**3GPP TSG- Meeting #C3-243xxx**

**Hyderabad, IN, 27 - 31 May, 2024 was C3-243265**

|  |
| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **29.522** | **CR** | **1295** | **rev** | **1** | **Current version:** | **18.5.0** |  |
|  |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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| --- |
|  |
| ***Title:***  | Additional corrections and updates to the definition of the MemberUESelectionAssistance API |
|  |  |
| ***Source to WG:*** | Huawei, Nokia |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | AIMLsys |  | ***Date:*** | 2024-05-30 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** |  |
|  | *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 definition of the MemberUESelectionAssistance API needs further corrections and alignments with the drafting rules and NBI TS skeleton (in addition to the agreed corrections in C3-242578). |
|  |  |
| ***Summary of change:*** | This CR proposes to:* Correct the above-detailed issues.
* Apply additional editorial corrections.
 |
|  |  |
| ***Consequences if not approved:*** | * The provisions related to the definition of the MemberUESelectionAssistance API continue to contain errors and misalignments with the drafting rules and NBI TS skeleton.
 |
|  |  |
| ***Clauses affected:*** | 4.1, 4.4.36.2, 5.1, 5.32, 5.32.1, 5.32.2.1, 5.32.2.2.1, 5.32.2.2.2, 5.32.2.2.3, 5.32.2.2.3.1, 5.32.2.2.3.2, 5.32.2.2.4 (new clause), 5.32.2.3.1, 5.32.2.3.2, 5.32.2.3.3, 5.32.2.3.3.1, 5.32.2.3.3.2, 5.32.2.3.3.3, 5.32.2.3.3.4, 5.32.2.3.4 (new clause), 5.32.4.1, 5.32.4.2.1, 5.32.4.2.2, 5.32.4.2.3, 5.32.5.1, 5.32.5.2.2, 5.32.5.2.3, 5.32.5.2.4, 5.32.5.2.5, 5.32.5.2.6, 5.32.5.2.7, 5.32.5.2.8, 5.32.5.2.9, 5.32.5.2.10, 5.32.5.2.11, 5.32.5.2.12, 5.32.5.2.13, 5.32.5.2.14, 5.32.5.2.15, 5.32.5.3.3, 5.32.7.3, A.30 |
|  |  |
|  | **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 backwards compatible corrections to the OpenAPI description of the MemberUESelectionAssistance API defined in this specification.
* The clashes between this CR and C3-242578 in clause 5.32.6 (regarding the shortened API name) is to be solved by the rapporteur.
 |
|  |  |
| ***This CR's revision history:*** |  |

\* \* \* \* Start of changes \* \* \* \*

## 4.1 Overview

The NEF Northbound interface is between the NEF and the AF. It specifies RESTful/RPC APIs that allow the AF to access the services and capabilities provided by 3GPP network entities and securely exposed by the NEF.

This document also specifies the procedures triggered at the NEF by API requests from the AF and by event notifications received from 3GPP network entities.

The stage 2 level requirements and signalling flows for the NEF Northbound interface are defined in 3GPP TS 23.502 [2], 3GPP TS 23.247 [53] for MBS specific aspects and 3GPP TS 26.531 [59] for data reporting provisioning and Media Streaming Event Exposure specific aspects.

The NEF Northbound interface supports the following procedures:

1) Procedures for Monitoring.

2) Procedures for Device Triggering.

3) Procedures for resource management of Background Data Transfer.

4) Procedures for CP Parameters, Network Configuration Parameters Provisioning, 5G LAN Parameters Provisioning, ACS Configuration Parameter Provisioning, Location Privacy Indication Parameters Provisioning, ECS address provisioning, Slice Parameters Provisioning and DNN and S-NSSAI specific Group Parameters provisioning.

5) Procedures for PFD Management.

6) Procedures for Traffic Influence.

7) Procedures for changing the chargeable party at session set up or during the session.

8) Procedures for AF required QoS.

9) Procedures for MSISDN-less Mobile Originated SMS.

10) Procedures for non-IP data delivery.

11) Procedures for analytics information exposure.

12) Procedure for applying BDT policy.

13) Procedures for Enhanced Coverage Restriction Control.

14) Procedures for IPTV Configuration.

15) Procedures for Service Parameter Provisioning.

16) Procedures for RACS Parameter Provisioning.

17) Procedures for Mobile Originated Location Request.

18) Procedures for AKMA.

19) Procedures for AF triggered Access and Mobility Influence.

20) Procedures for AF triggered Access and Mobility Policy Authorization.

21) Procedures for Time Synchronization Exposure.

22) Procedures for EAS Deployment information provisioning.

23) Procedures for TMGI allocation, deallocation, expiry timer refresh and timer expiry notification.

24) Procedures for MBS session management and parameters provisioning.

25) Procedures for Data Reporting.

26) Procedures for Data Reporting Provisioning.

27) Procedures for AF specific UE ID retrieval.

28) Procedures for Media Streaming Event Exposure.

29) Procedures for MBS User Service management.

30) Procedures for MBS User Data Ingest Session management.

31) Procedures for MBS Group Message Delivery management.

32) Procedures for DNAI mapping.

33) Procedures for negotiation of Planned Data Transfer with QoS requirements.

34) Procedures for Member UE Slection Assistance.

37) Procedures for UE Address retrieval.

38) Procedures for ECS Address configuration in roaming.

Which correspond to the following services respectively, supported by the NEF as defined in 3GPP TS 23.502 [2] or 3GPP TS 26.531 [59]:

1) Nnef\_EventExposure service and Nnef\_APISupportCapability service.

2) Nnef\_Trigger service.

3) Nnef\_BDTPNegotiation service.

4) Nnef\_ParameterProvision service.

5) Nnef\_PFDManagement service.

6) Nnef\_TrafficInfluence service.

7) Nnef\_ChargeableParty service.

8) Nnef\_AFsessionWithQoS service and Nnef\_AF\_Request\_for\_QoS service.

9) Nnef\_MSISDN-less\_MO\_SMS service.

10) Nnef\_NIDDConfiguration and Nnef\_NIDD services.

11) Nnef\_AnalyticsExposure service.

12) Nnef\_ApplyPolicy service.

13) Nnef\_ECRestriction service.

14) Nnef\_IPTVConfiguration service.

15) Nnef\_ServiceParameter service.

16) Nnef\_UCMFProvisioning service.

17) Nnef\_Location service.

18) Nnef\_AKMA service.

19) Nnef\_AMInfluence service.

20) Nnef\_AMPolicyAuthorization service.

21) Nnef\_TimeSynchronization and Nnef\_ASTI services.

22) Nnef\_EASDeployment service.

23) Nnef\_MBSTMGI service.

24) Nnef\_MBSSession service.

25) Nnef\_DataReporting service.

26) Nnef\_DataReportingProvisioning service.

27) Nnef\_UEId service.

28) Nnef\_MSEventExposure service.

29) Nnef\_MBSUserService service.

30) Nnef\_MBSUserDataIngestSession service.

31) Nnef\_MBSGroupMsgDelivery service.

32) Nnef\_DNAIMapping service.

33) Nnef\_PDTQPolicyNegotiation service.

34) Nnef\_MemberUESelectionAssistance service.

37) Nnef\_UEAddress service.

38) Nnef\_ECSAddress service.

NOTE 1: For Nnef\_PFDManagement service, only the Nnef\_PFDManagement\_Create/Update/Delete service operations are applicable for the NEF Northbound interface.

NOTE 2: For Nnef\_NIDD service, NF consumer other than the AF does not use the NEF Northbound interface.

NOTE 3: For Nnef\_NIDDConfiguration service, the Nnef\_NIDDConfiguration\_Trigger service operation is only applicable for the NEF Northbound interface.

NOTE 4: The Nnef\_APISupportCapability service is only applicable in the MonitoringEvent API when the monitoring type sets to "API\_SUPPORT\_CAPABILITY".

NOTE 5: The Nnef\_MSEventExposure service maps to the Nnef\_EventExposure service and is applicable for the case where the event consumer AF in the Application Service Provider is deployed outside the trusted domain, as described in 3GPP TS 26.531 [59], and the subscribed event is set to "MS\_QOE\_METRICS", "MS\_CONSUMPTION", "MS\_NET\_ASSIST\_INVOCATION", "MS\_DYN\_POLICY\_INVOCATION", or "MS\_ACCESS\_ACTIVITY".

