**TSG-CT WG4 Meeting #97-e *C4-20xxxx***

**E-Meeting, 15th – 23th April 2020 (Revision of C4-202196)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.518** | **CR** | **0330** | **rev** | **1** | **Current version:** | **16.3.0** |  |
|  | | | | | | | | |
| *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** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Reasons for loss of connectivity | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI16 | | | | |  | ***Date:*** | | | 2020-04-06 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) Rel-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The loss of connectivity event has already been supported by the Namf\_EventExposure and Nnef\_EventExposure services.  Inherit from 4G, the reason of loss of connectivity shall be included if the event is detected, in order to indicate the reason why loss of connectivity is reported.  The NEF shall provide the reason for loss of connectivity (i.e. lossOfConnectReason attribute in MonitoringEventReport as defined in TS 29.122 which is reused by Nnef\_EventExposure service) to the AF if the loss of connectivity event is detected, but no 5G reason (i.e. UE is deregistered, maximum detection timer is expired, UE is purged) is specified due to not received from Namf\_EventExposure service.  This proposal proposes to define a new attribute by Namf\_EventExposure service to indicate the reason. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Define a new attribute lossOfConnectRsn to indicate the reason for loss of connectivity in Namf\_EventExposure. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | If the loss of connectivity event is detected, the AMF will not provide the reason for loss of connectivity but the NEF shall provide the reason for loss of connectivity to the AF. This will cause misoperation. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.2.6.1, 6.2.6.2.5; 6.2.6.3.x (new); A.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | This CR introduces backward compatible correction to OpenAPI file for *Namf\_EventExposure* API.  CR 0158 and 0159 of TS 29.522 extends the lossOfConnecReason and adding 6-8 which is only for 5G. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**…**

**Proposed changes:**

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

#### 6.2.6.1 General

This clause specifies the application data model supported by the API.

Table 6.2.6.1-1 specifies the data types defined for the Namf\_EventExposure service based interface protocol.

Table 6.2.6.1-1: Namf\_EventExposure specific Data Types

|  |  |  |
| --- | --- | --- |
| Data type | Clause defined | Description |
| AmfEventSubscription | 6.2.6.2.2 | Represents an individual event subscription resource on AMF |
| AmfEvent | 6.2.6.2.3 | Describes an event to be subscribed |
| AmfEventNotification | 6.2.6.2.4 | Represents a notification generated by AMF to be delivered |
| AmfEventReport | 6.2.6.2.5 | Represents a report triggered by a subscribed event type, except the report triggered by UES\_IN\_AREA\_REPORT event type |
| AmfEventMode | 6.2.6.2.6 | Describes how the reports shall be generated by a subscribed event |
| AmfEventState | 6.2.6.2.7 | Represents the state of a subscribed event |
| RmInfo | 6.2.6.2.8 | Represents the registration state of a UE for an access type |
| CmInfo | 6.2.6.2.9 | Represents the connection management state of a UE for an access type |
| CommunicationFailure | 6.2.6.2.11 | Describes a communication failure detected by AMF |
| AmfCreateEventSubscription | 6.2.6.2.12 | Describes of an AMF Event Subscription to be created |
| AmfCreatedEventSubscription | 6.2.6.2.13 | Represents successful creation of an AMF Event Subscription |
| AmfUpdateEventSubscriptionItem | 6.2.6.2.14 | Document describes the modification(s) to an AMF Event Subscription |
| AmfUpdatedEventSubscription | 6.2.6.2.15 | Represents a successful update on an AMF Event Subscription |
| AmfEventArea | 6.2.6.2.16 | Represents an area to be monitored by an AMF event. |
| LadnInfo | 6.2.6.2.17 | LADN Information |
| AmfUpdateEventOptionItem | 6.2.6.2.18 | Document describing the modifications to AMF event subscription options. |
| 5GsUserStateInfo | 6.2.6.2.19 | Represents the 5GS User state of the UE for an access type |
| TrafficDescriptor | 6.2.6.2.20 | Represents the Traffic Descriptor |
| AmfEventType | 6.2.6.3.3 | Describes the supported event types of Namf\_EventExposure Service |
| AmfEventTrigger | 6.2.6.3.4 | Describes how AMF should generate the report for the event |
| LocationFilter | 6.2.6.3.5 | Describes the supported filters of LOCATION\_REPORT event type |
| UeReachability | 6.2.6.3.7 | Describes the reachability of the UE |
| RmState | 6.2.6.3.9 | Describes the registration management state of a UE |
| CmState | 6.2.6.3.10 | Describes the connection management state of a UE |
| 5GsUserState | 6.2.6.3.11 | Describes the 5GS User State of a UE |
| LossOfConnectivityReason | 6.2.6.3.x | Describes the reason for loss of connectivity |

