**3GPP TSG-SA5 Meeting #142-e *S5-222231rev1***

**e-meeting, 4th – 12th April 2022** Revision of S5-20xxxx

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **32.291** | **CR** | **0** | **rev** | **1** | **Current version:** | **17.2.0** |  |
|  | | | | | | | | |
| *For* [***HELP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Additional charging information for the 5G LAN management | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GLAN\_CH | | | | |  | ***Date:*** | | | 2022-04-08 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***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 can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | For the support of 5G LAN service charging, the general description about 5G LAN VN group management and communication charging is introduced. The detailed 5G VN group management charging is required. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add the charging information for the support of 5G VN group management charging | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The support of the 5G LAN is incomplete. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.1.6.2.10(New),6.1.8,7.7(new),A.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's revision history:*** | |  | | | | | | | | |

|  |
| --- |
| **First change** |

##### 6.1.6.2.10 5G VN Group Management Specified Data Type

###### 6.1.6.2.10.1 Type ChargingDataRequest

This clause is additional attributes of the type ChargingDataRequest defined in clause 6.4.1.2.1 for 5G VN group management charging described in 3GPP TS 32.254 [14].

Table 6.1.6.2.10.1-1: 5G VN group specified attribute of type ChargingDataRequest

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| 5GVNGMChargingInformation | NEFChargingInformation | OC | 0..1 | This field holds 5G LAN group management specific information. | 5GLAN |

###### 6.1.6.2.10.2 Type ChargingDataResponse

This clause is additional attributes of the type ChargingDataResponse defined in clause 6.4.1.2.2 for 5G VN group management charging described in 3GPP TS 32.254 [14].

Table 6.1.6.2.10.2-1: IMS specified attribute of type ChargingDataResponse

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
|  |  |  |  |  |  |



|  |
| --- |
| **Next 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. | |
| 14 | | URLLC | | This feature indicates support of URLLC. | |
| 15 | | NotifyInfoResponse | | This feature indicates support of response with information for a notification. | |
| 16 | | ES4xx | | Extended Support of HTTP 400, 403, 404 allowing use of either ChargingDataResponse or ProblemDetails in the response. | |

|  |
| --- |
| **Next change** |

## 7.7 Bindings for 5G VN Group Management Charging

Table 7.7-1: Bindings of CDR field, Information Element and Resource Attribute for 5G VN Group Management Charging

| Information Element | CDR Field | Resource Attribute |
| --- | --- | --- |
|  |  | **ChargingDataRequest** |
| 5G VNGM Charging Information | 5G VNGM Charging Information | /5GVNGMChargingInformation |

|  |
| --- |
| **Next 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).

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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'

'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'

'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'

'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.

'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'

5GVNGMChargingInformation:

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

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