NOTE 6: The stage 2 Nnef\_AF\_request\_for\_QoS API is defined by reusing the Nnef\_AFsessionWithQoS API with the "GMEC\_5G" feature.

\* \* \* \* Next changes \* \* \* \*

#### 4.4.36.2 Procedure for Member UE Selection Assistance Subscription Creation

In order to subscribe to receive the Member UE selection assistance information, the AF shall send an HTTP POST request message to the NEF targeting the "Member UE Selection Assistance Subscriptions" collection resource, with the request message body including the MemUeSelectAssistSubsc data structure, as specified in clause 5.32.5.2.2.

The NEF shall then check whether the AF is authorized to perform this operation or not. If the AF is authorized and based on the Member UE filtering criteria(s) provided by the AF, the NEF shall then interact with the corresponding different 5GC NFs via the services offered by the 5GC NFs.

Upon reception of a successful response from the 5GC NF, the NEF shall respond to the AF with a "201 Created" status code including a "Location" header field that shall contain the URI of the created resource, i.e. "{apiRoot}/3gpp-musa/<apiVersion>/{afId}/subscriptions/{subscriptionId}", and the response body containing a representation of the created "Individual Member UE Selection Assistance Subscription" resource within the MemUeSelectAssistSubsc data structure.

On failure or if the NEF receives an error response from the 5GC NF, the NEF shall take proper error handling actions, as specified in clause 5.32.7, and respond to the AF with an appropriate error status code. If the NEF received within an error response a "ProblemDetails" data structure with a "cause" attribute indicating an application error, the NEF shall relay this error response to the AF with a corresponding application error, when applicable.

\* \* \* \* Next changes \* \* \* \*

## 5.1 Introduction

The NEF Northbound APIs are a set of APIs defining the related procedures and resources for the interaction between the NEF and the AF.

Tables 5.1-1 summarizes the APIs defined in this specification.

Table 5.1-1: API Descriptions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Service Name | Clause defined | Description | OpenAPI Specification File | API Name | Annex |
| TrafficInfluence | 5.4 | Traffic Influence API | TS29522\_TrafficInfluence.yaml | 3gpp-traffic-influence | A.2 |
| NiddConfigurationTrigger | 5.5 | NIDD (Non-IP Data Delivery) Configuration Trigger API | TS29522\_NiddConfigurationTrigger.yaml | 3gpp-nidd-configuration-trigger | A.3 |
| AnalyticsExposure | 5.6 | Analytics Exposure API | TS29522\_AnalyticsExposure.yaml | 3gpp-analyticsexposure | A.4 |
| 5GLANParameterProvision | 5.7 | 5G LAN Parameter Provision API | TS29522\_5GLANParameterProvision.yaml | 3gpp-5glan-pp | A.5 |
| ApplyingBdtPolicy | 5.8 | Applying BDT Policy API | TS29522\_ApplyingBdtPolicy.yaml | 3gpp-applying-bdt-policy | A.6 |
| IPTVConfiguration | 5.9 | IPTV Configuration API | TS29522\_IPTVConfiguration.yaml | 3gpp-iptvconfiguration | A.7 |
| LpiParameterProvision | 5.10 | LPI (Location Privacy Indicator) Parameter Provision API | TS29522\_LpiParameterProvision.yaml | 3gpp-lpi-pp | A.8 |
| ServiceParameter | 5.11 | Service Parameter API | TS29522\_ServiceParameter.yaml | 3gpp-service-parameter | A.9 |
| ACSParameterProvision | 5.12 | ACS Parameter Provision API | TS29522\_ACSParameterProvision.yaml | 3gpp-acs-pp | A.10 |
| MoLcsNotify | 5.13 | MO LCS Notify API | TS29522\_MoLcsNotify.yaml | 3gpp-mo-lcs-notify | A.11 |
| AKMA | 5.14 | AKMA API | TS29522\_AKMA.yaml | 3gpp-akma | A.12 |
| TimeSyncExposure | 5.15 | Time Sync Exposure API | TS29522\_TimeSyncExposure.yaml | 3gpp-time-sync-exposure | A.13 |
| EcsAddressProvision | 5.16 | ECS Address Provision API | TS29522\_EcsAddressProvision.yaml | 3gpp-ecs-address-provision | A.14 |
| AMPolicyAuthorization | 5.17 | AM Policy Authorization API | TS29522\_AMPolicyAuthorization.yaml | 3gpp-am-policyauthorization | A.15 |
| AMInfluence | 5.18 | AM Influence API | TS29522\_AMInfluence.yaml | 3gpp-am-influence | A.16 |
| MBSTMGI | 5.19 | MBS TMGI API | TS29522\_MBSTMGI.yaml | 3gpp-mbs-tmgi | A.17 |
| MBSSession | 5.20 | MBS Session API | TS29522\_MBSSession.yaml | 3gpp-mbs-session | A.18 |
| EASDeployment | 5.21 | EAS Deployment API | TS29522\_EASDeployment.yaml | 3gpp-eas-deployment | A.19 |
| ASTI | 5.22 | ASTI API | TS29522\_ASTI.yaml | 3gpp-asti | A.20 |
| DataReporting | 5.23 | DataReporting API | TS29522\_DataReporting.yaml | 3gpp-data-reporting | A.21 |
| DataReportingProvisioning | 5.24 | DataReportingProvisioning API | TS29522\_DataReportingProvisioning.yaml | 3gpp-data-reporting-provisioning | A.22 |
| UEId | 5.25 | UE ID API | TS29522\_UEId.yaml | 3gpp-ueid | A.23 |
| MBSUserService | 5.26 | MBSUserService API | TS29522\_MBSUserService.yaml | 3gpp-mb-us | A.24 |
| MBSUserDataIngestSession | 5.27 | MBSUserDataIngestSession API | TS29522\_MBSUserDataIngestSession.yaml | 3gpp-mb-ud-ingest | A.25 |
| MSEventExposure | 5.28 | MSEventExposure API | TS29522\_MSEventExposure.yaml | 3gpp-event-exposure | A.26 |
| MBSGroupMsgDelivery | 5.29 | MBSGroupMsgDelivery API | TS29522\_MBSGroupMsgDelivery.yaml | 3gpp-mbs-group-msg | A.27 |
| DNAIMapping | 5.30 | DNAIMapping API | TS29522\_DNAIMapping.yaml | 3gpp-dnai-mapping | A.28 |
| PDTQPolicyNegotiation | 5.31 | PDTQPolicyNegotiation API | TS29522\_PDTQPolicyNegotiation.yaml | 3gpp-pdtq-policy-negotiation | A.29 |
| MemberUESelectionAssistance | 5.32 | MemberUESelectionAssistance API | TS29522\_MemberUESelectionAssistance.yaml | 3gpp-musa | A.30 |
| GroupParametersProvisioning | 5.33 | Group Parameters Provisioning API | TS29.522\_GroupParametersProvisioning.yaml | 3gpp-grp-pp | A.31 |
| SliceParamProvision | 5.34 | Network Slice Parameters Provisioning API | TS29.522\_SliceParamProvision.yaml | 3gpp-slice-pp | A.32 |

\* \* \* \* Next changes \* \* \* \*

## 5.32 MemberUESelectionAssistance API

\* \* \* \* Next changes \* \* \* \*

### 5.32.1 Introduction

The Nnef\_MemberUESelectionAssistance service shall use the MemberUESelectionAssistance API.

The API URI of MemberUESelectionAssistance API shall be:

{apiRoot}/<apiName>/<apiVersion>

The request URIs used in HTTP requests shall have the Resource URI structure defined in clause 5.2.4 of 3GPP TS 29.122 [2], i.e.:

{apiRoot}/<apiName>/<apiVersion>/<apiSpecificSuffixes>

with the following components:

- "apiRoot" is set as defined in clause 5.2.4 of 3GPP TS 29.122 [4].

- "apiName" shall be set to "3gpp-musa".

- "apiVersion" shall be set to "v1" for the current version defined in the present document.

All resource URIs in the clauses below are defined relative to the above API URI.

