**3GPP TSG-SA5 Meeting #162 *S5-253782***

Goteborg, Sweden, 25 - 29 August 2025

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| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **32.291** | **CR** | **0626** | **rev** | **1** | **Current version:** | **19.3.0** |  |
|  |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
|  |

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

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|  |
| ***Title:***  | Rel-19 CR 32.291 Addition on NSPA charging information |
|  |  |
| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | SA5 |
|  |  |
| ***Work item code:*** | 5GS\_NSPACH,TEI19 |  | ***Date:*** | 2025-08-28 |
|  |  |  |  |  |
| ***Category:*** | **C** |  | ***Release:*** | Rel-19 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
|  |  |
| ***Reason for change:*** | The performance and analytics information collected by NWDAF or MnS producer is associated with a target time period over which the statistics are requested. However, the time period informaton, despite mentioned in the procedure as subscription condition (e.g. start time, stop time), was not captured in the charging information. Furthermore, the source NF (i.e. NWDAF or MnS producer) that provide the analytics in each NSPA container should also be associated to. |
|  |  |
| ***Summary of change:*** | 1. Extend the NSPA container with three new attributes, source NF identification, start timestamp and stop timestamp.2. Extend the NodeFunctionality to cover the NWDAF.3. Update the bindings.4. Updazte the YAML in Forge. |
|  |  |
| ***Consequences if not approved:*** | The performance and analytics information is incomplete. |
|  |  |
| ***Clauses affected:*** | 6.1.6.2.7.5, 6.1.6.3.4, 7.6, Forge |
|  |  |
|  | **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:*** | Forge MR link: <https://forge.3gpp.org/rep/sa5/CH/-/merge_requests/76> at commit 3406198566a7e29c186654425261c77ecb151823 |
|  |  |
| ***This CR's revision history:*** | This is revison of S5-253248 |

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| **First Change** |

6.1.6.2.7.5 Type NSPAContainerInformation

**Table 6.1.6.2.7.5-1: Definition of type NSPAContainerInformation**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute name** | **Data type** | **P** | **Cardinality** | **Description** | **Applicability** |
| sourceNF Identification | NFIdentification | OC | 0..1 | This field holds the informaiton of the source network function, i.e., NWDAF or MnS Producer.  |  |
| startTimestamp | DateTime | OC | 0..1 | This field holds the start time of the performance and analytics information in the NWDAF or MnS notification. |  |
| stopTimestamp | DateTime | OC | 0..1 | This field holds the end time of the performance and analytics information in the NWDAF or MnS notification. |  |
| uplinkLatency | integer | OC | 0..1 | This field holds uplink latency  |  |
| downlinkLatency | integer | OC | 0..1 | This field holds downlink latency.  |  |
| uplinkThroughput | Throughput | OC | 0..1 | This field holds uplink throughput. ,which is identified by the MaximumThpt |  |
| downlinkThroughput | Throughput | OC | 0..1 | This field holds downlink throughput, which is identified by the MaximumThpt. |  |
| maximumPacketLossRateUL | integer | OC | 0..1 | This field holds maximum packet loss rate uplink. |  |
| maximumPacketLossRateDL | integer | OC | 0..1 | This field holds maximum packet loss rate downlink. |  |
| serviceExperienceStatisticsData | ServiceExperienceInfo | OC | 0..1 | This field holds service experience statistics data. |  |
| theNumberOfPDUSessions | integer | OC | 0..1 | This field holds the number of PDU sessions. |  |
| theNumberOfRegisteredSubscribers | integer | OC | 0..1 | This field holds the number of registered subscribers. |  |
| loadLevel | NsiLoadLevelInfo | OC | 0..1 | This field holds the load level of network slice. |  |
| estimatedEnergyConsumption | integer | OC | 0..1 | This field holds the estimated energy consumption of network slice in Joule, as defined in TS 28.554 [256]. This attribute is included for information.  | EE\_NS\_CH |

