: string

 RedundantTransmissionType:

 anyOf:

 - type: string

 enum:

 - NON\_TRANSMISSION

 - END\_TO\_END\_USER\_PLANE\_PATHS

 - N3/N9

 - TRANSPORT\_LAYER

 - type: string

 VariablePartType:

 anyOf:

 - type: string

 enum:

 - INTEGER

 - NUMBER

 - TIME

 - DATE

 - CURRENCY

 - type: string

 QuotaConsumptionIndicator:

 anyOf:

 - type: string

 enum:

 - QUOTA\_NOT\_USED

 - QUOTA\_IS\_USED

 - type: string

 PlayToParty:

 anyOf:

 - type: string

 enum:

 - SERVED

 - REMOTE

 - type: string

 AnnouncementPrivacyIndicator:

 anyOf:

 - type: string

 enum:

 - NOT\_PRIVATE

 - PRIVATE

 - type: string

 SupplementaryServiceType:

 anyOf:

 - type: string

 enum:

 - OIP

 - OIR

 - TIP

 - TIR

 - HOLD

 - CB

 - CDIV

 - CW

 - MWI

 - CONF

 - FA

 - CCBS

 - CCNR

 - MCID

 - CAT

 - CUG

 - PNM

 - CRS

 - ECT

 - type: string

 SupplementaryServiceMode:

 anyOf:

 - type: string

 enum:

 - CFU

 - CFB

 - CFNR

 - CFNL

 - CD

 - CFNRC

 - ICB

 - OCB

 - ACR

 - BLIND\_TRANFER

 - CONSULTATIVE\_TRANFER

 - type: string

 ParticipantActionType:

 anyOf:

 - type: string

 enum:

 - CREATE

 - JOIN

 - INVITE\_INTO

 - QUIT

 - type: string

 TrafficForwardingWay:

 anyOf:

 - type: string

 enum:

 - N6

 - N19

 - LOCAL\_SWITCH

 - type: string

 IMSNodeFunctionality:

 anyOf:

 - type: string

 enum:

 - S\_CSCF

 - P\_CSCF

 - I\_CSCF

 - MRFC

 - MGCF

 - BGCF

 - AS

 - IBCF

 - S-GW

 - P-GW

 - HSGW

 - E-CSCF

 - MME

 - TRF

 - TF

 - ATCF

 - PROXY

 - EPDG

 - TDF

 - TWAG

 - SCEF

 - IWK\_SCEF

 - type: string

 RoleOfIMSNode:

 anyOf:

 - type: string

 enum:

 - ORIGINATING

 - TERMINATING

 - FORWARDING

 - type: string

 IMSSessionPriority:

 anyOf:

 - type: string

 enum:

 - PRIORITY\_0

 - PRIORITY\_1

 - PRIORITY\_2

 - PRIORITY\_3

 - PRIORITY\_4

 - type: string

 MediaInitiatorFlag:

 anyOf:

 - type: string

 enum:

 - CALLED\_PARTY

 - CALLING\_PARTY

 - UNKNOWN

 - type: string

 SDPType:

 anyOf:

 - type: string

 enum:

 - OFFER

 - ANSWER

 - type: string

 OriginatorPartyType:

 anyOf:

 - type: string

 enum:

 - CALLING

 - CALLED

 - type: string

 AccessTransferType:

 anyOf:

 - type: string

 enum:

 - PS\_TO\_CS

 - CS\_TO\_PS

 - PS\_TO\_PS

 - CS\_TO\_CS

 - type: string

 UETransferType:

 anyOf:

 - type: string

 enum:

 - INTRA\_UE

 - INTER\_UE

 - type: string

 NNISessionDirection:

 anyOf:

 - type: string

 enum:

 - INBOUND

 - OUTBOUND

 - type: string

 NNIType:

 anyOf:

 - type: string

 enum:

 - NON\_ROAMING

 - ROAMING\_NO\_LOOPBACK

 - ROAMING\_LOOPBACK

 - type: string

 NNIRelationshipMode:

 anyOf:

 - type: string

 enum:

 - TRUSTED

 - NON\_TRUSTED

 - type: string

 TADIdentifier:

 anyOf:

 - type: string

 enum:

 - CS

 - PS

 - type: string

|  |
| --- |
| **End of changes** |