\* \* \* \* Next changes \* \* \* \*

#### 5.32.2.1 Overview

This clause describes the structure for the Resource URIs as shown in Figure 5.32.2.1-1 and the resources and HTTP methods used for the MemberUESelectionAssistance API.



Figure 5.32.2.1-1: Resource URI structure of the MemberUESelectionAssistance API

Table 5.32.2.1-1 provides an overview of the resources and applicable HTTP methods applicable for the MemberUESelectionAssistance API.

Table 5.32.2.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI (relative path under API URI) | HTTP method or custom operation | Description(service operation) |
| Member UE Selection Assistance Subscriptions | /{afId}/subscriptions | POST | Create a new subscription to Member UE Selection Assistance. |
| Individual Member UE Selection Assistance Subscription | /{afId}/subscriptions/{subscriptionId} | GET | Retreive an existing Individual Member UE Selection Assistance Subscription resource. |
| PUT | Update an existing Individual Member UE Selection Assistance Subscription resource. |
| PATCH | Modify an existing Individual Member UE Selection Assistance Subscription resource. |
| DELETE | Delete an existing Individual Member UE Selection Assistance Subscription resource. |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.2.2.1 Introduction

This resource represents all the active Member UE Selection Assistance Subscriptions managed by the NEF for a given AF.

This resource is modelled with the Collection resource archetype (see clause C.2 of 3GPP TS 29.501 [3]).

\* \* \* \* Next changes \* \* \* \*

##### 5.32.2.2.2 Resource definition

Resource URL: **{apiRoot}/3gpp-musa/<apiVersion>/{afId}/subscriptions**

This resource shall support the resource URL variables defined in table 5.32.2.2.2-1.

Table 5.32.2.2.2-1: Resource URL variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| apiRoot | string | See clause 5.32.1. |
| afId | string | Represents the identifier of the AF. |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.2.2.3 Resource Standard Methods

\* \* \* \* Next changes \* \* \* \*

###### 5.32.2.2.3.1 POST

The HTTP POST method enables to request the creation of a new Member UE Selection Assistance Subscription at the NEF.

This method shall support the URI query parameters specified in table 5.32.2.2.3.1-1.

Table 5.32.2.2.3.1-1: URI query parameters supported by the POST method on this resource

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

This method shall support the request data structures specified in table 5.32.2.2.3.1-2 and the response data structures and response codes specified in table 5.32.2.2.3.1-3.

Table 5.32.2.2.3.1-2: Data structures supported by the POST request body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| MemUeSelectAssistSubsc | M | 1 | Contains the parameters to request the creation of a new Member UE Selection Assistance Subscriptionat the NEF. |

Table 5.32.2.2.3.1-3: Data structures supported by the POST response body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| MemUeSelectAssistSubsc | M | 1 | 201 Created | Successful case. A representation of the created "Individual Member UE Selection Assistance Subscription" resource is returned in the response body.The URI of the created resource shall be returned in an HTTP "Location" header. |
| NOTE: The mandatory HTTP error status codes for the HTTP POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [4] shall also apply. |

Table 5.32.2.2.3.1-4: Headers supported by the 201 response code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| HTTP response header | Data type | P | Cardinality | Description |
| Location | string | M | 1 | The URI of the newly created resource, according to the structure:{apiRoot}/3gpp-musa/<apiVersion>/{afId}/subscriptions/{subscriptionId} |

\* \* \* \* Next changes \* \* \* \*

###### 5.32.2.2.3.2 GET

The HTTP GET method enables to retrieve all the active Member UE Selection Assistance Subscriptions managed by the NEF.

This method shall support the URI query parameters specified in table 5.32.2.2.3.2-1.

Table 5.32.2.2.3.2-1: URI query parameters supported by the GETmethod on this resource

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

This method shall support the request data structures specified in table 5.32.2.2.3.2-2 and the response data structures and response codes specified in table 5.32.2.2.3.2-3.

Table 5.32.2.2.3.2-2: Data structures supported by the GETRequest Body on this resource

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

Table 5.32.2.2.3.2-3-3: Data structures supported by theGET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| array(MemUeSelectAssistSubsc) | M | 0..N | 200 OK | Successful case. All the "Individual Member UE Selection Assistance Subscription" resource(s) managed by the NEF are returned.If there are no active "Individual Member UE Selection Assistance Subscription" resources at the NEF, an empty array is returned. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.The response shall include a Location header field containing an alternative target URI of the resource located in an alternative NEF.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.The response shall include a Location header field containing an alternative target URI of the resource located in an alternative NEF.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| NOTE: The mandatory HTTP error status codes for the HTTP GET method listed in table 5.2.6-1 of 3GPP TS 29.122 [4] shall also apply. |

Table 5.32.2.2.3.2-3-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative target URI of the resource located in an alternative NEF. |

Table 5.32.2.2.3.2-3-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative target URI of the resource located in an alternative NEF. |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.2.2.4 Resource Custom Operations

There are no resource custom operations defined for this resource in this release of the specification.

\* \* \* \* Next changes \* \* \* \*

##### 5.32.2.3.1 Introduction

This resource represents an "Individual Member UE Selection Assistance Subscription" resource managed by the NEF.

This resource is modelled with the Document resource archetype (see clause C.1 of 3GPP TS 29.501 [3]).

\* \* \* \* Next changes \* \* \* \*

##### 5.32.2.3.2 Resource Definition

Resource URL: **{apiRoot}/3gpp-musa/<apiVersion>/{afId}/subscriptions/{subscriptionId}**

This resource shall support the resource URI variables defined in table 5.32.2.3.2-1.

Table 5.32.2.3.2-1: Resource URL variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| apiRoot | string | See clause 5.32.1. |
| afId | string | Represents the identifier of the AF. |
| subscriptionId | string | Represents the identifier of the "Individual Member UE Selection Assistance Subscription" resource. |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.2.3.3 Resource Standard Methods

\* \* \* \* Next changes \* \* \* \*

###### 5.32.2.3.3.1 GET

The HTTP GET method enables to retrieve an existing "Individual Member UE Selection Assistance Subscription" resource at the NEF.

This method shall support the URI query parameters specified in table 5.32.2.3.3.1-1.

Table 5.32.2.3.3.1-1: URI query parameters supported by the GET method on this resource

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

This method shall support the request data structures specified in table 5.32.2.3.3.1-2 and the response data structures and response codes specified in table 5.32.2.3.3.1-3.

Table 5.32.2.3.3.1-2: Data structures supported by the GET Request Body on this resource

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

Table 5.32.2.3.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| MemUeSelectAssistSubsc | M | 1 | 200 OK | Successful case. The requested "Individual Member UE Selection Assistance Subscription" resource is returned in the response body. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.The response shall include a Location header field containing an alternative target URI of the resource located in an alternative NEF.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.The response shall include a Location header field containing an alternative target URI of the resource located in an alternative NEF.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| NOTE: The mandatory HTTP error status code for the HTTP GET method listed in table 5.2.6-1 of 3GPP TS 29.122 [4] shall also apply. |

Table 5.32.2.3.3.1-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative target URI of the resource located in an alternative NEF. |

Table 5.32.2.3.3.1-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative target URI of the resource located in an alternative NEF. |

\* \* \* \* Next changes \* \* \* \*

###### 5.32.2.3.3.2 PUT

The HTTP PUT method enables to request the update of an existing "Individual Member UE Selection Assistance Subscription" resource at the NEF.

This method shall support the URI query parameters specified in table 5.32.2.3.3.2-1.

Table 5.32.2.3.3.2-1: URI query parameters supported by the PUT method on this resource

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

This method shall support the request data structures specified in table 5.32.2.3.3.2-2 and the response data structures and response codes specified in table 5.32.2.3.3.2-4.