Table 6.2.6.1-2 specifies data types re-used by the Namf\_EventExposure service based interface protocol from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the Namf\_EventExposure service based interface.

Table 6.2.6.1-2: Namf\_EventExposure re-used Data Types

|  |  |  |
| --- | --- | --- |
| Data type | Reference | Comments |
| Supi | 3GPP TS 29.571 [6] |  |
| GroupId | 3GPP TS 29.571 [6] |  |
| DurationSec | 3GPP TS 29.571 [6] |  |
| Gpsi | 3GPP TS 29.571 [6] |  |
| Uri | 3GPP TS 29.571 [6] |  |
| Pei | 3GPP TS 29.571 [6] |  |
| UserLocation | 3GPP TS 29.571 [6] |  |
| TaI | 3GPP TS 29.571 [6] |  |
| TimeZone | 3GPP TS 29.571 [6] |  |
| AccessType | 3GPP TS 29.571 [6] |  |
| Ecgi | 3GPP TS 29.571 [6] | EUTRA Cell Identifier |
| Ncgi | 3GPP TS 29.571 [6] | NR Cell Identifier |
| NfInstanceId | 3GPP TS 29.571 [6] |  |
| ProblemDetails | 3GPP TS 29.571 [6] | Problem Details |
| SupportedFeatures | 3GPP TS 29.571 [6] | Supported Features |
| DateTime | 3GPP TS 29.571 [6] |  |
| NgApCause | 3GPP TS 29.571 [6] |  |
| PresenceInfo | 3GPP TS 29.571 [6] | Presence Reporting Area Information |
| PresenceState | 3GPP TS 29.571 [6] | Describes the presence state of the UE to a specified area of interest |
| Dnn | 3GPP TS 29.571 [6] |  |
| Snssai | 3GPP TS 29.571 [6] |  |
| DddTrafficDescriptor | 3GPP TS 29.571 [6] | Downlink Data Delivery Traffic Descriptor |
| ReferenceId | 3GPP TS 29.503 [35] |  |