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| **Next change** |

6.1.6.3.4 Enumeration: NodeFunctionality

**Table 6.1.6.3.4-1: Enumeration NodeFunctionality**

|  |  |  |
| --- | --- | --- |
| **Enumeration value** | **Description** | **Applicability** |
| SMF | This field identifies that NF is a SMF. |  |
| AMF | This field identifies that NF is a AMF. |  |
| SMSF | This field identifies that NF service consumer is a SMSF. |  |
| PGW\_C\_SMF | This field identifies that NF is a SMF+PGW-C. |  |
| CCF | This field identifies that NF is CCF. | CCF |
| NEF | This field identifies that NF is a NEF. |  |
| SGW | This field identifies that node is an SGW, only applicable for interworking with EPC. |  |
| I\_SMF | This field identifies that node is an I-SMF, only applicable for PDU session served by SMF + I-SMF. | ETSUN |
| ePDG | This field identifies that node is an ePDG, only applicable for interworking with EPC/ePDG. | 5GIEPC\_CH |
| CEF | This field identifies that NF is a CEF. |  |
| MnS\_Producer | This field identifies that NF is a MnS Producer |  |
| SGSN | This field identifies that node is an SGSN, only applicable when SMF+PGW-C serves GERAN/UTRAN access. | TEI17\_NIESGU |
| V\_SMF | This field identifies that node is a V-SMF, may be used instead of SMF in roaming scenarios. |  |
| 5G\_DDNMF | This field identifies that NF is a 5G DDNMF | 5G ProSe |
| IMS\_Node | This field identifies that NF is an IMS Node. A further breakdown of IMS Node type may be available in IMS Charging Information | IMSIDC\_CHIDC\_APP\_CH |
| EES | This field identifies that NF is an EES. | EdgeComputing |
| PCF | This field identifies that NF is PCF. Only applicable for API Target Network Function |  |
| UDM | This field identifies that NF is UDM. Only applicable for API Target Network Function |  |
| UPF | This field identifies that NF is UPF. Only applicable for API Target Network Function |  |
| AIOTF | This field identifies that NF is AIOTF. Only applicable for API Target Network Function | AIOT\_API\_CH |
| TSN AF | This field identifies that NF is a TSN AF. | TSN |
| TSCTSF | This field identifies that NF is a TSCTSF. | TSN |
| MB\_SMF | This field identifies that NF is a MB-SMF. |  |
| CHF | This field identifies that NF is a CHF. | INTER\_CHF |
| GMLC | This field identifies that NF is a GMLC. | RangingSL |
| NWDAF | This field identifier that NF is a NWDAF. |  |

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| **Next change** |

7.6 Bindings for NS performance and Analytics charging

**Table 7.6-1: Bindings of CDR field, Information Element and Resource Attribute for NS performance and Analytics charging**

| **Information Element** | **CDR Field** | **Resource Attribute** |
| --- | --- | --- |
|  |  | **ChargingDataRequest** |
| Multiple Unit Usage | List of Multiple Unit Usage | /multipleUnitUsage |
| Used Unit Container | Used Unit Container  | /multipleUnitUsage/usedUnitContainer |
| NSPA Container Information | NSPA Container Information | /multipleUnitUsage/usedUnitContainer/nSPAContanierInformation |
| Source NF Identification | Source NF Identification | /multipleUnitUsage/usedUnitContainer/nSPAContanierInformation/sourceNFIdentification |
| Start Timestamp | Start Timestamp | /multipleUnitUsage/usedUnitContainer/nSPAContanierInformation/startTimestamp |
| Stop Timestamp | Stop Timestamp | /multipleUnitUsage/usedUnitContainer/nSPAContanierInformation/stopTimestamp |
| Uplink Latency | Uplink Latency | /multipleUnitUsage/usedUnitContainer/nSPAContanierInformation/uplinkLatency |
| Downlink Latency | Downlink Latency | /multipleUnitUsage/usedUnitContainer/nSPAContanierInformation/downlinkLatency |
| Uplink Throughput | Uplink Throughput | /multipleUnitUsage/usedUnitContainer/nSPAContanierInformation/uplinkThroughput |
| Downlink Throughput | Downlink Throughput | /multipleUnitUsage/usedUnitContainer/nSPAContanierInformation/downlinkThroughput |
| Maximum packet loss rate UL | Maximum packet loss rate UL | /multipleUnitUsage/usedUnitContainer/nSPAContanierInformation/maximumPacketLossRateUL |
| Maximum packet loss rate DL | Maximum packet loss rate DL | /multipleUnitUsage/usedUnitContainer/nSPAContanierInformation/maximumPacketLossRateDL |
| Service Experience statistics data | Service Experience statistics data | /multipleUnitUsage/usedUnitContainer/nSPAContanierInformation/serviceExperienceStatisticsData |
| The number of PDU sessions | The number of PDU sessions | /multipleUnitUsage/usedUnitContainer/nSPAContanierInformation/theNumberOfPDUSessions |
| The number of Registered Subscribers | The number of Registered Subscribers | /multipleUnitUsage/usedUnitContainer/nSPAContanierInformation/theNumberOfRegisteredSubscribers |
| Load level | Load level | /multipleUnitUsage/usedUnitContainer/nSPAContanierInformation/loadLevel |
| Estimated Energy Consumption | Estimated Energy Consumption | /multipleUnitUsage/usedUnitContainer/nSPAContanierInformation/estimatedEnergyConsumption |
| NSPA Charging Information | NSPA Charging Information | /nSPAChargingInformation |
| Single NSSAI | Single NSSAI | /nSPAChargingInformation/singleNSSAI |
|  |  | **ChargingDataResponse** |
| - | - | - |