Table 5.32.2.3.3.2-2: Data structures supported by the PUT request body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| MemUeSelectAssistSubsc | M | 1 | Contains the updated "Individual Member UE Selection Assistance Subscription" resource representation. |

Table 5.32.2.3.3.2-3: Data structures supported by the PUT response body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| MemUeSelectAssistSubsc | M | 1 | 200 OK | Successful response. The "Individual Member UE Selection Assistance Subscription" resource is successfully updated and a representation of the updated resource is returned in the response body. |
| n/a |  |  | 204 No Content | Successful response. The "Individual Member UE Selection Assistance Subscription" resource is successfully updated and no content is to be returned in the response body. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.The response shall include a Location header field containing an alternative target URI of the resource located in an alternative NEF.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.The response shall include a Location header field containing an alternative target URI of the resource located in an alternative NEF.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| NOTE: The mandatory HTTP error status code for the HTTP PUT method listed in Table 5.2.6-1 of 3GPP TS 29.122 [4] shall also apply. |

Table 5.32.2.3.3.2-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative target URI of the resource located in an alternative NEF. |

Table 5.32.2.3.3.2-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative target URI of the resource located in an alternative NEF. |

\* \* \* \* Next changes \* \* \* \*

###### 5.32.2.3.3.3 PATCH

This method enables to request the modification of an existing "Individual Member UE Selection Assistance Subscription" resource at the NEF.

This method shall support the URI query parameters specified in table 5.32.2.3.3.3-1.

Table 5.32.2.3.3.3-1: URI query parameters supported by the PATCH method on this resource

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

This method shall support the request data structures specified in table 5.32.2.3.3.3-2 and the response data structures and response codes specified in table 5.32.2.3.3.3-3.

Table 5.32.2.3.3.3-2: Data structures supported by the PATCH Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| MemUeSelectAssistSubscPatch | M | 1 | Contains the requested modifications to the "Individual Member UE Selection Assistance Subscription" resource. |

Table 5.32.2.3.3.3-3: Data structures supported by the PATCH Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| MemUeSelectAssistSubsc | M | 1 | 200 OK | Successful response. The "Individual Member UE Selection Assistance Subscription" resource is successfully modified and a representation of the updated resource is returned in the response body. |
| n/a |  |  | 204 No Content | Successful response. The "Individual Member UE Selection Assistance Subscription" resource is successfully modified and no content is returned in the response body. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.The response shall include a Location header field containing an alternative target URI of the resource located in an alternative NEF.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.The response shall include a Location header field containing an alternative target URI of the resource located in an alternative NEF.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| NOTE: The mandatory HTTP error status codes for the HTTP PATCH method listed in table 5.2.6-1 of 3GPP TS 29.122 [4] shall also apply. |

Table 5.32.2.3.3.3-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative target URI of the resource located in an alternative NEF. |

Table 5.32.2.3.3.3-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative target URI of the resource located in an alternative NEF. |

\* \* \* \* Next changes \* \* \* \*

###### 5.32.2.3.3.4 DELETE

The HTTP DELETE method enables to request the deletion of an existing "Individual Member UE Selection Assistance Subscription" resource at the NEF.

This method shall support the URI query parameters specified in table 5.32.2.3.3.4-1.

Table 5.32.2.3.3.4-1: URI query parameters supported by the DELETE method on this resource

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

This method shall support the request data structures specified in table 5.32.2.3.3.4-2 and the response data structures and response codes specified in table 5.32.2.3.3.4-3.

Table 5.32.2.3.3.4-2: Data structures supported by the DELETE request body on this resource

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

Table 5.32.2.3.3.4-3: Data structures supported by the DELETE response body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | ResponseCodes | Description |
| n/a |  |  | 204 No Content | Successful response. The "Individual Member UE Selection Assistance Subscription" resource is successfully deleted. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.The response shall include a Location header field containing an alternative target URI of the resource located in an alternative NEF.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.The response shall include a Location header field containing an alternative target URI of the resource located in an alternative NEF.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| NOTE: The mandatory HTTP error status codes for the HTTP DELETE method listed in Table 5.2.6-1 of 3GPP TS 29.122 [4] shall also apply. |

Table 5.32.2.3.3.4-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative target URI of the resource located in an alternative NEF. |

Table 5.32.2.3.3.4-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative target URI of the resource located in an alternative NEF. |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.2.3.4 Resource Custom Operations

There are no resource custom operations defined for this resource in this release of the specification.

\* \* \* \* Next changes \* \* \* \*

5.32.4.1 General

Notifications shall comply to clause 5.2.5 of 3GPP TS 29.122 [4].

**Table 5.32.4.1-1: Notifications overview**

|  |  |  |  |
| --- | --- | --- | --- |
| **Notification** | **Callback URI** | **HTTP method or custom operation** | **Description****(service operation)** |
| Member UE Selection Assistance Notification | {notifUri} | POST | Enable the NEF to notify a previously subscribed AF on Member UE Selection Assistance information. |

\* \* \* \* Next changes \* \* \* \*

5.32.4.2.1 Description

The Member UE Selection Assistance Notification is used by the NEF to report Member UE Selection Assistance information related event(s) to a previously subscribed AF.

\* \* \* \* Next changes \* \* \* \*

5.32.4.2.2 Target URI

The Callback URI **"{notifUri}"** shall be used with the callback URI variables defined in table 5.32.4.2.2-1.

**Table 5.32.4.2.2-1: Callback URI variables**

|  |  |
| --- | --- |
| **Name** | **Definition** |
| notifUri | Represents the callback URI encoded as a string formatted as a URI. |

\* \* \* \* Next changes \* \* \* \*

5.32.4.2.3 Operation Definition

This method shall support the request data structures specified in table 5.32.4.2.3-1 and the response data structures and response codes specified in table 5.32.4.2.3-2.

**Table 5.32.4.2.3-1: Data structures supported by the POST Request Body on this resource**

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Description** |
| MemUeSeletAssistNotif | M | 1 | Represents the Member UE Selection Assistance Notification. |

**Table 5.32.4.2.3-2: Data structures supported by the POST Response Body on this resource**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Response****codes** | **Description** |
| n/a |  |  | 204 No Content | Successful case. The notification is successfully received and acknowledged. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.The response shall include a Location header field containing an alternative URI representing the end point of an alternative AF towards which the notification should be sent.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.The response shall include a Location header field containing an alternative URI representing the end point of an alternative AF towards which the notification should be sent.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| NOTE: The mandatory HTTP error status codes for the HTTP POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [4] shall also apply. |

**Table 5.32.4.2.3-3: Headers supported by the 307 Response Code on this resource**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Data type** | **P** | **Cardinality** | **Description** |
| Location | string | M | 1 | Contains an alternative URI representing the end point of an alternative AF towards which the notification should be redirected. |

**Table 5.32.4.2.3-4: Headers supported by the 308 Response Code on this resource**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Data type** | **P** | **Cardinality** | **Description** |
| Location | string | M | 1 | Contains an alternative URI representing the end point of an alternative AF towards which the notification should be redirected. |

\* \* \* \* Next changes \* \* \* \*

#### 5.32.5.1 General

This clause specifies the application data model supported by the MemberUESelectionAssistance API. Table 5.32.5.1-1 specifies the data types defined for the MemberUESelectionAssistance API.

Table 5.32.5.1-1: MemberUESelectionAssistance API specific Data Types

|  |  |  |
| --- | --- | --- |
| Data type | Clause defined | Description |
| AccessRatTypeFilterCriteria | 5.32.5.2.5 | Represents the Access types and Rat types filtering criteria for Member UE selection. |
| CandiUeInfo | 5.32.5.2.13 | Represents the lists of candidate UEs and recommended time window for performing the application operation. |
| DnnFilterCriteria | 5.32.5.2.12 | Represents the DNN filtering criteria for Member UE selection. |
| E2ETransTimeFilterCriteria | 5.32.5.2.6 | Represents the End-to-end data volume transfer time filtering criteria for Member UE selection. |
| FilterCriterionType | 5.32.5.3.3 | Represents the filter criterion type. |
| MemUeSeletAssistNotif | 5.32.5.2.3 | Represents a Member UE Selection Assistance Notification. |
| MemUeSelectAssistSubsc | 5.32.5.2.2 | Represents a Member UE Selection Assistance Subscription. |
| MemUeSelectAssistSubscPatch | 5.32.5.2.15 | Represents parameters to request the modification of a Member UE Selection Assistance Subscription. |
| MemUeSeletReport | 5.32.5.2.14 | Represents a Member UE selection report. |
| UeDirectionFilterCriteria | 5.32.5.2.9 | Represents the UE direction filtering criteria for Member UE selection. |
| UeDistanceFilterCriteria | 5.32.5.2.10 | Represents the UE distance filtering criteria for Member UE selection. |
| UeHisLocFilterCriteria | 5.32.5.2.8 | Represents the UE historical location filtering criteria for Member UE selection. |
| UeLocFilterCriteria | 5.32.5.2.7 | Represents the UE location filtering criteria for Member UE selection. |
| QoSFilterCriteria | 5.32.5.2.4 | Represents the QoS filtering criteria for Member UE selection. |
| ServiceExpFilterCriteria | 5.32.5.2.11 | Represents the Service Experience filtering criteria for Member UE selection. |

Table 5.32.5.1-2 specifies data types re-used by the MemberUESelectionAssistance API from other specifications, including a reference to their respective specifications, and when needed, a short description of their use within the MemberUESelectionAssistance API.