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

##### 6.2.6.2.5 Type: AmfEventReport

Table 6.2.6.2.5-1: Definition of type AmfEventReport

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | |
| type | AmfEventType | M | 1 | Describes the type of the event which triggers the report | |
| state | AmfEventState | M | 1 | Describes the state of the event which triggered the report. This IE shall be set to "TRUE" when subscriptionId IE is present. | |
| timeStamp | DateTime | M | 1 | This IE shall contain the time at which the event is generated. | |
| subscriptionId | Uri | C | 0..1 | This IE shall be included when the event notification is for informing the creation of a subscription Id at the AMF during mobility of a UE across AMFs.  When present, this IE shall contain the URI of the created subscription resource at the AMF.  The type IE shall be set to:  - SUBSCRIPTION\_ID\_CHANGE, when the AMFcreates a subscription Id for a UE specific event subscription during mobility registration and handover procedures involving an AMF change.  - SUBSCRIPTION\_ID\_ADDITION, when the AMF creates a subscription Id for a group Id specific event subscription during mobility registration and handover procedures involving an AMF change. | |
| anyUe | boolean | C | 0..1 | This IE shall be included and shall be set to "true", if the event subscription is a bulk subscription for number of UEs and the event reported is for one of those UEs. | |
| supi | Supi | C | 0..1 | This IE shall be present if available.  When present, this IE identifies the SUPI of the UE associated with the report (NOTE). | |
| areaList | array(AmfEventArea) | C | 1..N | This IE shall be present when the AMF event type is "PRESENCE\_IN\_AOI\_REPORT". When present, this IE represents the specified Area(s) of Interest the UE is currently IN / OUT / UNKNOWN. | |
| refId | ReferenceId | C | 0..1 | This IE shall be present if a Reference Id has previously been associated with the event triggering the report.  When present, this IE shall indicate the Reference Id associated with the event which triggers the report. | |
| gpsi | Gpsi | C | 0..1 | This IE shall be present if available.  When present, this IE identifies the GPSI of the UE associated with the report (NOTE). | |
| pei | Pei | O | 0..1 | This IE may be included if the event reported is for a particular UE or any UE. This IE identifies the PEI of the UE associated with the report (NOTE). | |
| location | UserLocation | O | 0..1 | Represents the location information of the UE | |
| timezone | TimeZone | O | 0..1 | Describes the time zone of the UE | |
| accessTypeList | array(AccessType) | O | 1..N | Describes the access type(s) of the UE | |
| rmInfoList | array(RmInfo) | O | 1..N | Describes the registration management state of the UE | |
| cmInfoList | array(CmInfo) | O | 1..N | Describes the connection management state of the UE | |
| reachability | UeReachability | O | 0..1 | Describes the reachability of the UE | |
| commFailure | CommunicationFailure | O | 0..1 | Describes a communication failure for the UE. | |
| numberOfUes | integer | O | 0..1 | Represents the number of UEs in the specified area | |
| 5gsUserStateList | array(5GsUserStateInfo) | O | 1..N | Represents the 5GS User State of the UE per access type | |
| typeCode | string | C | 0..1 | This IE shall be present when the AMF event type is "TYPE\_ALLOCATION\_CODE\_REPORT". When present, this IE represents the Type Allocation code (TAC), to indicate terminal model and vendor information of the UE.  Pattern: '^imeitac-[0-9]{8}$'. | |
| registrationNumber | integer | C | 0..1 | This IE shall be present when the AMF event type is "FREQUENT\_MOBILITY\_REGISTRATION\_REPORT". When present, this IE represents the number of the mobility registration procedures during a period identified by the expiry time included in the event subscription request. | |
| lossOfConnectReason | LossOfConnectivityReason | O | 0..1 | Describes the reason for loss of connectivity.  This IE should be present when the AMF event type is "LOSS\_OF\_CONNECTIVITY". | |
| NOTE: If the event report corresponds to an event subscription of a single UE, then the same UE identifier (i.e. SUPI and/or GPSI and/or PEI) received during subscription creation shall be included in the report. If the event report corresponds to an event subscription for group of UEs or any UE, then the SUPI and if available the GPSI shall be included in the event report. SUPI, PEI and GPSI shall not be present in report for UES\_IN\_AREA\_REPORT event type. | | | | | |

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

##### 6.2.6.3.x Enumeration: LossOfConnectivityReason

Table 6.2.6.3.x-1: Enumeration LossOfConnectivityReason

|  |  |
| --- | --- |
| Enumeration value | Description |
| "DEREGISTERED" | Indicates the UE is deregistered. |
| "MAX\_DETECTION\_TIME\_EXPIRED" | Indicates the mobile reachable timer is expired. |
| "PURGED" | Indicates the UE is purged. |

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

## A.3 Namf\_EventExposure API

openapi: 3.0.0

info:

version: 1.1.0.alpha-3

title: Namf\_EventExposure

description: |

AMF Event Exposure Service

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security:

- {}

- oAuth2ClientCredentials:

- namf-evts

externalDocs:

description: 3GPP TS 29.518 V16.3.0; 5G System; Access and Mobility Management Services

url: 'http://www.3gpp.org/ftp/Specs/archive/29\_series/29.518/'

servers:

- url: '{apiRoot}/namf-evts/v1'

variables:

apiRoot:

default: https://example.com

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

paths:

/subscriptions:

post:

summary: Namf\_EventExposure Subscribe service Operation

tags:

- Subscriptions collection (Document)

operationId: CreateSubscription

requestBody:

content:

application/json:

schema:

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

required: true

responses:

'201':

description: Subsription Created

headers:

Location:

description: 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/namf-evts/<apiVersion>/subscriptions/{subscriptionId}'

required: true

schema:

type: string

content:

application/json:

schema:

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

'400':

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

'403':

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

'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'

'503':

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

default:

description: Unexpected error

callbacks:

onEventReport:

'{$request.body#/subscription/eventNotifyUri}':

post:

summary: Event Notificaiton Delivery

requestBody:

content:

application/json:

schema:

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

required: true

responses:

'204':

description: Successful acknowledgement

'400':

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

'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'

'503':

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

default:

description: Unexpected error

onSubscriptionIdChangeEvtReport:

'{$request.body#/subscription/subsChangeNotifyUri}':

post:

summary: Event Notificaiton Delivery For Subscription Id Change

requestBody:

content:

application/json:

schema:

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

required: true

responses:

'204':

description: Successful acknowledgement

'400':

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

'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'

'503':

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

default:

description: Unexpected error

/subscriptions/{subscriptionId}:

patch:

summary: Namf\_EventExposure Subscribe Modify service Operation

tags:

- Individual subscription (Document)

operationId: ModifySubscription

parameters:

- name: subscriptionId

in: path

required: true

description: Unique ID of the subscription to be modified

schema:

type: string

requestBody:

content:

application/json-patch+json:

schema:

oneOf:

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

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

required: true

responses:

'200':

description: Subsription modified successfully

content:

application/json:

schema:

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

'400':

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

'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'

'503':

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

default:

description: Unexpected error

delete:

summary: Namf\_EventExposure Unsubscribe service Operation

tags:

- Individual subscription (Document)

operationId: DeleteSubscription

parameters:

- name: subscriptionId

in: path

required: true

description: Unique ID of the subscription to be deleted

schema:

type: string

responses:

'204':

description: Subsription deleted successfully

'400':

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

'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'

'503':

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

default:

description: Unexpected error

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{nrfApiRoot}/oauth2/token'

scopes:

namf-evts: Access to the Namf\_EventExposure API

schemas:

AmfEventSubscription:

type: object

properties:

eventList:

type: array

items:

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

minItems: 1

eventNotifyUri:

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

notifyCorrelationId:

type: string

nfId:

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

subsChangeNotifyUri:

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

subsChangeNotifyCorrelationId:

type: string

supi:

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

groupId:

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

gpsi:

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

pei:

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

anyUE:

type: boolean

options:

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

required:

- eventList

- eventNotifyUri

- notifyCorrelationId

- nfId

AmfEvent:

type: object

properties:

type:

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

immediateFlag:

type: boolean

areaList:

type: array

items:

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

minItems: 1

locationFilterList:

type: array

items:

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

minItems: 1

refId:

$ref: 'TS29503\_Nudm\_EE.yaml#/components/schemas/ReferenceId'

trafficDescriptorList:

type: array

items:

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

minItems: 1

required:

- type

AmfEventNotification:

type: object

properties:

notifyCorrelationId:

type: string

subsChangeNotifyCorrelationId:

type: string

reportList:

type: array

items:

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

minItems: 1

AmfEventReport:

type: object

properties:

type:

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

state:

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

timeStamp:

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

subscriptionId:

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

anyUe:

type: boolean

supi:

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

areaList:

type: array

items:

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

minItems: 1

refId:

$ref: 'TS29503\_Nudm\_EE.yaml#/components/schemas/ReferenceId'

gpsi:

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

pei:

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

location:

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

timezone:

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

accessTypeList:

type: array

items:

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

minItems: 1

rmInfoList:

type: array

items:

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

minItems: 1

cmInfoList:

type: array

items:

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

minItems: 1

reachability:

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

commFailure:

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

lossOfConnectReason:

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

numberOfUes:

type: integer

5gsUserStateList:

type: array

items:

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

minItems: 1

typeCode:

type: string

pattern: '^imeitac-[0-9]{8}$'

registrationNumber:

type: integer

required:

- type

- state

- timeStamp

AmfEventMode:

type: object

properties:

trigger:

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

maxReports:

type: integer

expiry:

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

required:

- trigger

AmfEventState:

type: object

properties:

active:

type: boolean

remainReports:

type: integer

remainDuration:

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

required:

- active

RmInfo:

type: object

properties:

rmState:

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

accessType:

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

required:

- rmState

- accessType

CmInfo:

type: object

properties:

cmState:

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

accessType:

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

required:

- cmState

- accessType

CommunicationFailure:

type: object

properties:

nasReleaseCode:

type: string

ranReleaseCode:

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

AmfCreateEventSubscription:

type: object

properties:

subscription:

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

supportedFeatures:

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

oldGuami:

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

required:

- subscription

AmfCreatedEventSubscription:

type: object

properties:

subscription:

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

subscriptionId:

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

reportList:

type: array

items:

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

minItems: 1

supportedFeatures:

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

required:

- subscription

- subscriptionId

AmfUpdateEventSubscriptionItem:

type: array

items:

type: object

properties:

op:

type: string

enum:

- add

- remove

- replace

path:

type: string

pattern: '\/eventList\/[0-]$|\/eventList\/[1-9][0-9]\*$'

value:

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

required:

- op

- path

minItems: 1

AmfUpdateEventOptionItem:

type: object

properties:

op:

type: string

enum:

- replace

path:

type: string

pattern: '\/options\/expiry$'

value:

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

required:

- op

- path

- value

AmfUpdatedEventSubscription:

type: object

properties:

subscription:

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

required:

- subscription

AmfEventArea:

type: object

properties:

presenceInfo:

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

ladnInfo:

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

LadnInfo:

type: object

properties:

ladn:

type: string

presence:

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

required:

- ladn

5GsUserStateInfo:

type: object

properties:

5gsUserState:

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

accessType:

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

required:

- 5gsUserState

- accessType

TrafficDescriptor:

type: object

properties:

dnn:

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

sNssai:

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

dddTrafficDescriptorList:

type: array

items:

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

minItems: 1

5gGuti:

type: string

AmfEventType:

anyOf:

- type: string

enum:

- LOCATION\_REPORT

- PRESENCE\_IN\_AOI\_REPORT

- TIMEZONE\_REPORT

- ACCESS\_TYPE\_REPORT

- REGISTRATION\_STATE\_REPORT

- CONNECTIVITY\_STATE\_REPORT

- REACHABILITY\_REPORT

- COMMUNICATION\_FAILURE\_REPORT

- UES\_IN\_AREA\_REPORT

- SUBSCRIPTION\_ID\_CHANGE

- SUBSCRIPTION\_ID\_ADDITION

- LOSS\_OF\_CONNECTIVITY

- 5GS\_USER\_STATE\_REPORT

- AVAILABILITY\_AFTER\_DDN\_FAILURE

- TYPE\_ALLOCATION\_CODE\_REPORT

- FREQUENT\_MOBILITY\_REGISTRATION\_REPORT

- type: string

AmfEventTrigger:

anyOf:

- type: string

enum:

- ONE\_TIME

- CONTINUOUS

- type: string

LocationFilter :

anyOf:

- type: string

enum:

- TAI

- CELL\_ID

- N3IWF

- UE\_IP

- UDP\_PORT

- TNAP\_ID

- GLI

- type: string

UeReachability:

anyOf:

- type: string

enum:

- UNREACHABLE

- REACHABLE

- REGULATORY\_ONLY

- type: string

RmState:

anyOf:

- type: string

enum:

- REGISTERED

- DEREGISTERED

- type: string

CmState:

anyOf:

- type: string

enum:

- IDLE

- CONNECTED

- type: string

5GsUserState:

anyOf:

- type: string

enum:

- DEREGISTERED

- REGISTERED\_NOT\_REACHABLE\_FOR\_PAGING

- REGISTERED\_REACHABLE\_FOR\_PAGING

- CONNECTED\_NOT\_REACHABLE\_FOR\_PAGING

- CONNECTED\_REACHABLE\_FOR\_PAGING

- NOT\_PROVIDED\_FROM\_AMF

- type: string

LossOfConnectivityReason:

anyOf:

- type: string

enum:

- DEREGISTERED

- MAX\_DETECTION\_TIME\_EXPIRED

- PURGED

- type: string

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