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| **Next change** |

\*\*\* START OF CHANGE 1 \*\*\*

\*\*\* OpenAPI/TS32291\_Nchf\_ConvergedCharging.yaml \*\*\*

<CODE BEGINS>

openapi: 3.0.0

info:

 title: Nchf\_ConvergedCharging

 version: 3.3.0-alpha.3

 description: |

 ConvergedCharging Service © 2025, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).

 All rights reserved.

externalDocs:

 description: >

 3GPP TS 32.291 V19.3.0: 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'

 '307':

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

 '308':

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

 '400':

 description: Bad request

 content:

 application/problem+json:

 schema:

 oneOf:

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

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

 '401':

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

 '403':

 description: Forbidden

 content:

 application/problem+json:

 schema:

 oneOf:

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

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

 '404':

 description: Not Found

 content:

 application/problem+json:

 schema:

 oneOf:

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

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

 '405':

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

 '408':

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

 '410':

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

 '411':

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

 '413':

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

 '415':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/429'

 '500':

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

 '502':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/502'

 '503':

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

 '504':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/504'

 default:

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

 callbacks:

 chargingNotification:

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

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '200':

 description: OK.

 content:

 application/ json:

 schema:

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

 '204':

 description: 'No Content, Notification was succesfull'

 '307':

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

 '308':

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

 '400':

 description: Bad request

 content:

 application/problem+json:

 schema:

 oneOf:

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

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

 '401':

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

 '403':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/404'

 '411':

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

 '413':

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

 '415':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/429'

 '500':

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

 '502':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/502'

 '503':

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

 '504':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/504'

 default:

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

 '/chargingdata/{ChargingDataRef}/update':

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 parameters:

 - name: ChargingDataRef

 in: path

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

 required: true

 schema:

 type: string

 responses:

 '200':

 description: OK. Updated Charging Data resource is returned

 content:

 application/json:

 schema:

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

 '307':

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

 '308':

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

 '400':

 description: Bad request

 content:

 application/problem+json:

 schema:

 oneOf:

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

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

 '401':

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

 '403':

 description: Forbidden

 content:

 application/problem+json:

 schema:

 oneOf:

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

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

 '404':

 description: Not Found

 content:

 application/problem+json:

 schema:

 oneOf:

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

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

 '405':

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

 '408':

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

 '410':

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

 '411':

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

 '413':

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

 '415':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/429'

 '500':

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

 '502':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/502'

 '503':

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

 '504':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/504'

 default:

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

 '/chargingdata/{ChargingDataRef}/release':

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 parameters:

 - name: ChargingDataRef

 in: path

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

 required: true

 schema:

 type: string

 responses:

 '204':

 description: No Content.

 '307':

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

 '308':

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

 '400':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/400'

 '401':

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

 '403':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/403'

 '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'

 '415':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/429'

 '500':

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

 '502':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/502'

 '503':

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

 '504':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/504'

 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

 easid:

 type: string

 ednid:

 type: string

 eASProviderIdentifier:

 type: string

 aMFId:

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

 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'

 edgeInfrastructureUsageChargingInformation:

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

 eASDeploymentChargingInformation:

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

 directEdgeEnablingServiceChargingInformation:

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

 exposedEdgeEnablingServiceChargingInformation:

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

 proSeChargingInformation:

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

 mMSChargingInformation:

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

 mBSSessionChargingInformation:

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

 tSNChargingInformation:

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

 interCHFInformation:

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

 nSACFChargingInformation:

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

 nSSAAChargingInformation:

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

 rangingSLChargingInformation:

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

 lCSInformation:

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

 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'

 mBSSessionChargingInformation:

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

 interCHFInformation:

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

 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'

 allocateUnit:

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

 usedUnitContainer:

 type: array

 items:

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

 minItems: 0

 allocatedUnit:

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

 uPFID:

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

 multihomedPDUAddress:

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

 mBUPFID:

 $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'

 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:

 - triggerCategory

 MultipleUnitInformation:

 type: object

 properties:

 resultCode:

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

 ratingGroup:

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

 grantedUnit:

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

 allocatedUnit:

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

 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'

 mBUPFID:

 $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:

 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'

 pC5ContainerInformation:

 $ref: '#/components/schemas/PC5ContainerInformation'

 mBSContainerInformation:

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

 required:

 - localSequenceNumber

 AllocateUnit:

 type: object

 properties:

 allocateUnitIndicator:

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

 nSACContainerInformation:

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

 AllocatedUnit:

 type: object

 properties:

 quotaManagementIndicator:

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

 triggers:

 type: array

 items:

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

 minItems: 0

 triggerTimestamp:

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

 localSequenceNumber:

 type: integer

 nSACContainerInformation:

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

 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'

 sMFchargingId:

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

 homeProvidedChargingId:

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

 sMFHomeProvidedChargingId:

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

 userInformation:

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

 userLocationinfo:

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

 iMSSessionInformation:

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

 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'

 cpCIoTOptimisationIndicator:

 type: boolean

 5GSControlPlaneOnlyIndicator:

 type: boolean

 smallDataRateControlIndicator:

 type: boolean

 5GLANTypeService:

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

 sNPNInformation:

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

 5GMulticastService:

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

 5GSBridgeInformation:

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

 satelliteAccessIndicator:

 type: boolean

 satelliteBackhaulInformation:

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

 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'

 qosMonitoringReport:

 type: array

 items:

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

 minItems: 0

 mBSSessionID:

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

 mBSDeliveryMethod:

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

 NSPAContainerInformation:

 type: object

 properties:

 uplinkLatency:

 type: integer

 downlinkLatency:

 type: integer

 uplinkThroughput:

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

 downlinkThroughput:

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

 maximumPacketLossRateUL:

 type: integer

 maximumPacketLossRateDL:

 type: integer

 serviceExperienceStatisticsData:

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

 theNumberOfPDUSessions:

 type: integer

 theNumberOfRegisteredSubscribers:

 type: integer

 loadLevel:

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

 estimatedEnergyConsumption:

 type: integer

 sourceNFIdentification:

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

 startTimestamp:

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

 stopTimestamp:

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

 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'

 hPlmnSNSSAI:

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

 alternativeSNSSAI:

 $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'

 addIpv6AddrPrefixList:

 type: array

 items:

 $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: # Included for backwards compatibility and

 # can be included based on operators requirement

 $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

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

 sMStatus:

 type: string

 pattern: '^[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: # Included for backwards compatibility, shall not be used

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

 recipientOtherAddresses:

 type: array

 items:

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

 minItems: 0

 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'

 5GSBridgeInformation:

 type: object

 properties:

 bridgeId:

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

 nWTTPortNumber:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint16'

 dSTTPortNumber:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint16'

 required:

 - bridgeId

 NEFChargingInformation:

 type: object

 properties:

 externalIndividualIdentifier:

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

 externalIndividualIdList:

 type: array

 items:

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

 minItems: 1

 internalIndividualIdentifier:

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

 internalIndividualIdList:

 type: array

 items:

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

 minItems: 1

 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'

 aPIOperation:

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

 aPIContent:

 type: string

 required:

 - aPIName

 SNPNInformation:

 type: object

 properties:

 sNPNID:

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

 accessType:

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

 n3IwfFqdn:

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

 required:

 - sNPNID

 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

 alternativeNSSAIMap:

 type: array

 items:

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

 minItems: 0

 amfUeNgapId:

 type: integer

 ranUeNgapId:

 type: integer

 ranNodeId:

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

 sNPNID:

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

 cAGIDList:

 type: array

 items:

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

 minItems: 0

 satelliteAccessIndicator:

 type: boolean

 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

 AlternativeNSSAIMap:

 type: object

 properties:

 snssai:

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

 alternativeSnssai:

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

 required:

 - snssai

 - alternativeSnssai

 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

 nSSAIMapList:

 type: array

 items:

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

 minItems: 0

 rrcEstCause:

 type: string

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

 satelliteAccessIndicator:

 type: boolean

 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

 satelliteAccessIndicator:

 type: boolean

 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'

 managementOperationalState:

 $ref: 'TS28623\_ComDefs.yaml#/components/schemas/OperationalState'

 managementAdministrativeState:

 $ref: 'TS28623\_ComDefs.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

 sST:

 $ref: 'TS28541\_NrNrm.yaml#/components/schemas/Sst'

 latency:

 type: integer

 availability:

 type: number

 resourceSharingLevel:

 $ref: 'TS28541\_SliceNrm.yaml#/components/schemas/SharingLevel'

 jitter:

 type: integer

 reliability:

 type: string

 maxNumberofUEs:

 type: integer

 coverageArea:

 type: string

 uEMobilityLevel:

 $ref: 'TS28541\_SliceNrm.yaml#/components/schemas/MobilityLevel'

 delayToleranceIndicator:

 $ref: 'TS28541\_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

 v2XCommunicationModeIndicator:

 $ref: 'TS28541\_SliceNrm.yaml#/components/schemas/Support'

 energyEfficiency:

 $ref: 'TS28541\_SliceNrm.yaml#/components/schemas/EEPerfReq'

 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

 calledIdentityChanges:

 type: array

 items:

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

 minItems: 1

 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

 imsDCAppInfo:

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

 satelliteIdList:

 type: array

 items:

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

 minItems: 1

 IMSDCAppInfo:

 type: object

 properties:

 applicationId:

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

 httpUrl:

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

 EdgeInfrastructureUsageChargingInformation:

 type: object

 properties:

 meanVirtualCPUUsage:

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

 meanVirtualMemoryUsage:

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

 meanVirtualDiskUsage:

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

 measuredInBytes:

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

 measuredOutBytes:

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

 durationStartTime:

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

 durationEndTime:

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

 EASDeploymentChargingInformation:

 type: object

 properties:

 eEASDeploymentRequirements:

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

 lCMEventType:

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

 lCMStartTime:

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

 lCMEndTime:

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

 satelliteBackhaulInformation:

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

 MMSChargingInformation:

 type: object

 properties:

 mmOriginatorInfo:

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

 mmRecipientInfoList:

 type: array

 items:

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

 minItems: 0

 userLocationinfo:

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

 uetimeZone:

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

 rATType:

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

 correlationInformation:

 type: string

 submissionTime:

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

 mmContentType:

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

 mmPriority:

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

 messageID:

 type: string

 messageType:

 type: string

 messageSize:

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

 messageClass:

 type: string

 deliveryReportRequested:

 type: boolean

 readReplyReportRequested:

 type: boolean

 applicID:

 type: string

 replyApplicID:

 type: string

 auxApplicInfo:

 type: string

 contentClass:

 type: string

 dRMContent:

 type: boolean

 adaptations:

 type: boolean

 vasID:

 type: string

 vaspID:

 type: string

 MMOriginatorInfo:

 type: object

 properties:

 originatorSUPI:

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

 originatorGPSI:

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

 originatorOtherAddress:

 type: array

 items:

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

 minItems: 0

 MMRecipientInfo:

 type: object

 properties:

 recipientSUPI:

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

 recipientGPSI:

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

 recipientOtherAddress:

 type: array

 items:

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

 TSNChargingInformation:

 type: object

 properties:

 dNN:

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

 sNSSAI:

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

 internalGroupIdentifier:

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

 externalIndividualIdList:

 type: array

 items:

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

 minItems: 0

 5GSBridgeInformation:

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

 tSNQoSInformation:

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

 tSCAssistanceInformation:

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

 timeSynchronizationInformation:

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

 TSNQoSInformation:

 type: object

 properties:

 priority:

 type: integer

 bridgeDelay:

 type: array

 items:

 type: integer

 minItems: 0

 TSCAssistanceInformation:

 type: object

 properties:

 flowDirection:

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

 periodicity:

 type: integer

 TimeSynchronizationInformation:

 type: object

 properties:

 distributionMethod:

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

 tSNtimeDomainNumber:

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

 temporalValidityInformation:

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

 spatialValidityInformation:

 type: array

 items:

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

 minItems: 0

 timeSynchronizationErrorBudget:

 type: integer

 synchronizationState:

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

 clockQuality:

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

 parentTimeSource:

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

 PC5ContainerInformation:

 type: object

 properties:

 coverageInfoList:

 type: array

 items:

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

 radioParameterSetInfoList:

 type: array

 items:

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

 transmitterInfoList:

 type: array

 items:

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

 minItems: 0

 timeOfFirstTransmission:

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

 timeOfFirstReception:

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

 CoverageInfo:

 type: object

 properties:

 coverageStatus:

 type: boolean

 changeTime:

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

 locationInfo:

 type: array

 items:

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

 minItems: 0

 RadioParameterSetInfo:

 type: object

 properties:

 radioParameterSetValues:

 type: array

 items:

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

 minItems: 0

 changeTimestamp:

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

 TransmitterInfo:

 type: object

 properties:

 proseSourceIPAddress:

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

 proseSourceL2Id:

 type: string

 ProseChargingInformation:

 type: object

 properties:

 announcingPlmnID:

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

 announcingUeHplmnIdentifier:

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

 announcingUeVplmnIdentifier:

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

 monitoringUeHplmnIdentifier:

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

 monitoringUeVplmnIdentifier:

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

 discovererUeHplmnIdentifier:

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

 discovererUeVplmnIdentifier:

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

 discovereeUeHplmnIdentifier:

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

 discovereeUeVplmnIdentifier:

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

 monitoredPlmnIdentifier:

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

 proseApplicationID:

 type: string

 ApplicationId:

 type: string

 applicationSpecificDataList:

 type: array

 items:

 type: string

 minItems: 0

 proseFunctionality:

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

 proseEventType:

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

 directDiscoveryModel:

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

 validityPeriod:

 type: integer

 roleOfUE:

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

 proseRequestTimestamp:

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

 pC3ProtocolCause:

 type: integer

 monitoringUEIdentifier:

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

 requestedPLMNIdentifier:

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

 timeWindow:

 type: integer

 rangeClass:

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

 proximityAlertIndication:

 type: boolean

 proximityAlertTimestamp:

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

 proximityCancellationTimestamp:

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

 hopCount:

 type: integer

 intermediateRelayInformationContainer:

 type: array

 items:

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

 minItems: 0

 relayIPAddress:

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

 proseUEToNetworkRelayUEID :

 type: string

 proseDestinationLayer2ID:

 type: string

 pFIContainerInformation:

 type: array

 items:

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

 minItems: 0

 transmissionDataContainer:

 type: array

 items:

 $ref: '#/components/schemas/PC5DataContainer'

 minItems: 0

 receptionDataContainer:

 type: array

 items:

 $ref: '#/components/schemas/PC5DataContainer'

 minItems: 0

 required:

 - aPIName

 InterCHFInformation:

 type: object

 properties:

 remoteCHFResource:

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

 originalNFConsumerId:

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

 NSACFChargingInformation:

 type: object

 properties:

 nSACChargingIndicator:

 type: boolean

 NSACContainerInformation:

 type: object

 properties:

 numberOfUEs:

 type: integer

 numberOfPDUs:

 type: integer

 NSSAAChargingInformation:

 type: object

 properties:

 nSSAAMessageType:

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

 userIdentification:

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

 aAAPAddress:

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

 aAASAddress:

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

 eAPIDResponse:

 type: string

 eAPauthstatus:

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

 aMFId:

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

 required:

 - nSSAAMessageType

 - userIdentification

 RangingSLChargingInformation:

 type: object

 properties:

 targetUEID:

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

 sLReferenceUEID:

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

 sLPositioningServerUEID:

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

 locatedUEID:

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

 locationType:

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

 locationEstimate:

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

 LCSInformation:

 type: object

 properties:

 lCSClientID:

 type: string

 locationType:

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

 locationEstimate:

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

 positioningData:

 type: string

 targetUEID:

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

 LocationEstimate:

 type: object

 properties:

 userLocationInformation:

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

 horizontalAccuracy:

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

 verticalAccuracy:

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

 IntermediateRelayInformationContainer:

 type: object

 properties:

 intermediateRelayIPAddress:

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

 proseUEToNetworkIntermediateRelayUEID:

 type: string

 PFIContainerInformation:

 type: object

 properties:

 pFI:

 type: string

 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

 PC5DataContainer:

 type: object

 properties:

 localSequenceNumber:

 type: string

 changeTime:

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

 coverageStatus:

 type: boolean

 userLocationInformation:

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

 dataVolume:

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

 changeCondition:

 type: string

 radioResourcesId:

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

 radioFrequency:

 type: string

 pC5RadioTechnology:

 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'

 enhancedDiagnostics:

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

 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'

 SatelliteId:

 type: string

 EASRequirements:

 type: object

 properties:

 requiredEASservingLocation:

 $ref: 'TS28538\_EdgeNrm.yaml#/components/schemas/ServingLocation'

 softwareImageInfo:

 $ref: 'TS28538\_EdgeNrm.yaml#/components/schemas/SoftwareImageInfo'

 affinityAntiAffinity:

 $ref: 'TS28538\_EdgeNrm.yaml#/components/schemas/AffinityAntiAffinity'

 serviceContinuity:

 type: boolean

 virtualResource:

 $ref: 'TS28538\_EdgeNrm.yaml#/components/schemas/VirtualResource'

 MMContentType:

 type: object

 properties:

 typeNumber:

 type: string

 addtypeInfo:

 type: string

 contentSize:

 type: integer

 mmAddContentInfo:

 type: array

 items:

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

 minItems: 0

 MMAddContentInfo:

 type: object

 properties:

 typeNumber:

 type: string

 addtypeInfo:

 type: string

 contentSize:

 type: integer

 APIOperation:

 type: object

 properties:

 name:

 type: string

 description:

 type: string

 5GMulticastService:

 type: object

 properties:

 mBSSessionIdList:

 type: array

 items:

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

 minItems: 1

 MBSSessionChargingInformation:

 type: object

 properties:

 mBSSessionID:

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

 mBSServiceType:

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

 serviceArea:

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

 mBSStartTime:

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

 mBSEndTime:

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

 mBSServiceActivityStatus:

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

 servingNetworkFunctionID:

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

 required:

 - mBSSessionID

 - mBSServiceType

 ServiceArea:

 type: object

 properties:

 mBSServiceArea:

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

 uPFIDs:

 type: array

 items:

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

 minItems: 0

 ranNodeIDs:

 type: array

 items:

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

 minItems: 0

 MBSContainerInformation:

 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'

 establishedConnectionInfo:

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

 EstablishedConnectionInfo:

 type: object

 properties:

 uPFIDs:

 type: array

 items:

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

 minItems: 0

 ranNodeIDs:

 type: array

 items:

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

 minItems: 0

 SatelliteBackhaulInformation:

 type: object

 properties:

 satelliteBackhaulCategory:

 type: array

 items:

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

 minItems: 0

 gEOSatelliteID:

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

 NotificationType:

 anyOf:

 - type: string

 enum:

 - REAUTHORIZATION

 - ABORT\_CHARGING

 - type: string

 NodeFunctionality:

 anyOf:

 - type: string

 enum:

 - AMF

 - SMF

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

 - SMSF

 - PGW\_C\_SMF

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

 - SGW

 - I\_SMF

 - ePDG

 - CEF

 - NEF

 - MnS\_Producer

 - SGSN

 - V\_SMF

 - 5G\_DDNMF

 - IMS\_Node

 - MMS\_Node

 - EES

 - PCF

 - UDM

 - UPF

 - TSN\_AF

 - TSCTSF

 - MB\_SMF

 - CHF

 - GMLC

 - AIOTF

 - CCF

 - NWDAF

 - type: string

 ChargingCharacteristicsSelectionMode:

 anyOf:

 - type: string

 enum:

 - HOME\_DEFAULT

 - ROAMING\_DEFAULT

 - VISITING\_DEFAULT

 - type: string

 TriggerType:

 anyOf:

 - type: string

 enum:

 # SMF TriggerType

 - 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

 - JOIN\_MULTICAST

 - MBS\_DELIVERY\_METHOD\_CHANGE

 - LEAVE\_MULTICAST

 - VSMF\_CHANGE

 - SNSSAI\_REPLACEMENT

 - SATELLITE\_BACKHAUL\_CATEGORY\_CHANGE

 - GEO\_SATELLITE\_ID\_CHANGE

 # IMS TriggerType

 - SIP\_INVITE

 - SIP\_RE-INVITE\_OR\_UPDATE

 - SIP\_2XX\_ACKNOWLEDGING

 - SIP\_1XX\_PROVISIONAL\_RESPONSE

 - SIP\_4XX\_5XX\_OR\_6XX\_RESPONSE

 - ANY\_OTHER\_SIP\_MESSAGE - SIP\_BYE\_MESSAGE

 - SIP\_2XX\_ACKNOWLEDGING\_A\_SIP\_BYE

 - ABORTING\_A\_SIP\_SESSION\_SET-UP

 - SIP\_3XX\_FINAL\_OR\_REDIRECTION\_RESPONSE

 - SIP\_4XX\_5XX\_OR\_6XX\_FINAL\_RESPONSE

 # MB-SMF TriggerType

 - MBS\_CONNECTION\_ESTABLISHED\_WITH\_NG-RAN

 - MBS\_CONNECTION\_RELEASED\_WITH\_NG-RAN

 - MBS\_CONNECTION\_ESTABLISHED\_WITH\_UPF

 - MBS\_CONNECTION\_RELEASED\_WITH\_UPF

 - MBS\_SESSION\_ACTIVITY\_STATUS\_CHANGE\_TO\_ACTIVE

 - MBS\_SESSION\_ACTIVITY\_STATUS\_CHANGE\_TO\_INACTIVE

 - MBS\_SESSION\_CONTEXT\_UPDATE

 # NSAC TriggerType

 - NSAC\_THRESHOLD\_INITIAL

 - NSAC\_THRESHOLD\_UPWARDS\_REACHED

 - NSAC\_THRESHOLD\_UPWARDS\_CROSSED

 - NSAC\_THRESHOLD\_DOWNWARDS\_CROSSED

 - NSAC\_QUOTA\_THRESHOLD

 - NSAC\_QUOTA\_EXHAUSTED

 - NSAC\_VALIDITY\_TIME

 - NSAC\_QHT

 - NSAC\_THRESHOLD\_TERMINATION

 - NS\_TERMINATION

 FinalUnitAction:

 anyOf:

 - type: string

 enum:

 - TERMINATE

 - REDIRECT

 - RESTRICT\_ACCESS

 - type: string

 RedirectAddressType:

 anyOf:

 - type: string

 enum:

 - IPV4

 - IPV6

 - URL

 - URI

 - 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 #Included for backwards compatibility, shall not be used

 - 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 # Included for backwards compatibility, shall not be used

 - IPV4\_ADDRESS

 - IPV6\_ADDRESS

 - NUMERIC\_SHORTCODE

 - ALPHANUMERIC\_SHORTCODE

 - OTHER

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

 - 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 #Included for backwards compatibility, shall not be used

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

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

 - CREATE\_MOI

 - MODIFY\_MOI\_ATTR

 - DELETE\_MOI

 - NOTIFY\_MOI\_CREATION

 - NOTIFY\_MOI\_ATTR\_CHANGE

 - NOTIFY\_MOI\_DELETION

 - 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:

# The applicable IMS Nodes are MRFC, IMS-GWF (connected to S-CSCF using ISC), SIP AS and DCSF.

 - 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

 - IMS\_GWF

 - DCSF

 - 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

 ProseFunctionality:

 anyOf:

 - type: string

 enum:

 - DIRECT\_DISCOVERY

 - DIRECT\_COMMUNICATION

 - type: string

 ProseEventType:

 anyOf:

 - type: string

 enum:

 - ANNOUNCING

 - MONITORING

 - MATCH\_REPORT

 - type: string

 DirectDiscoveryModel:

 anyOf:

 - type: string

 enum:

 - MODEL\_A

 - MODEL\_B

 - type: string

 RoleOfUE:

 anyOf:

 - type: string

 enum:

 - ANNOUNCING\_UE

 - MONITORING\_UE

 - REQUESTOR\_UE

 - REQUESTED\_UE

 - type: string

 RangeClass:

 anyOf:

 - type: string

 enum:

 - RESERVED

 - 50\_METER

 - 100\_METER

 - 200\_METER

 - 500\_METER

 - 1000\_METER

 - UNUSED

 - type: string

 RadioResourcesIndicator:

 anyOf:

 - type: string

 enum:

 - OPERATOR\_PROVIDED

 - CONFIGURED

 - type: string

 MbsDeliveryMethod:

 anyOf:

 - type: string

 enum:

 - SHARED

 - INDIVIDUAL

 - type: string

 TSCFlowDirection:

 anyOf:

 - type: string

 enum:

 - UPLINK

 - DOWNLINK

 - type: string

 TimeDistributionMethod:

 anyOf:

 - type: string

 enum:

 - GPTP

 - ASTI

 - type: string

 AllocateUnitIndicator:

 anyOf:

 - type: string

 enum:

 - CHF\_DETERMINED

 - CTF\_DETERMINED

 - type: string

 NSSAAMessageType:

 anyOf:

 - type: string

 enum:

 - Authenticate

 - Re-Authentication-Notification

 - Revocation Notification

 - type: string

 LocationType:

 anyOf:

 - type: string

 enum:

 - CURRENT\_LOCATION

 - LAST\_KNOWN\_LOCATION

 - INITIAL\_LOCATION

 - DEFERRED\_LOCATION

 - NOTIFICATION\_VERIFICATION

 - type: string

<CODE ENDS>

\*\*\* END OF CHANGE 1 \*\*\*

|  |
| --- |
| **End of Change** |