Table 5.32.5.1-2: MemberUESelectionAssistance API re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| AccessType | 3GPP TS 29.571 [8] | Represents the access type. |  |
| AmfEventType | 3GPP TS 29.518 [18] | Represents the events exposed by an AMF. |  |
| DataVolumeTransferTime | 3GPP TS 29.520 [27] | Represents the End-to-end data volume transfer time. |  |
| DateTime | 3GPP TS 29.122 [4] | Represents a date and a time. |  |
| DurationSec | 3GPP TS 29.122 [4] | Represents the duration time in units of seconds. |  |
|  |  |  |  |
| Direction | 3GPP TS 29.520 [27] | Represents the UE direction. |  |
| Dnai | 3GPP TS 29.571 [8] | Represents a user plane access to one or more DN(s). |  |
| Dnn | 3GPP TS 29.571 [8] | Represents a DNN. |  |
| Gpsi | 3GPP TS 29.571 [8] | Represents a GPSI. |  |
| GeoDistributionInfo | 3GPP TS 29.520 [27] | Represents the geographical distribution of the UEs. |  |
| IpAddr | 3GPP TS 29.571 [8] | Represents an IP address. |  |
| LocationArea5G | 3GPP TS 29.122 [4] | Represents a user location area when the UE is attached to 5G. |  |
| NwdafEvent | 3GPP TS 29.520 [27] | Represents the events exposed by an NWDAF. |  |
| RatType | 3GPP TS 29.571 [8] | Represents the RAT types. |  |
| ServiceExperienceType | 3GPP TS 29.520 [27] | Represents the type of Service Experience Analytics. |  |
| SmfEvent | 3GPP TS 29.508 [26] | Represents the events exposed by an SMF. |  |
| Snssai | 3GPP TS 29.571 [8] | Represents an S-NSSAI. |  |
| SupportedFeatures | 3GPP TS 29.571 [8] | Represents the list of supported feature(s) and used to negotiate the applicability of the optional features. |  |
| TimeWindow | 3GPP TS 29.122 [4] | Represents a time window. |  |
| Uinteger | 3GPP TS 29.571 [8] | Represents an unsigned integer. |  |
| Uri | 3GPP TS 29.122 [4] | Represents a URI. |  |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.5.2.2 Type: MemUeSelectAssistSubsc

Table 5.32.5.2.2-1: Definition of type MemUeSelectAssistSubsc

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| afId | string | O | 0..1 | Contains the identifier of the AF. |  |
| tgtUeIds | array(Gpsi) | C | 1..N | Identifies the list of identifier(s) of the UE(s) for which Member UE Selection Assistance Reporting is requested.(NOTE 2) |  |
| tgtUeIps | array(IpAddr) | C | 1..N | Contains the IP address(es) of the UE(s) for which Member UE Selection Assistance Reporting is requested.(NOTE 2) |  |
| notifUri | Uri | M | 1 | Contains the URI via which Member UE Selection Assistance notifications shall be delivered. |  |
| notifId | string | M | 1 | Contains the Notification Correlation ID assigned by the AF. |  |
| qosFilters | array(QoSFilterCriteria) | C | 1..N | Contains the QoS filtering criteria for Member UE selection.(NOTE 1) |  |
| accRatTypeFilters | array(AccessRatTypeFilterCriteria) | C | 1..N | Contains the Access types and Rat types filtering criteria for Member UE selection.(NOTE 1) |  |
| e2eTransTimeFilters | array(E2ETransTimeFilterCriteria) | C | 1..N | Contains the End-to-end data volume transfer time filtering criteria for Member UE selection.(NOTE 1) |  |
| ueLocFilters | array(UeLocFilterCriteria) | C | 1..N | Contains the UE location filtering criteria for Member UE selection.(NOTE 1) |  |
| ueHisLocFilters | array(UeHisLocFilterCriteria) | C | 1..N | Contains the UE historical location filtering criteria for Member UE selection.(NOTE 1) |  |
| ueDirFilters | array(UeDirectionFilterCriteria) | C | 1..N | Contains the UE direction filtering criteria for Member UE selection.(NOTE 1) |  |
| ueDistanceFilters | array(UeDistanceFilterCriteria) | C | 1..N | Contains the UE distance filtering criteria for Member UE selection.(NOTE 1) |  |
| serviceExpFilters | array(ServiceExpFilterCriteria) | C | 1..N | Contains the Service Experience filtering criteria for Member UE selection.(NOTE 1) |  |
| dnnFilters | array(DnnFilterCriteria) | C | 1..N | Contains the DNN filtering criteria for Member UE selection.(NOTE 1) |  |
| memUpdatePeriod | DurationSec | O | 0..1 | Contains the periodicity information for updating the member UEs. |  |
| maxUeNum | Uinteger | O | 0..1 | Contains the maximum number of candidate UEs. |  |
| timeWin | TimeWindow | O | 0..1 | Contains the start time and end time for selecting the candidate UEs. |  |
| expTime | DateTime | O | 0..1 | Contains the subscription expiry time. |  |
| suppFeat | SupportedFeatures | C | 0..1 | Contains the list of supported features used as defined in clause 5.32.6. |  |
| NOTE 1: At least one of these attribtues shall be present.NOTE 2: These attributes are mutually exclusive and one of them shall be present. |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.5.2.3 Type: MemUeSeletAssistNotif

Table 5.32.5.2.3-1: Definition of type MemUeSeletAssistNotif

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| notifId | string | M | 1 | Contains the Notification Correlation ID. |  |
| candiUeInfo | array(CandiUeInfo) | M | 1..N | Contains the list of candidate UEs and the related information. |  |
| memUeSelectRpts | array(MemUeSeletReport) | O | 1..N | Contains the Member UE Selection report(s). |  |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.5.2.4 Type: QoSFilterCriteria

Table 5.32.5.2.4-1: Definition of type QoSFilterCriteria

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| event | SmfEvent | O | 0..1 | Contains the SMF event which may be used to retrieve the QoS monitoring information.The only applicable value for this attribute is "QOS\_MON". |  |
| appId | string | O | 0..1 | Contains the identifier of the targeted application. |  |
| dnn | Dnn | O | 0..1 | Contains the DNN, a full DNN with both the Network Identifier and Operator Identifier, or a DNN with the Network Identifier only. |  |
| snssai | Snssai | O | 0..1 | Contains the network slice information. |  |
| ulDelay | Uinteger | O | 0..1 | Contains the uplink packet delay in units of milliseconds. |  |
| dlDelay | Uinteger | O | 0..1 | Contains downlink packet delay in units of milliseconds. |  |
| rtDelay | Uinteger | O | 0..1 | Contains round trip delay in units of milliseconds.  |  |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.5.2.5 Type: AccessRatTypeFilterCriteria

Table 5.32.5.2.5-1: Definition of type AccessRatTypeFilterCriteria

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| events | array(SmfEvent) | O | 1..N | Contains the SMF event(s) which may be used to retrieve the Access Type and/or RAT Type of the selected UE.The only applicable values within each array element of this attribute are "AC\_TY\_CH" or "RAT\_TY\_CH". |  |
| dnn | Dnn | O | 0..1 | Contains a DNN, a full DNN with both the Network Identifier and Operator Identifier, or a DNN with the Network Identifier only. |  |
| snssai | Snssai | O | 0..1 | Contains the network slice information. |  |
| accTypes | array(AccessType) | O | 1..N | Contains the Access Type(s) of the selected UE. |  |
| ratTypes | array(RatType) | O | 1..N | Contains the RAT Type(s) of the selected UE. |  |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.5.2.6 Type: E2ETransTimeFilterCriteria

