3GPP TSG SA WG5 Meeting 134-e S5-206405

**electronic meeting, online, 16th - 25th November 2020**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **32.291** | **CR** | **0304** | **rev** | **-** | **Current version:** | **15.7.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Update OpenAPI version | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI15 | | | | |  | ***Date:*** | | | 2020-11-20 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories 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:*** | | MCC shall store OpenAPI files extracted from 3GPP specifications at  <https://forge.3gpp.org/rep/all/5G_APIs>.  The storage at [https://www.3gpp.org/ftp/Specs/archive/OpenAPI/<Release>/](https://www.3gpp.org/ftp/Specs/archive/OpenAPI/%3cRelease%3e/)  and [https://www.3gpp.org/ftp/Specs/<Plenary>/<Release>/OpenAPI/](https://www.3gpp.org/ftp/Specs/%3cPlenary%3e/%3cRelease%3e/OpenAPI/) is discontinued.  Additionaly, the openAPI copyright is incorrect.  CRs modifying the Nchf\_ ConvergedCharging API have been agreed and the version number of the corresponding OpenAPI file thus needs to be incremented following the rules in TS 29.501, subclause 4.3.1.  - S5-205171 CR#0284 Backwards-compatible corrections  - S5-205456 CR#0286 Backwards-compatible corrections | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Clarify in Annex A.1 the correct location where YAML files are stored, using the text agreed in the 3GPP TS template for 5GC APIs (see TS 29.501).  Nchf\_ ConvergedCharging Service version number is incremented from 2.0.5 to 2.0.6.  TS 32.291 version number is incremented from 15.7.0 to 15.8.0. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Incorrect information in the TS regarding the storage of YAML files.  Incorrect version | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | A.1, 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** |

## A.1 General

The present Annex contains an OpenAPI [500] specification of HTTP messages and content bodies used by the Nchf\_ConvergedCharging API.

This Annex takes precedence when being discrepant to other parts of the specification with respect to the encoding of information elements and methods within the API(s).

NOTE 1: The semantics and procedures, as well as conditions, e.g. for the applicability and allowed combinations of attributes or values, not expressed in the OpenAPI definitions but defined in other parts of the specification also apply.

Informative copies of the OpenAPI specification files contained in this 3GPP Technical Specification are available on a Git-based repository that uses the GitLab software version control system (see 3GPP TS 29.501 [300] clause 5.3.1 and 3GPP TR 21.900 [101] clause 5B).

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

## A.2 Nchf\_ConvergedCharging API

openapi: 3.0.0

info:

title: Nchf\_ConvergedCharging

version: 2.0.6

description: ConvergedCharging Service

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externalDocs:

description: >

3GPP TS 32.291 V15.8.0: 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/v2'

variables:

apiRoot:

default: https://example.com

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

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/json:

schema:

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

'403':

description: Forbidden

content:

application/json:

schema:

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

'404':

description: Not Found

content:

application/json:

schema:

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

'401':

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

'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:

myNotification:

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

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: 'No Content, Notification was succesfull'

'400':

description: Bad request

content:

application/json:

schema:

$ref: >-

TS29571\_CommonData.yaml#/components/schemas/ProblemDetails

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/json:

schema:

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

'403':

description: Forbidden

content:

application/json:

schema:

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

'404':

description: Not Found

content:

application/json:

schema:

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

'401':

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

'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.

'404':

description: Not Found

content:

application/json:

schema:

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

'401':

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

'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:

schemas:

ChargingDataRequest:

type: object

properties:

subscriberIdentifier:

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

nfConsumerIdentification:

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

invocationTimeStamp:

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

invocationSequenceNumber:

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

oneTimeEvent:

type: boolean

oneTimeEventType:

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

notifyUri:

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

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'

required:

- 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'

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'

required:

- nfConsumerIdentification

- 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'

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'

maxNumberOfccc:

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

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'

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:

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

localSequenceNumber:

type: integer

pDUContainerInformation:

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

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'

filterId:

type: string

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'

userInformation:

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

userLocationinfo:

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

userLocationTime:

$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'

required:

- pduSessionInformation

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'

dnnId:

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

dnnSelectionMode:

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

chargingCharacteristics:

type: string

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'

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'

aFCorrelationInformation:

type: string

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

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

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'

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'

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'

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'

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

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'

NotificationType:

anyOf:

- type: string

enum:

- REAUTHORIZATION

- ABORT\_CHARGING

- type: string

NodeFunctionality:

anyOf:

- type: string

enum:

- AMF

- SMF

- SMSF

- 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

- 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

- START\_OF\_SERVICE\_DATA\_FLOW

- GFBR\_GUARANTEED\_STATUS\_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

- 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

- 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

- 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

|  |
| --- |
| **End of change** |