Table 5.32.5.2.6-1: Definition of type E2ETransTimeFilterCriteria

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| event | NwdafEvent | O | 0..1 | Contains the NWDAF event which may be used to retrieve the End-to-end data volume transfer time.The only applicable value for this attribute is "E2E\_DATA\_VOL\_TRANS\_TIME". |  |
| appId | string | O | 0..1 | Contains the identifier of the targeted application. |  |
| dnn | Dnn | O | 0..1 | Contains the DNN, a full DNN with both the Network Identifier and Operator Identifier, or a DNN with the Network Identifier only. |  |
| snssai | Snssai | O | 0..1 | Contains the network slice information. |  |
| dataVolTransTime | DataVolumeTransferTime | O | 0..1 | Contains the E2E data volume transfer time and the data volume used to derive the transfer time. |  |
| geoDistrInfos | array(GeoDistributionInfo) | O | 1..N | Contains the request for geographical distribution of UEs. |  |
| locationArea | LocationArea5G | O | 0..1 | Contains the location area of the candidate UEs. |  |
| numDataTrans | Uinteger | O | 0..1 | Contains the target number of data transmission repetitions. |  |
| timeInterval | DurationSec | O | 0..1 | Contains the target time interval (in units of seconds) between data transmissions. |  |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.5.2.7 Type: UeLocFilterCriteria

Table 5.32.5.2.7-1: Definition of type UeLocFilterCriteria

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| event | AmfEventType | O | 0..1 | Contains the AMF event which may be used to retrieve the UE location.The only applicable value for this attribute is "LOCATION\_REPORT". |  |
| loc | LocationArea5G | O | 0..1 | Contains the location area within which the selected UE is currently located. |  |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.5.2.8 Type: UeHisLocFilterCriteria

Table 5.32.5.2.8-1: Definition of type UeHisLocFilterCriteria

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| event | NwdafEvent | O | 0..1 | Contains the NWDAF event which may be used to retrieve the UE Mobility.The only applicable value for this attribute is "UE\_MOBILITY". |  |
| loc | LocationArea5G | O | 0..1 | Contains the historical location of the UEs. |  |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.5.2.9 Type: UeDirectionFilterCriteria

Table 5.32.5.2.9-1: Definition of type UeDirectionFilterCriteria

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| event | NwdafEvent | O | 0..1 | Contains the NWDAF event which may be used to retrieve the UE Mobility.The only applicable value for this attribute is "UE\_MOBILITY". |  |
| directions | array(Direction) | O | 1..N | Contains the moving directions of the UEs. |  |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.5.2.10 Type: UeDistanceFilterCriteria

Table 5.32.5.2.10-1: Definition of type UeDistanceFilterCriteria

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| event | NwdafEvent | O | 0..1 | Contains the NWDAF event which may be used to retrieve the Relative Proximity.The only applicable value for this attribute is "RELATIVE\_PROXIMITY". |  |
| distance | Uinteger | O | 0..1 | Contains the minimum UE to UE separating distance of the selected UEs. |  |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.5.2.11 Type: ServiceExpFilterCriteria

Table 5.32.5.2.11-1: Definition of type ServiceExpFilterCriteria

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| event | NwdafEvent | O | 0..1 | Contains the NWDAF event which may be used to retrieve the Service Experience.The only applicable value for this attribute is "SERVICE\_EXPERIENCE". |  |
| snssai | Snssai | O | 0..1 | Contains the network slice information. |  |
| dnn | Dnn | O | 0..1 | Contains the DNN, a full DNN with both the Network Identifier and Operator Identifier, or a DNN with the Network Identifier only. |  |
| appId | string | O | 0..1 | Contains the identifier of the targeted application. |  |
| dnai | Dnai | O | 0..1 | Contains the DNAI indicating the user plane access to DN to which the subscription applies. |  |
| loc | LocationArea5G | O | 0..1 | Contains the area of interest. |  |
| contribWeightThr | Uinteger | O | 0..1 | Contains the Service Experience Contribution weight reporting threshold. |  |
| expTypes | array(ServiceExperienceType) | O | 1..N | Contains the Service Experience Type. |  |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.5.2.12 Type: DnnFilterCriteria

Table 5.32.5.2.12-1: Definition of type DnnFilterCriteria

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| event | SmfEvent | O | 0..1 | Contains the SMF event which may be used to retrieve the DNN.The only applicable value for this attribute is "QFI\_ALLOC". |  |
| dnn | Dnn | O | 0..1 | Contains the DNN of the selected UE for the PDU Session used by the application. |  |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.5.2.13 Type: CandiUeInfo

Table 5.32.5.2.13-1: Definition of type CandiUeInfo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| candUeIds | array(Gpsi) | C | 1..N | Contains the list of the identifier(s) of the candidate UE(s).(NOTE) |  |
| candUeIps | array(IpAddr) | C | 1..N | Contains the IP address(es) of of the candidate UEs.(NOTE) |  |
| remdTimeWin | TimeWindow | O | 0..1 | Contains the recommended time window for performing the application operation.It shall be a subset of the time window specified by "timeWin" attribute of the MemUeSelectAssistSubsc data type representing the corresponding subscription resource. |  |
| NOTE: These attributes are mutually exclusive. Either one of them shall be present. |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.5.2.14 Type: MemUeSeletReport

Table 5.32.5.2.14-1: Definition of type MemUeSeletReport

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| criterionType | FilterCriterionType | M | 1 | Contains the filter criterion type. |  |
| numForCriterion | Uinteger | M | 1 | Contains the number of UEs that do not meet the filter criterion. |  |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.5.2.15 Type: MemUeSelectAssistSubscPatch

Table 5.32.5.2.15-1: Definition of type MemUeSelectAssistSubscPatch

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| notifUri | Uri | O | 0..1 | Contains the updated URI via which Member UE Selection Assistance notifications shall be delivered. |  |
| notifId | string | O | 0..1 | Contains the updated Notification Correlation ID assigned by the AF. |  |
| qosFilters | array(QoSFilterCriteria) | O | 1..N | Contains the updated QoS filtering criteria for Member UE selection. |  |
| accRatTypeFilters | array(AccessRatTypeFilterCriteria) | O | 1..N | Contains the updated Access types and Rat types filtering criteria for Member UE selection. |  |
| e2eTransTimeFilters | array(E2ETransTimeFilterCriteria) | O | 1..N | Contains the updated End-to-end data volume transfer time filtering criteria for Member UE selection. |  |
| ueLocFilters | array(UeLocFilterCriteria) | O | 1..N | Contains the updated UE location filtering criteria for Member UE selection. |  |
| ueHisLocFilters | array(UeHisLocFilterCriteria) | O | 1..N | Contains the updated UE historical location filtering criteria for Member UE selection. |  |
| ueDirFilters | array(UeDirectionFilterCriteria) | O | 1..N | Contains the updated UE direction filtering criteria for Member UE selection. |  |
| ueDistanceFilters | array(UeDistanceFilterCriteria) | O | 1..N | Contains the updated UE distance filtering criteria for Member UE selection. |  |
| serviceExpFilters | array(ServiceExpFilterCriteria) | O | 1..N | Contains the updated Service Experience filtering criteria for Member UE selection. |  |
| dnnFilters | array(DnnFilterCriteria) | O | 1..N | Contains the updated DNN filtering criteria for Member UE selection. |  |
| expTime | DateTime | O | 0..1 | Contains the updated expiry time of the subscription. |  |
| memUpdatePeriod | DurationSec | O | 0..1 | Contains the updated periodicity information for updating the member UEs. |  |
| maxUeNum | UintegerRm | O | 0..1 | Contains the updated maximum number of candidate UEs. |  |
| timeWin | TimeWindow | O | 0..1 | Contains the updated start time and end time for selecting the candidate UEs. |  |

\* \* \* \* Next changes \* \* \* \*

##### 5.32.5.3.3 Enumeration: FilterCriterionType

The enumeration FilterCriterionType represents the type of filter criterion event for which the AF requests to be notified. It shall comply with the provisions defined in table 5.32.5.3.3-1.

Table 5.32.5.3.3-1: Enumeration FilterCriterionType

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| QOS | Indicates that the type of filter criterion is QoS criterion. |  |
| ACCESS\_RAT\_TYPE | Indicates that the type of filter criterion is Access and Rat types criterion. |  |
| E2E\_DATA\_VOLUME\_TRANSFER\_TIME | Indicates that the type of filter criterion is End-to-end data volume transfer time criterion. |  |
| UE\_LOCATION | Indicates that the type of filter criterion is UE location criterion. |  |
| UE\_HISTORICAL\_LOCATION | Indicates that the type of filter criterion is UE historical location criterion. |  |
| UE\_DIRECTION | Indicates that the type of filter criterion is UE direction criterion. |  |
| UE\_DISTANCE | Indicates that the type of filter criterion is UE distance criterion. |  |
| SERVICE\_EXPERIENCE | Indicates that the type of filter criterion is Service Experience criterion. |  |
| DNN | Indicates that the type of filter criterion is DNN criterion. |  |

\* \* \* \* Next changes \* \* \* \*

#### 5.32.7.3 Application Errors

The application errors defined for the MemberUESelectionAssistance API are listed in table 5.32.7.3-1.

Table 5.32.7.3-1: Application errors

|  |  |  |  |
| --- | --- | --- | --- |
| Application Error | HTTP status code | Description | Applicability |
|  |  |  |  |

\* \* \* \* Next changes \* \* \* \*

A.30 MemberUESelectionAssistance API

openapi: 3.0.0

info:

 title: 3gpp-musa

 version: 1.0.0-alpha.3

 description: |

 API for Member UE Selection Assistance.

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externalDocs:

 description: >

 3GPP TS 29.522 V18.5.0; 5G System; Network Exposure Function Northbound APIs.

 url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.522/'

servers:

 - url: '{apiRoot}/3gpp-musa/v1'

 variables:

 apiRoot:

 default: https://example.com

 description: apiRoot as defined in clause 5.2.4 of 3GPP TS 29.122.

security:

 - {}

 - oAuth2ClientCredentials: []

paths:

 /{afId}/subscriptions:

 parameters:

 - name: afId

 in: path

 description: Represents the identifier of the AF

 required: true

 schema:

 type: string

 get:

 summary: Retrieve all the active Member UE Selection Assistance Subscription managed by the NEF.

 operationId: GetMemberUESelectAssistSubsc

 tags:

 - Member UE Selection Assistance Subscription (Collection)

 responses:

 '200':

 description: >

 OK. All the Individual Member UE Selection Assistance Subscription resource(s) managed

 by the NEF are returned.

 If there are no active Individual Member UE Selection Assistance Subscription resources

 at the NEF, an empty array is returned.

 content:

 application/json:

 schema:

 type: array

 items:

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

 minItems: 0

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '406':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/406'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 post:

 summary: Create a new Member UE Selection Assistance Subscription.

 operationId: CreateMemberUESelectAssistSubc

 tags:

 - Member UE Selection Assistance Subscription (Collection)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: >

 Created. A representation of the created Individual Member UE Selection Assistance

 Subscription resource is returned in the response body.

 content:

 application/json:

 schema:

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

 headers:

 Location:

 description: >

 Contains the URI of the newly created resource.

 required: true

 schema:

 type: string

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 callbacks:

 MemberUESelectAssistNotif:

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

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

 type: array

 items:

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

 minItems: 1

 responses:

 '204':

 description: >

 No Content. The notification is successfully received and acknowledged.

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 /{afId}/subscriptions/{subscriptionId}:

 parameters:

 - name: afId

 in: path

 description: Represents the identifier of the AF.

 required: true

 schema:

 type: string

 - name: subscriptionId

 in: path

 description: >

 Represents the identifier of the Individual Member UE Selection Assistance Subscription

 resource.

 required: true

 schema:

 type: string

 get:

 summary: Retrieve an existing Individual Member UE Selection Assistance Subscription resource.

 operationId: GetIndMemberUESelectAssistSubsc

 tags:

 - Individual Member UE Selection Assistance Subscription (Document)

 responses:

 '200':

 description: >

 OK. The requested Individual Member UE Selection Assistance Subscription resource is

 successfully returned in the response body.

 content:

 application/json:

 schema:

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

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '406':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/406'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 put:

 summary: Request the update of an existing Individual Member UE Selection Assistance Subscription resource.

 operationId: UpdateIndMemberUESelectAssistSubsc

 tags:

 - Individual Member UE Selection Assistance Subscription (Document)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '200':

 description: >

 OK. The Individual Member UE Selection Assistance Subscription resource is successfully

 updated and a representation of the updated resource is returned in the response body.

 content:

 application/json:

 schema:

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

 '204':

 description: >

 No Content. The Individual Member UE Selection Assistance Subscription resource is

 successfully updated and no content is returned in the response body.

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 patch:

 summary: Request the modification of an existing Individual Member UE Selection Assistance Subscription resource.

 operationId: ModifyIndMemberUESelectAssistSubsc

 tags:

 - Individual Member UE Selection Assistance Subscription (Document)

 requestBody:

 required: true

 content:

 application/merge-patch+json:

 schema:

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

 responses:

 '200':

 description: >

 OK. The Individual Member UE Selection Assistance Subscription resource is successfully

 modified and a representation of the updated resource is returned in the response body.

 content:

 application/json:

 schema:

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

 '204':

 description: >

 No Content. The Individual Member UE Selection Assistance Subscription resource is

 successfully modified and no content is returned in the response body.

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 delete:

 summary: Request the deletion an existing Individual Member UE Selection Assistance Subscription resource.

 operationId: DeleteIndMemberUESelectAssistSubsc

 tags:

 - Individual Member UE Selection Assistance Subscription (Document)

 responses:

 '204':

 description: >

 No Content. The Individual Member UE Selection Assistance Subscription resource is

 successfully deleted.

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

 securitySchemes:

 oAuth2ClientCredentials:

 type: oauth2

 flows:

 clientCredentials:

 tokenUrl: '{tokenUrl}'

 scopes: {}

 schemas:

 MemUeSelectAssistSubsc:

 description: Represents a Member UE Selection Assistance Subscription.

 type: object

 properties:

 afId:

 type: string

 description: Represents the identifier of the AF.

 tgtUeIds:

 type: array

 items:

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

 minItems: 1

 description: >

 Contains the list of identifier(s) of the UEs for which Member UE Selection Assistance

 Reporting is requested.

 tgtUeIps:

 type: array

 items:

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

 minItems: 1

 description: >

 Contains the IP addresses of a list of UEs for Member UE Selection Assistance

 Reporting.

 notifUri:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/Uri'

 notifId:

 type: string

 expTime:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/DateTime'

 qosFilters:

 type: array

 items:

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

 minItems: 1

 description: Contains the QoS filtering criteria for Member UE selection.

 accRatTypeFilters:

 type: array

 items:

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

 minItems: 1

 description: >

 Contains the Access types and Rat types filtering criteria for Member UE selection.

 e2eTransTimeFilters:

 type: array

 items:

 $ref: '#/components/schemas/E2ETransTimeFilterCriteria'

 minItems: 1

 description: >

 Contains the End-to-end data volume transfer time filtering criteria for Member UE

 selection.

 ueLocFilters:

 type: array

 items:

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

 minItems: 1

 description: Contains the UE location filtering criteria for Member UE selection.

 ueHisLocFilters:

 type: array

 items:

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

 minItems: 1

 description: >

 Contains the UE historical location filtering criteria for Member UE selection.

 ueDirFilters:

 type: array

 items:

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

 minItems: 1

 description: Contains the UE direction filtering criteria for Member UE selection.

 ueDistanceFilters:

 type: array

 items:

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

 minItems: 1

 description: Contains the UE distance filtering criteria for Member UE selection.

 serviceExpFilters:

 type: array

 items:

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

 minItems: 1

 description: Contains the Service Experience filtering criteria for Member UE selection.

 dnnFilters:

 type: array

 items:

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

 minItems: 1

 description: Contains the DNN filtering criteria for Member UE selection.

 memUpdatePeriod:

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

 maxUeNum:

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

 timeWin:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/TimeWindow'

 suppFeat:

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

 required:

 - notifUri

 - notifId

 oneOf:

 - required: [tgtUeIds]

 - required: [tgtUeIps]

 anyOf:

 - required: [qosFilters]

 - required: [accRatTypeFilters]

 - required: [e2eTransTimeFilters]

 - required: [ueLocFilters]

 - required: [ueHisLocFilters]

 - required: [ueDirFilters]

 - required: [ueDistanceFilters]

 - required: [serviceExpFilters]

 - required: [dnnFilters]

 QoSFilterCriteria:

 description: Represents the QoS filtering criteria for Member UE selection.

 type: object

 properties:

 event:

 $ref: 'TS29508\_Nsmf\_EventExposure.yaml#/components/schemas/SmfEvent'

 appId:

 type: string

 description: Contains the identifier of the application.

 dnn:

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

 snssai:

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

 ulDelay:

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

 dlDelay:

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

 rtDelay:

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

 AccessRatTypeFilterCriteria:

 description: Represents the Access types and Rat types filtering criteria for Member UE selection.

 type: object

 properties:

 events:

 type: array

 items:

 $ref: 'TS29508\_Nsmf\_EventExposure.yaml#/components/schemas/SmfEvent'

 minItems: 1

 description: >

 Contains the SMF event(s) which may be used to retrieve the Access Type and/or RAT Type

 of the selected UE.

 dnn:

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

 snssai:

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

 accTypes:

 type: array

 items:

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

 minItems: 1

 description: Contains the Access Types of the selected UE.

 ratTypes:

 type: array

 items:

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

 minItems: 1

 description: Contains the RAT Types of the selected UE.

 E2ETransTimeFilterCriteria:

 description: >

 Represents the End-to-end data volume transfer time filtering criteria for Member UE

 selection.

 type: object

 properties:

 event:

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

 appId:

 type: string

 description: Contains the identifier of the application.

 dnn:

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

 snssai:

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

 dataVolTransTime:

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

 geoDistrInfos:

 type: array

 items:

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

 minItems: 1

 locationArea:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/LocationArea5G'

 numDataTrans:

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

 timeInterval:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'

 UeLocFilterCriteria:

 description: >

 Represents the UE location filtering criteria for Member UE selection.

 type: object

 properties:

 event:

 $ref: 'TS29518\_Namf\_EventExposure.yaml#/components/schemas/AmfEventType'

 loc:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/LocationArea5G'

 UeHisLocFilterCriteria:

 description: >

 Represents the UE historical location filtering criteria for Member UE selection.

 type: object

 properties:

 event:

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

 loc:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/LocationArea5G'

 UeDirectionFilterCriteria:

 description: Represents the UE direction filtering criteria for Member UE selection.

 type: object

 properties:

 event:

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

 directions:

 type: array

 items:

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

 minItems: 1

 description: Contains the moving directions of the UEs.

 UeDistanceFilterCriteria:

 description: Represents the UE distance filtering criteria for Member UE selection.

 type: object

 properties:

 event:

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

 distance:

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

 ServiceExpFilterCriteria:

 description: Represents the Service Experience filtering criteria for Member UE selection.

 type: object

 properties:

 event:

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

 dnn:

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

 snssai:

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

 appId:

 type: string

 description: Contains the identifier of the application.

 dnai:

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

 loc:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/LocationArea5G'

 contribWeightThr:

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

 expTypes:

 type: array

 items:

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

 minItems: 1

 description: Contains the Service Experience Types.

 DnnFilterCriteria:

 description: Represents the DNN filtering criteria for Member UE selection.

 type: object

 properties:

 event:

 $ref: 'TS29508\_Nsmf\_EventExposure.yaml#/components/schemas/SmfEvent'

 dnn:

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

 MemUeSeletAssistNotif:

 description: Represents a Member UE Selection Assistance Notification.

 type: object

 properties:

 notifId:

 type: string

 candiUeInfos:

 type: array

 items:

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

 minItems: 1

 description: >

 Contains the list of candidate UEs information for Member Selection Assistance

 Reporting.

 memUeSelectRpts:

 type: array

 items:

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

 minItems: 1

 description: Contains the list of UEs for Member Selection Assistance Reporting.

 required:

 - notifId

 - candiUeInfos

 MemUeSeletReport:

 description: Represents a Member UE Selection report.

 type: object

 properties:

 criterionType:

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

 numForCriterion:

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

 required:

 - criterionType

 - numForCriterion

 CandiUeInfo:

 description: Represents the list of candidate UEs information.

 type: object

 properties:

 candUeIds:

 type: array

 items:

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

 minItems: 1

 candUeIps:

 type: array

 items:

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

 minItems: 1

 remdTimeWin:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/TimeWindow'

 oneOf:

 - required: [candUeIds]

 - required: [candUeIps]

 MemUeSelectAssistSubscPatch:

 description: >

 Represents the requested modifications to a Member UE Selection Assistance Subscription.

 type: object

 properties:

 notifUri:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/Uri'

 notifId:

 type: string

 expTime:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/DateTime'

 qosFilters:

 type: array

 items:

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

 minItems: 1

 description: Represents the updatedQoS filtering criteria for Member UE selection.

 accRatTypeFilters:

 type: array

 items:

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

 minItems: 1

 description: >

 Represents the updatedAccess types and Rat types filtering criteria for Member UE

 selection.

 e2eTransTimeFilters:

 type: array

 items:

 $ref: '#/components/schemas/E2ETransTimeFilterCriteria'

 minItems: 1

 description: >

 Represents the updatedEnd-to-end data volume transfer time filtering criteria for

 Member UE selection.

 ueLocFilters:

 type: array

 items:

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

 minItems: 1

 description: >

 Represents the updatedUE location filtering criteria for Member UE selection.

 ueHisLocFilters:

 type: array

 items:

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

 minItems: 1

 description: >

 Represents the updatedUE historical location filtering criteria for Member UE

 selection.

 ueDirFilters:

 type: array

 items:

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

 minItems: 1

 description: >

 Represents the updatedUE direction filtering criteria for Member UE selection.

 ueDistanceFilters:

 type: array

 items:

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

 minItems: 1

 description: >

 Represents the updatedUE distance filtering criteria for Member UE selection.

 serviceExpFilters:

 type: array

 items:

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

 minItems: 1

 description: >

 Represents the updatedService Experience filtering criteria for Member UE selection.

 dnnFilters:

 type: array

 items:

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

 minItems: 1

 description: Represents the updatedDNN filtering criteria for Member UE selection.

 memUpdatePeriod:

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

 maxUeNum:

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

 timeWin:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/TimeWindow'

 nullable: true

 FilterCriterionType:

 anyOf:

 - type: string

 enum:

 - QOS

 - ACCESS\_RAT\_TYPE

 - E2E\_DATA\_VOLUME\_TRANSFER\_TIME

 - UE\_LOCATION

 - UE\_HISTORICAL\_LOCATION

 - UE\_DIRECTION

 - UE\_DISTANCE

 - SERVICE\_EXPERIENCE

 - DNN

 - type: string

 description: >

 This string provides forward-compatibility with future extensions to the enumeration and

 is not used to encode content defined in the present version of this API.

 description: |

 Represents the filter criterion event.

 Possible values are:

 - QOS: Indicates QoS criterion.

 - ACCESS\_RAT\_TYPE: Indicates that the type of filter criterion is Access and Rat types

 criterion.

 - E2E\_DATA\_VOLUME\_TRANSFER\_TIME: Indicates that the type of filter criterion is End-to-end

 data volume transfer time criterion.

 - UE\_LOCATION: Indicates that the type of filter criterion is UE location criterion.

 - UE\_HISTORICAL\_LOCATION: Indicates that the type of filter criterion is UE historical

 location criterion.

 - UE\_DIRECTION: Indicates that the type of filter criterion is UE direction criterion.

 - UE\_DISTANCE: Indicates that the type of filter criterion is UE distance criterion.

 - SERVICE\_EXPERIENCE: Indicates that the type of filter criterion is Service Experience

 criterion.

 - DNN: Indicates that the type of filter criterion is DNN criterion.

\* \* \* \* End of changes \* \* \* \*